

# **STUDY ON STUDENT PERFORMANCE IN SLC**

## **MAIN REPORT**



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## **ANNEXES**

## **REFERENCES**

## List of Abbreviations

ACE	Assistant Controller of Examination
ADB	Asian Development Bank
AL	Advanced Level
ARNEC	All - Round National Educational Committee
B. Ed	Bachelor in Education
CAS	Continuous Assessment System
CBS	Central Bureau Statistic
CBSE	Central Board of Secondary Education
CCE	Cycle Completion Examination
CDC	Curriculum Development Center
CDO	Chief District Officer
CERID	Research Centre for Educational Innovation and Development
CIAA	Commission for the Investigation of Abuse of Authority
CMA	(Medical Course)
COBSE	Council of Boards of Secondary Education
CTEVT	Council for Technical Education and Vocational Training
CV	Coefficient of variation
DCE	District Controller of Examination
DEO	District Education Officer
DFID	Department for International Development
DOE	Department of Education
DSP	District Superintendent of Police
ECC	Examination Coordination Committee
EFA	Education for All
EMIS	Educational management information system
ETC	Education and Training Center
FBISE	Federal Boards of Intermediate and Secondary Examinations
FGD	Focus Group Discussions
FOE	Faculty of Education
FWDR	Far Western Development Region
GCE-OL	General Certificate of Education-Ordinary Level
GER	Gross Enrollment Rates
GIS	Geographical information system
HDI	Human Development Index
HLNEC	High Level National Education Commission
HMG/N	His Majesty's Government of Nepal
HPE	Health, Physical Education and Environmental
HRM	Human Resource Management
HSEB	Higher Secondary Education Board
IAEA	International Association for Education Assessment
IBCC	Inter-Board Committee of Chairmen
I/NGOs	International / National Government Organization
JEMC	Janak Educational Materials Production Center
JT/JTA	Junior Technician/ Junior Technical Assistant
KEF	Kathmandu Education Foundation
LAIP	Learning achievement improvement plan
M. Ed	Master in Education
METCON	Management Engineering and Technology Consulting
MOES	Ministry of Education and Sports
MWDR	Mid- Western Development Region
NASC	Nepal Administrative Staff College
NCED	National Center for Educational Development
NCERT	National Center for Educational Research and Training
NDS	National Development Service
NEA	Nepal Electricity Authority
NEC	National Education Commission
NER	Net Enrollment Rates
NESP	National Education System Plan
NETS	National Education and Testing Service
NGO	National Government Organization
NIEPA	National Institute of Education Planning and Administration
NIE	National Institute of Education

NLSS	Nepal Living Standard Survey
NNEPC	Nepal National Educational Planning Commission
OCE	Office of the Controller of Examinations
OECD	Organisation for Economic Cooperation and Development
OMR	Optical Mark Reader
OTL	limited opportunity to learn
PISA	Programme for International Student Assessment
PSC	Public Service Commission
PTA	Parent Teacher Association
RED	Regional Education Directorate
SAARC	South Asian Association for Regional Cooperation
SACMEQ	Southern and Eastern Consortium for Monitoring Educational Quality
SBA	School-Based Assessment
SEB	Secondary Education Board
SEDEC	Secondary Education Development Center
SEDP	Secondary Education Development Plan
SEDP	Secondary Education Development Project
SEDU	Secondary Education Development Unit
SEPP	Secondary Education Perspective Plan
SESP	Secondary Education Support Program
SIP	School Improvement Planning
SLC	School Leaving Certificate
SLE	School Leaving Examination
SMC	School Management Committee
SOP	Standard operating procedure
SSESP	Second Secondary Education Development Project
TEP	Teacher Education Project
TIMSS	Trends in International Mathematics and Science Study
UNDP	United Nations Development Programme
USOM	United States Operation Mission

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## Preface

The purpose of this volume is to highlight and make easily available the findings and recommendations of various research studies carried out by the SLC Study Team between April 2004 and July 2005. The SLC Study Team was commissioned by the Ministry of Education and Sports and Education Sector Advisory Team (ESAT) to assess the magnitude and dimensions of schools failure and identify the determinants of student performance in SLC examinations.

Apart from field research, emphasis in preparing this report was put on consultation with educationalists, teacher educators, teachers, students, education bureaucrats, employers, parents, teachers' union, parents' association, students' organizations and others stakeholders.

I hope that this publication in an easily accessible form will contribute to a lively discussion among policy makers, stakeholders and others regarding future directions for the improvement of School Leaving Examination System, thereby encouraging consideration of policies to build on His Majesty Government's plans for reform, revitalization, and expansion of secondary education in Nepal.

Kedar Bhakta Mathema

Team Leader  
SLC Study Team

July 2005

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- At the district level, they include District Education Officers and their staff and many other officials and members of civil societies.
- At the central level, they include the Ministry of Education and Sports, the SLC Study Steering Committee, the Office of the Controller of Examinations, Curriculum Development Center, the Faculty of Education, Teachers' organizations, Parents' associations, Students' unions, education journalists, and many others.

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SLC Study Team  
July 2005

# CHAPTER I

## 1. INTRODUCTION

### 1.1 Context

A nation's prosperity is closely linked to the stock of human capital, and its human capital depends on the quality of its educational system. It is therefore not surprising that countries around the world, whether developed or developing, have adopted education as a major instrument of development policy. Never in the history of humankind has there been so much faith in formal education. Almost everybody –from the policymaker to the desperate parent living in a remote village – sees in education a potential for attaining nation-building, economic growth, peace, freedom, social justice, human rights, social inclusion, scientific advancement, human development, and so on. Education is believed to cure all illnesses – political, economic, and social –facing today's troubled societies. In retrospect, education has played a significant role in transforming societies into knowledge and information societies. It is now unimaginable to survive in such societies without being educated. Education gives the power and tools that are required to function and grow in information-driven societies. It will not be an exaggeration to say that the future of countries depends on the type and quality of education they can create for their citizens. Nepal certainly is no exception to this. Our nation's future, economic strength, social cohesion, political stability, and national development depend on all the children being educated.

While there have been several efforts since the early 1950s to establish a national system of education in the country, education has taken the center-stage in the overall process of modernization and nation-building only in the recent decades. In particular, it has received a high priority since 1990 following the people's movement to restore democracy in the country. The new political atmosphere combined with renewed international commitment to achieve *Education for All* and the preparedness among the multilateral and bilateral agencies to support the education sector provided new impetus and climate for educational development in the country.

Throughout the 1990s, the Government of Nepal remained engaged in school reform and continues to do so. The decade saw numerous planning exercises – all aiming at improvement in the access to and quality of education. For instance, the newly elected Government established a National Education Commission (NEC) in 1991 to recommend appropriate educational policy in the wake of the new political environment. A second Commission, known as the High Level National Education Commission (HLNEC), was established in 1998 with almost similar mandates. Two Master Plans were prepared in the basic and primary education sub-sectors alone. Two perspective plans (one for secondary and the other for higher secondary education) were prepared. A strategic plan was formulated for higher education. Likewise, a number of education reform projects (e.g., Basic and Primary Education Project I, Basic and Primary Education Project II, Primary Education Development Project, Secondary Education Development Project, Higher Education Project) were developed and implemented with external support, and some (e.g., Education for All 2004-2009, Secondary Education Support Program) continue to be implemented within the sector-wide framework. The two periodic

plans (e.g., the Ninth Plan, 1997-2002; and the Tenth Plan, 2003-2007), both of which pursued poverty reduction as the main agenda, placed education at the heart of the national development efforts. The Government's financial allocation to education increased from a low of 10% of the total national budget in 1990 to a high of 15% in recent years. Evidently, policy-makers and planners in Nepal do recognize that inadequate education can be a critical impediment to economic growth and national development.

As part of the school reform, the Government has launched a number of initiatives and interventions. The reform, in a nutshell, includes improving the physical learning atmosphere of schools through classroom construction and provision of school furniture, toilets, and drinking water; preparing children for schooling through pre-school education and early childhood development programs; increasing access to education of girls and children belonging to ethnic and linguistic minorities, Dalits, and those coming from difficult circumstances through targeted scholarships; providing education through the means of alternative schooling to those who cannot be served through formal schools; developing, revising, and improving the quality of curriculum materials; introducing a continuous and/or formative assessment system; providing for teacher support and supervision through education and training centers; upgrading teachers' professional qualifications through certification and recurrent training courses; developing teacher support materials; upgrading the capacity of head teachers to lead, manage, and support educational change at the school level; and developing professional capacity of different categories of educational personnel. Recent initiatives, among others, include the following: initiation of the bottom - up planning process where each school is engaged in preparing a School Improvement Planning (SIP); transfer of school management to local communities; greater parental involvement in school management; increased local autonomy in the management of schools; and introduction of block grant method in school financing. One key feature of the educational policy has been to promote larger involvement of the private sector in the delivery of educational services. As a result, private schools have been a major provider of education, especially at the secondary and higher secondary levels. In sum, school reform in Nepal has a two-pronged approach involving both system wide restructuring and school restructuring. The former entails building institutional capacity to plan and manage the education sector and shifting structural, organizational, and financial dimensions of schooling, while the latter involves changing practices at the school level. Many of the reform initiatives have moved beyond initial conception and implementation. Some of them have already been sustained and institutionalized.

These efforts and investments have resulted in impressive gains in the education sector. According to the second Nepal Living Standard Survey (NLSS II) of 2003/04, literacy for the population group aged 6 years and more has reached 51 percent as opposed to 34 percent in 1990. The Survey reported a male literacy rate of 63 percent, compared to 39 percent for females. The NLSS II estimated Gross Enrollment Rates (GER) of 112 percent, 71 percent, and 54 percent for the primary (1 to 5), lower secondary (6 to 8), and secondary (9 to 10) grades respectively. Net Enrollment Rates (NER) stood at 72 percent, 29 percent, and 15 percent for the primary, lower secondary, and the secondary levels respectively. In recent years, there has been a significant surge in the enrollment of girls and children belonging to the ethnic and linguistic minorities, Dalits, and children coming from poor and difficult households. The country now has a network of 26,000 schools, 8,000 lower secondary, and 4,000 secondary schools. A study reported that schools in Nepal are located within a time distance of 5 to 10 minutes for a great majority of the primary school age children. Secondary schools have been established in most villages of the country. The incidences of grade repetitions and dropouts at

the primary level, an indicator of system efficiency, have declined substantially. The most recent evaluation study of BPEP II revealed a number of encouraging achievements: increased teacher access to in-service training, professional support and supervision, increased availability of textbooks, improved physical atmosphere of schools, increased local involvement in school management, increased institutional capacity within the Ministry of Education and Sports (MOES), increased planning capacity at the school level, increased availability of female teachers in schools, etc. The study concluded that the investments made in basic and primary education have been worthwhile.

While these achievements are important, many argue that the outcomes of schooling must not be measured in terms of the availability of resources alone. It is being increasingly recognized that the outcomes of schooling need to be assessed in terms of student learning. As some say, 'reform must focus on learning acquisition and outcomes, rather than merely on enrollment' (Kellaghan and Greaney 2004, p.2). The bottom line, therefore, is whether children have learned or achieved what they were supposed to learn or achieve. While it is important that schools have good physical facilities, trained teachers, adequate funds, good libraries, good textbooks, and good learning materials, their availability does not automatically lead to student achievement. Many therefore emphasize that a 'good' school must be judged based on its output rather than the input. It is not to suggest that resources are not important. They are important but the intent of schooling that is student learning, cannot be sacrificed or ignored. It should be noted that there is a sort of consensus, both international and national, that the learning achievement of children should form the core of schooling. The output-oriented educational policy is a recent phenomenon, which emerged in the 1990s.

The growing recognition that schooling should produce learning achievement on the part of students has suddenly increased public interest in examinations and assessments as the key instruments of measuring learning achievement. Policy-makers, from both the developed and developing countries, are calling for increased use of examination and assessment to acquire information about what students have learned as a result of teaching learning in schools. It is believed that the information generated from assessments and examinations serves in a number of ways. Kellaghan (2004) argues that such information is useful in making educational decisions about students (e.g., repetition, promotion, and certification of learning achievement); giving feedback to students about their progress, their strengths, and weaknesses; motivating students for further learning; judging instructional effectiveness and curricular adequacy; describing the achievements of an education system; assessing effectiveness of schools; monitoring student achievement over time; and guiding policy formation and decision-making. In recent years, worldwide interest in assessments, and examinations has moreover, resulted in the use of three different types of procedures in assessing and examining student achievement: (a) public examinations<sup>1</sup>, (b) national assessments,<sup>2</sup> and (c) international assessments of educational achievement<sup>3</sup> (Kellaghan, 2004).

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<sup>1</sup> Examinations conducted at the end of a particular level (e.g., secondary level) that are administered by agencies external to the school for purpose of certification and selection are called public examinations.

<sup>2</sup> A national assessment is designed primarily to assess and describe the level of learning achievement of the entire education system or a particular segment of the system (such as assessing students of a particular grade or age-group). It does not describe and report the learning achievement level of individual students. Normally, students are tested in two or three core subjects such as language, foreign language, mathematics, or science. It does not necessarily cover the entire set of subjects taught in schools.

The importance of public examinations has long been recognized in Nepal. The School Leaving Certificate (SLC) Examinations, instituted as early as 1934 when the concept of modern schooling had not begun yet, are designed to assess the learning achievement level of Grade 10 students, the terminal grade for the school education. The SLC examinations are administered centrally by the Office of the Controller of Examinations (OCE), a constituent organization within the MOES. The purpose of assessing the learning achievement of students at the end of ten years of schooling is mainly two-fold: certification of school achievement of students and selection of students for higher education and/or employment. Most importantly, SLC results also provide measures of how well children are learning, what strengths and weaknesses exist in the education system at a given point in time, and how the education system is performing over the years. It should be emphasized that the SLC results provide the only strong and easily available measure of success or failure of our efforts and investments that we have made in the education sector. For these reasons, the policy-makers, planners, educators, and the public as a whole look to the SLC results to make sense of how their children, schools, and the education system are doing.

The education sector in Nepal has witnessed remarkable quantitative gains, perhaps as a result of the several efforts and initiatives launched by the Government in recent years as discussed above. Sadly enough, the gains in terms of learning achievement of children are far from satisfactory. Over the years, student performance in SLC has stagnated, if not deteriorated. Table 1 displays the number of students appearing in the SLC examinations and overall pass rates for the years 2041 BS (1985) to 2061 BS (2005). Apparently, the percentage of students who manage to pass the SLC examinations in the first attempt is alarmingly poor. Many who cannot do so in the first attempt either struggle persistently to pass SLC for several years or give up their bid for passing SLC altogether.

**Table 1. Number of SLC Candidates and Pass Percentage**

Year (BS)	Candidates	Pass %	Year (BS)	Candidates	Pass %
2041	33,428	28.60	2051	79,588	42.97
2042	53,689	28.16	2052	90,458	38.30
2043	49,351	34.85	2053	116,002	36.52
2044	50,495	36.44	2054	113,257	47.54
2045	56,870	33.92	2055	139,202	49.20
2046	64,166	44.13	2056	205,539	45.72
2047	100,382	48.47	2057	132,210	31.62
2048	94,534	24.56	2058	152,334	31.22
2049	77,455	31.49	2059	170,389	32.05
2050	79,420	31.30	2060	175,418	46.18
			2061	216,303	38.72

It will not be incorrect to say that disappointing achievements in secondary schools remain the number one educational problem facing the country today. There are serious disparities in

<sup>3</sup> International assessments have many things in common with the national assessments, but there is one difference. That is, international assessments involve assessing the learning achievement of a group of students (belonging to a particular grade or age-group) of two or more than two countries. Since it involves more than one education system, it is necessary that test papers become comparable across the participating systems. The Third International Mathematics and Science Study (TIMSS), Progress in International Literacy Study (PILS), and Program for International Student Assessment (PISA) of the OECD are a few examples of international assessments.

student performance in terms of gender, school type (public and private), caste/ethnicity, language group, geographical location, and socio-economic status of families. The incidence of failure and/or under-performance can be commonly observed in subjects like English, Mathematics, and Science. No wonder, every year, when SLC results are made public, many unsuccessful children take their lives in despair, and the toll continues to grow. Many others give up their studies and either leave the country for employment or join rebel forces.

Evidently, student failure and/or under-performance is not just a phenomenon taking place only at the secondary level. It occurs at all levels of education. For instance, four national assessments of learning achievement of Grade 3 and 5 children conducted by MOES in the last ten years or so also reveal poor learning achievement at the primary level. Assessment of learning achievement of lower secondary children has also revealed the same pattern. Thus, the failure and/or under-performance of children remains an inherent feature of the Nepalese public schooling system.

While student failure at any level or grade is not acceptable, the failure in SLC has drawn particular attention of the policy-makers, planners, managers, parents, scholars, teachers, journalists, and the entire nation in recent years. Whether or not SLC represents the quality of education is a different debate altogether, but the 'production' of failure of this magnitude annually is certainly unacceptable. The intended and unintended consequences of failure are serious. It is an irony that education believed to be an 'equalizer' has been a major divider of the Nepali society. While social and political activists are heavily engaged to root out the traditional caste structure, a new form of caste structure is in the offing as a result of persistent, massive, and troubling failure in the SLC examinations. The private provision of schooling has further contributed to widen the divide between the haves and have-nots. Analysts say that the two parallel systems of education, one serving the rich and the powerful and the other serving the poor and the helpless will, eventually, ruin the entire society.

The importance of SLC need not be over-emphasized. It will not be an exaggeration to say that one's 'life-chances' are intimately tied to his/her performance in SLC. The SLC examinations open the door to the 'world of higher education' and the 'world of employment.' Given that education has become an instrument of economic policy, the 'fate' of the nation also depends on the performance of children in the SLC examinations. Therefore, in recent years, pressure on the schools is building gradually that they must produce successful graduates – graduates who are prepared to pursue further education, learn a vocation or trade, and lead a productive and meaningful life. The higher the investment in education, the greater the pressure on schools and children to perform and do well.

Therefore, the big question ahead of all of us is – why is the school achievement of school children so low? For several years, this question was dismissed because 'failure' was considered to be a natural phenomenon. Failure has long been equated with 'high standard.' Many take it as a sign of high quality education. Even today, there is no shortage of policy-makers, planners, and so-called educationists who find this question trivial. Many accept poor performance and failure as the rule rather than the exception. In recent years, public schools have been abandoned by politicians, planners, policy-makers, administrators, university professors, businesspersons, schoolteachers, and many others who manage to afford the costs of putting their children in expensive private schools. Following the withdrawal of children belonging to the upper class of the society, public schools in Nepal are left with the girls and children coming from poor households and those living in difficult circumstances. It is, therefore, not surprising that the problem of massive failure tends to be ignored, not seen as a national problem, mainly because

those who fail happen to be girls and children coming from poor households and those living in difficult circumstances. We might also ask why there has been so little progress toward solving this problem despite the fact that it has existed for several decades. The ‘theory of rejection’ and ‘dismissive attitude’ toward the problem can be costly. The failure is not just an academic problem, a problem often interpreted in terms of a teacher not teaching appropriately and a child not learning properly. In fact, low achievement or failure is not the only cause for concern; indeed, it may be just a symptom of more profound difficulties. For these reasons, the problem persists forever despite numerous efforts to improve teaching and learning materials.

It is not that this problem has not been studied in the past. There have been some studies on issues involving the SLC examinations. Most of these studies have been anecdotal and descriptive and have focused on the narrow ‘technical’ aspects of the SLC examination. Further, the scope of many of these studies has remained rather limited; since they do not represent the national perspective. It is often difficult to get a complete picture of the student performance in the SLC examinations from these studies. These studies were conducted on very small samples. As a matter of fact, there has not been a single study on the topic carried out with an extensive sampling of the multiple population groups that make up the nation. Moreover, many cultural, linguistic, pedagogical, institutional, economic, social and procedural factors that might affect student performance in the SLC examinations remain largely unexamined. While current research has given us some understanding about the SLC examinations, but they fail to provide illuminating insights into the complexity surrounding the SLC examinations. The present study, therefore, is an attempt to build a comprehensive understanding about student performance in the SLC examinations. In sum, it originated from a desire to answer a very simple question: Why some schools and children do well, whereas many others do not do?

## 1.2 Objectives of the Study

It should be said, at the outset, that this is an ambitious project, which aims at building a comprehensive understanding of student performance in the SLC examinations. Along the way, the study also has examined the different components and elements that constitute the education system. As a policy-based research, the ultimate objective is to develop the immediate-term and long-term strategies for improving student achievement in schools. The study employed multiple perspectives and methods in accomplishing the objectives of the study, which are summarized below:

The first objective of the study is to prepare a *genealogy* of the SLC examinations to find out how policies and practices concerning the SLC examinations have evolved over the years. This is done with the assumption that a close scrutiny of the policies and practices over a period of time would help us build understanding of the current functioning of the system.

Second, the study has gathered and analyzed the perceptions of the Nepali public about the SLC examinations. An attempt has been made to describe public views on the persistent student failure in the SLC examinations. Does the public have faith in the system? What factors are believed to contribute to student performance? What is the level of public faith in the SLC examinations? Attempts have been made to answer some of these questions. In that regard, media can be one important source of public perceptions. Therefore, a media analysis was carried that examines materials reported in the print media.

The third objective is to assess the institutional capacity of the Office of the Controller of Examinations (OCE) to plan and manage the SLC examinations and examine if the institutional

set-up and functioning has any impact on the conduct and outcomes the SLC examinations. OCE is one of the oldest institutions within the education sector. It operates within the MOES. All exams related operations are initiated, planned, and executed by the OCE, although in recent years there have been some efforts to decentralize some of the exam operations. Should OCE function as a part of the educational bureaucracy or should it be developed as an autonomous professional testing institution? What immediate and long-term changes are necessary to evolve it as an efficient testing institution? What does it take to develop the OCE? These are some of the questions that will be examined.

Another objective of the study is to undertake the financial analysis of the SLC examinations and explore possibilities for developing OCE as an independent and financially self-supporting institution. Exams are costly undertakings. There are both apparent and hidden costs. There are costs to the parents, the school and the Government. The study examines the issues involving the costs of examinations.

Fifth, the study seeks to analyze the extent and nature of disparity in student performance in the SLC examinations. Schooling produces unequal outcomes. Unfortunately, not all children perform on the same level. A descriptive analysis has been performed to assess the magnitude of disparity in terms of region, sex, ecological zone, school type (public/private), etc. SLC data are rarely analyzed. These data are reported in raw numbers, but never analyzed. The numbers do not tell anything unless they are analyzed. The quantitative analysis of the SLC results has been very enlightening in terms of locating the problems of student under-performance.

Sixth, the study examines various processes involved in the preparation and execution of SLC operations and analyzes how these might affect student outcomes in the SLC examinations. As a part of this, the critical stages of the SLC examinations such as test construction/development, printing of test papers, administration, marking and scrutiny of answer books, publication and reporting, and finally, the use of SLC results, were examined. The study team observed the actual conduct of examinations in order to assess the physical and social conditions under which examinations are conducted.

The seventh task is to undertake a technical assessment of test materials to examine how they affect student performance in the SLC examinations. It involves examining alignment between curriculum, textbooks, and test materials. A sample of answer books was reexamined by a group of experts to assess fairness, objectivity, and consistency in marks allocation.

Eighth, the study examines assessment, grading, and promotion practices at the school level to find out if these practices have any impact on student performance in the SLC examinations. How are students assessed at the different levels of education? What are the grading and promotion policies and practices at the school level? What is the relationship between school-based examinations and externally conducted terminal examinations? These questions were considered under this objective to assess whether the test materials, testing procedures, and conditions favor certain groups of students, not others and how these might ultimately lead to unequal outcomes in the SLC examinations. Many believe that students fail because of weak academic foundations and that failure in SLC is the expression of the past failures.

One other objective of the study involves comparing the examination systems operating within the SAARC region in order to draw lessons, if any, for improving the examinations system of Nepal.

The tenth objective is to identify the determinants of student performance in the SLC examinations. A nationwide survey was undertaken using representative samples of secondary schools, students, teachers and parents. The purpose has been to identify factors that might be associated with school performance. Advanced statistical analyses have been conducted for this purpose.

Still another objective of the study is to prepare case studies of very effective and ineffective schools of Nepal to find out what makes schools ineffective or effective. Case studies of 28 schools have been prepared. While the survey has gathered quantitative information from the field, the case study preparation has primarily used qualitative information. Several factors associated with effective and ineffective schools have been developed.

The twelfth task is a *tracer study* of school leavers. The main objective of the tracer study is to find out the whereabouts of school leavers and examine whether secondary education has any value in relation to pursuing higher studies, taking up employment and leading a satisfying personal and social life.

Thirteenth, the study assesses how far the test materials and testing conditions favored different groups of students sitting for the SLC examinations. It examines whether the test papers and testing procedures were responsive to the needs and life realities of girls and children coming from poor households, ethnic and linguistic minorities, and children living under difficult conditions.

Finally, the study presents a set of recommendations and policy options for enhancing student performance in the SLC examinations.

### 1.3 Significance of the Study

The findings of the study should be of immense value on different levels. These are briefly discussed below.

Annually, when the SLC results are published, the entire nation goes in shock due to the unacceptable, troubling, and alarmingly poor performance of public school students. Admittedly, there are no instances of these shocking results producing big debates on the policy arena, nor do they produce any 'sensation' among the academics. Fortunately, the Nepalese media, which are becoming more and more specialized, inquisitive, and investigative in recent years, pick up the issue of student failure and run stories for a couple of days. The eager young journalists try to squeeze the policy-makers and experts to get answer to the deceptively simple question of why children fail in the SLC examinations. Often, these debates center around two things. First, there are a lot of public-schools bashing, almost everybody criticizing the poor performance of public schools, their teachers, and students. Some commentators have gone to the extent of suggesting that there is no point that the Government should continue to fund the poorly performing schools (Wagley, *The Himalayan Times*, June 21, 2005). Second, both experts and policy-makers start making speculations about the possible causes of massive student failure. More often, the causes identified happen to be poor teaching by teachers, unmotivated students, reduced school days, poor teacher attendance, and so on. The row that gets reported in the media is certainly helpful to inform the public about the problem, but it does not take us anywhere in terms of finding solutions to the problem. Although the magnitude and apparent causes of the failure have been discussed and debated several times, it is often difficult to formulate well-argued, evidence-based, and a carefully crafted educational policy to address the problem in the absence of hard evidence generated through rigorous and scientific research.

Much policy-making has relied on peoples' hunches, beliefs, speculations, and unfounded assumptions. Much debate surrounding the SLC failure is also largely uninformed. Therefore, the logic of this study lies in informing the policy-makers and the general public by producing information that could help us understand why some schools and some children do well but others cannot do. The study is expected to yield information that can be a basis for informed public debate and data-based decision-making.

In recent years, in the wake of persistent student failure, public schools and their teachers are being asked to be accountable for performance. Increasingly, it is being emphasized that the existing system of school financing should be replaced by outcome-based funding where funds to schools flow based on their performance in the SLC examinations. The Government already has a policy of withdrawing support to schools that fail to maintain a pass rate of 15% for three consecutive years. Very recently, a new policy has been adopted whereby schools that produce good results (50% or more pass rates) get additional funds. Such a scheme of school financing may spur good results in schools. This scheme assumes that good results in SLC are the outcome of the actions of schools and teachers alone. Research, however tends to suggest that school and teacher actions alone do not always lead to good academic performance. Often, factors outside the school can also determine school performance. Performance-based funding that uses test scores as the sole measure of school outcome can be unfair to the several poorly performing schools. By exploring the factors associated with school and/or student performance, the study will help devise appropriate school financing schemes.

Educationists and researchers often tend to compare the schooling process with that of a 'black box,' which is believed to be mysterious, unknown, and intractable. In recent years, however, the situation is different. New advances in both the qualitative and quantitative research traditions make it possible to understand and explain most human phenomena, if not all. Studies examining the factors associated with learning achievement have been undertaken around the world, although such analyses are seldom undertaken in the developing countries. While studies undertaken elsewhere can give us some insight and idea about how various factors might affect performance, we need to build our own knowledge base on the issue at hand. From a methodological perspective, the significance of this research lies in its attempt to use both quantitative and qualitative methods to understand and explain the problem of student failure. The added value of this is enlarged understanding about school performance.

Public schools and their teachers are subjected to harsh criticisms and humiliation for the persisting under-performance of students in the SLC examinations. There is a natural tendency to compare the results between the public and private schools. While under-performance of public schools cannot be accepted, it is essential to know what makes them under-perform in comparison to the private schools. The question of what makes private schools do better in comparison to public schools remains unknown because this topic has not been examined adequately. It will also be useful to know the factors and practices that place private schools ahead of schools. The political and social consequences of wide gaps in student performance between public and private schools can be serious. The SLC examinations have been one key factor dividing the already divided society. It needs no over-emphasis that public schools' performance must remain at par with the private schools in order to achieve the national goals of social cohesion, inclusion, social equality, and national integration.

Poor SLC results produce a lot of 'blame game' annually. Educational planners and administrators are quick to blame head teachers and teachers for not teaching children properly. Schools place the responsibility for this extraordinary record of failure upon the children

themselves, their families, and communities. Parents either criticize their teachers or their own children. Experts start criticizing the donors who bring money to fund school reform in Nepal. Teachers will criticize the Government for not providing sufficient funds, preparing a tough curriculum, and not supplying enough teachers. Students will relate their failure to their misfortune and bad luck. Least concerned with school achievement, donors are busy fixing planning, financing, monitoring, and community participation. Most recently, the ongoing conflict is believed to have caused poor performance, and this 'theory' protects everybody. Much of this 'blame game' results from hard data that explain student performance.

School reform in Nepal has in the past focused on technical inputs such as new classrooms, new curricula and textbooks, teacher training, teaching learning materials, etc. The assumption has been that new classrooms, trained teachers, and newly developed and revised curriculum materials will produce learning in classrooms. In recent years, the new wave of school reform emphasizes a greater role for the local communities and parents, with the assumption that when communities and parents are given a greater role, they will keep an eye on the unmotivated, unaccountable, and unprofessional teachers. More local supervision and monitoring of teachers will lead to higher performance. Likewise, local planning is being promoted under the expectation that it will lead to school effectiveness. The study's findings will help firm up appropriate reform strategies – strategies that are likely to boost student performance. School reform is a costly endeavor. Considerable savings could perhaps be made by reducing expenditure in activities and elements that are not directly linked to student achievement. Currently, school reform takes the form of trial and error where interventions for reform are selected without sufficient understanding of the results they are going to produce.

In recent years, public faith in the SLC examinations seems to be eroding. If stories published in the media carry a true picture of what happens in the OCE and how it does its business, the OCE may be on the verge of losing public faith. Often, inefficiency, corruption, misappropriation of funds, poor administration of SLC examinations, failure to publish results in time, increasing incidence of cheating and malpractices, poor quality of test papers, use of test papers that only measure lower-order knowledge, poor phrasing of questions, inconsistent marking of answer books, lack of public accountability, etc. are the themes frequently reported by the media. Most recently, CIAA has decided to investigate malpractices taking place within the OCE. While SLC has been a part and parcel of the educational history of Nepal, it will continue to be so as there is an increasing trend toward centrally administered public examination system. The study is expected to come up with strategies for developing OCE as an autonomous and professionally competent testing institution.

Assessment and evaluation experts argue that examinations can be damaging to the quality of education (Kellaghan and Greaney, 1992). Public examinations like the SLC examinations determine what will be taught in schools and how it will be taught. For the most part, teachers' and students' actions are influenced by the types and contents of test instruments. Often described as 'backwash effects,' examinations often produce a new phenomenon of selective teaching and/or teaching to the test at the cost of real learning. The unintended and negative consequences of the examination on the education system – instruction, curriculum, student learning and many others – must be examined and addressed to improve the quality of education. In fact, any change in curriculum, teacher training, and instruction is unthinkable without really changing the contents, processes, and practices of external examinations.

Countries around the world are engaged in a constant search for factors associated with student achievement. Now that the importance of education has further heightened in the current

information age, countries will accelerate their search for the variables and factors that produce learning. On the theoretical level, the evidence generated by this study will add to the body of literature on student learning and school effectiveness.

Finally, one major activity of the study has been to closely examine effective and ineffective schools. This activity has been very worthwhile and we have been able to detect specific actions and elements at the site level directly linked to increased learning achievement of students. This has been a first ever attempt to build a model of school effectiveness grounded in Nepalese educational settings which can be valuable to schools, educators, parents, teachers, and practitioners for improving school effectiveness and student achievement.

## **1.4 Understanding School Achievement: Multiple Perspectives**

Unequal differences in educational achievement are a worldwide phenomenon, as old as the history of formal schooling. These differences in educational achievement and attainment are often based on social class, economic status, caste, ethnicity, gender, school type, family background, and a host of other factors. This topic has attracted many scholars, thinkers, and researchers alike for a long time. Most recently, anthropological and sociological studies of schooling have provided critical awareness about school achievement. The main purpose of this section is to review the theories and research studies that explain school achievement. What is reviewed here is the western literature. The review will reveal that despite several decades of thinking and research, we are nowhere near knowing what makes one perform well in schools and others poorly. There is not just one way of understanding the phenomenon of school achievement and is almost impossible to be conclusive. The review will show that there are multiple perspectives on educational achievement. Each perspective has been labeled as a 'theory,' which is used in a loose sense. The readers will notice that these explanations contradict with each other and often represent an ideology. The readers will also notice that the concern with unequal educational performance of children coming from the working class and those belonging to ethnic minorities is at the heart of these inquiries and scholarly work. Also, at the heart of these debates is the student achievement in public schools. This makes the present directly relevant to our context. The idea here is to introduce the various perspectives or explanations, not to critique them. We have not followed any particular order in presenting the various theories. Here follows an overview of each theory.

### **Theory of intelligence**

Intelligence has long been considered as an important component of educational achievement or success. For the last several decades, the psychologists have been emphasizing that it is one's intelligence that makes a difference in schools, meaning that people are born with unequal intelligences and those who have more intelligence are able to learn in comparison to those who have less intelligence. To believe that some people are born smarter than others implies that nothing can be done to improve one's learning because it is pre-determined. For decades, the intelligence theory led to believe that good students stay good but the bad ones stay bad throughout their lives. Jensen (1972) argued that lower class children, especially blacks in the United States, suffer from a specific cognitive deficit, an inability to engage in conceptual learning, and this inability is a result of genetic inheritance. For Jensen, genetic differences in intelligence explain unequal educational performance in schools by different groups of children. He was not optimistic about the likelihood that the academic performance of black children in the US could be substantially improved despite social and economic policies as he believed that

the root of the problem was biological. Jensen's work was later challenged by Ginsberg, who demonstrated that children, black or white, possess fundamental competencies in mathematical thinking and that there is no evidence of pervasive cognitive deficit.

Racial, ethnic, and class differences in IQ test scores, said to determine school performance, were believed to have occurred due to differences in genetic endowment, differences in home environment and parental childrearing practices, and cultural differences. Later studies have indicated that these differences in intelligence are in part due to the cultural bias of IQ test questions, the conditions under which they are administered, and cultural and family differences (Bowles and Gintis, 1976).

### **Theory of cultural reproduction**

Bourdieu's (1973) work can enlighten us to build our understanding of school outcomes. Unlike liberal thinking, which sees schooling as a means of upward mobility and social inequality, Bourdieu and others (Bourdieu & Passeron, 1990) do not see schools as neutral sites. By examining the functioning and role of schools in the French society, he came to the conclusion that those who are likely to perform well in schools are those of 'superior social standing,' who are believed to possess 'cultural capital' is valued in schools. The schools as social and political institutions recognize the elite tastes, consumption patterns, skills, manners, and actions as 'intelligence.' The structures and processes that constitute the schools such as curriculum, methods of instruction, exams, and disciplinary procedures favor those who possess the 'intelligence' that schools recognize as legitimate and genuine. Thus schools give the elites an unfair advantage. The ones who are of lower social standing are believed to lack cultural capital, and hence, are without the intelligence that the school calls for. He argues that non-elite children or those with a lower social standing cannot identify with the schools because of the lack of resemblance between what they possess and what is valued in the school. Bourdieu believes that the possession of cultural capital leads to economic and social advancement because of the convertibility of cultural capital into economic capital. For Bourdieu, schools not only reproduce the value and content of the cultural capital of elite groups but also impose symbolic violence on non-elite students.

Bourdieu's work seems to suggest that it is the poor, socially deprived groups, non-elites, and the working class children who are destined to fail or perform poorly in schools. These children are presented with an alien environment and the knowledge, experience, language, taste, and manners they possess do not help them meet the standards of schools that are consistent with and set for the elites.

### **Correspondence theory**

The correspondence theory was propounded to explain the schooling phenomenon in industrial countries, but it is equally helpful to understand the same in non-industrial societies. The theory holds that education in a capitalist society is bound to work against the interests of the poor because the role of the school is to prepare wage labor for capitalist enterprises. The school will prepare docile and disciplined workers to serve the interests of the capitalists. The school certifies the workers for a position at the bottom of social hierarchy. Many working class children have little realistic opportunity for mobility through the schools. Bowles and Gintis (1976) argued the social relations of the larger society are reproduced in the school in a way that tends to reproduce the social class structure. Social relations of schooling and of family life correspond to the social relations of production. In other words, the economic and

technological characteristics of a society cause the families and schools to take on characteristics that fit in with the socio-economic structure. If seen from the perspective of the correspondence theory, school achievement is a function of the child's place in the society. Correspondence theorists have a deterministic view and refuse to accept that schools function to provide meaningful opportunity to the working class. Schools that serve the working class children have a climate and conditions that do not promote their achievement.

### **Theory of cultural deprivation**

Cultural deprivation theory emerged during the 1960s. This theory posits that working class and nonwhite children perform poorly in schools because they enter school without the intellectual and social resources that is required to be able to achieve success in schools. The lack of cultural resources puts these children at a significant disadvantage. The poor have a deprived culture, one that lacks the value system of the middle-class culture represented by hard work, initiative, and importance of schooling as a means to future success, without which it is less likely to excel in the school. Deutsch (1967), for instance, believed that working class and nonwhite children did not have the upbringing in their families required for satisfactory academic achievement.

Hunt (1969) argued that poor children develop in a deprived environment that stunts their intellectual growth. The environment fails to provide sufficient stimulation or provides the wrong kind of stimulation. As a result, poor children suffer from cognitive deficits. The environment also fails to provide sufficient stimulation or provides the wrong kind of stimulation. The cognitive deficit (whatever its origins) prevents poor children from learning the conceptual material taught in school.

This theory provided impetus to the adoption of the compensatory education programs in the US. The Head Start Project was the direct outcome of the cultural deprivation theory. It was believed that the various disadvantages and deprivations that children bring from their families could be compensated with the Head Start Program that was designed to prepare children academically for formal schools.

### **Theory of cultural difference**

In line with the cultural deprivation theory, cultural difference theorists also believe that working class and nonwhite students differ from the middle class students culturally. It is also true that the working class and nonwhite children enter school with different cultural dispositions and without the skills and attitudes often required by the schools. This is not due to deficiencies in their homes but rather to being part of an oppressed minority. Cultural difference theorists attribute unequal educational outcomes to social forces such as poverty, racism, discrimination, and unequal life chances. John Ogbu (1978), for instance, argued that African American children do less well in school because they adapt to their oppressed position in the class and caste structure. A caste society is one where different roles are assigned more or less rigidly to different sub-groups and where everybody belongs by birth to one or another of the sub-groups. To be born into a lower caste or caste-like minority is to grow up with the conviction that one's life will eventually be restricted to a small and poorly rewarded set of social roles. Individuals in caste-like minorities cannot realistically aspire to the kinds of social positions for which education is important. A 'job ceiling' restricts their opportunities even if one or two members of the caste manage to break through the ceiling. It is generally supposed that blacks cannot get good jobs because they have done poorly in school. Ogbu argues that blacks do poorly in school because they are sure that they are not going to get good jobs anyway. Like members of caste-

like minorities, many blacks do not expect to lead the kinds of lives for which education is required.

Another variety of cultural difference theory does not agree with the notion of cultural deprivation (Ginsburg, 1972). Ginsburg demonstrated through his study that the basic abilities required for mathematics and other school subjects are equally present in every cultural group. Poor children do not suffer from massive intellectual deficiency. He argues that poor children do not suffer from fundamental cognitive deficits. Instead, there is evidence for the existence of universal cognitive processes. Cultures develop distinctive techniques for dealing with distinctive problems. These cognitive differences are an expression of distinctive adaptations to unique environments. The basic argument is that cognitive differences are an expression of the school failure of poor children that cannot be explained primarily in terms of cognitive development deficit. School failure does not originally derive from deficient cognition. Why do children exhibit school failure? According to Ginsburg, three factors contribute to failure in schools: bad teaching, motivation, and style. The simple truth is that many schools teach badly, therefore, the root cause of failure is bad teaching. There is no evidence that under stimulating conditions poor children cannot learn quite well. Motivation is central to learning. Children make great intellectual strides if they are motivated, when there is interest in and passion for learning. Most children fail in school not because they are stupid (cognitively deficient) but because they are afraid, turned off, and the like. Ginsburg further argues that children prone to school failure may experience some form of distress that prevents them from exhibiting their capability or realizing their potential. And, once they fall behind, the prophecy becomes self-fulfilling. Some children's learning style or cognitive style may not correspond effectively with the teaching environment in schools. Children fail not solely or primarily because they are dumb, but because of the way they are treated by their teachers in their classrooms, because of political-economic factors beyond control. Education is a social-political phenomenon as much a psychological one. Achievement test scores do not tell the whole story.

According to the cultural difference approach, ethnic and linguistic minorities fail in schools insofar as they do not successfully adapt themselves to the schools' dominant cultural styles, or conversely, insofar as the schools could not provide appropriate activity settings to accommodate minorities. Ogbu suggested in one of his works that school success requires that African American students deny their own cultural identities and accept the dominant culture of the schools, which corresponds to the white middle class model. It would mean that the black children would not make much progress unless they learn to behave and act like white children.

### **Theory of language code**

Bernstein (1975) worked with middle-and working class boys in London and found that in the working-class sub-culture there is, on the whole, a particular mode of speech that is characterized by its very restricted nature. He noted that sentences were short, abstract ideas were infrequent, vocabulary was small, and gesture was commonly used in addition to or in place of speech. This very simple language used by the working class boys was called 'restricted code.' Bernstein believed that those who are brought up to speak this code will automatically be brought to think in the same uncomplicated way regardless of whether they are genetically capable of far more complex thought. On the contrary, children in the middle-class were exposed to sophisticated language, which gave the speakers the possibility of thinking of a much more complex and abstract quality. Those who are exposed and are able to use a complex mode of speech, termed as elaborated code, will not be limited to mental development, unlike those

who only use a restricted code. Bernstein's theory thus suggests that working class children cannot achieve as much as the middle class children due to inadequate language. School achievement, which demands high language proficiency, will be higher for the upper class due to their advantage of the language. Schools reward middle class communication codes, not working class codes. Bernstein's thesis is close to the cultural deprivation theory because of his theoretical position that working class children have a different language and communication code, which disadvantages them in the schools.

The most recent work of Ogbu also supports Bernstein's language theory. Ogbu noted a relationship between language and educational achievement among the low income, inner-city Afro -American students. He documented that school success often called for standard English, while the language commonly used by the Afro-Americans was one of slang English or Black English, which differed from the standard English.

### **Theory of familial effects**

Coleman and colleagues (1966) in their much debated work demonstrated that school achievement is linked to family background and that poor children do poorly in school because there is something intrinsically disabling about being poor. Based on their study, they reported that school differences were not the most significant explanatory variable for the lower educational achievement of working class and nonwhite students in the United States. Their work implied that children coming from poor households have intrinsic cognitive, linguistic, and intellectual disabilities as a result of which these children perform poorly. The reason why students from lower socio-economic backgrounds did well in school had more to do with the students themselves, their families, their neighborhood and communities, their culture, and perhaps even their genetic make-up. Those who see the family background playing a major role in school achievement argue, student achievement will not improve unless families' economic status is lifted. They also argue that the key to improved achievement for low income minority depends on getting those children to learn in the ways schools teach. Throughout the 1960s and 1970s, these explanations remained dominant and are in currency even today.

### **Theory of fear**

John Holt (1964) in his book *How Children Fail* postulated that children fail because of fear in schools. The boredom, confusion, fear, limitless hopes, and expectations of adults all contribute to failure. Fear is one tactic or strategy that schools and teachers have used for a long time to control, discipline, and motivate teachers. Fear destroys intelligence, and affects a child's whole way of looking at, thinking about, and dealing with life. A fearful mind cannot learn. Fear and failure are very closely linked. Schooling is about fears, and throughout their schooling children are taught to be afraid of failure. The fear of failure and subsequent experience of humiliation, insult, punishment, and scolding prompts children to refrain from working hard. Children then begin to perceive themselves as incompetent learners. Incompetence has one advantage. It not only reduces what others expect and demand but also reduces what one expects from himself or herself. Holt concludes that the best bet is to help children overcome fear so that they come to believe that they have the ability to learn. He further argues that the experience of failure is humiliating and it does not lead to more learning. Children should be subjected to honorable and constructive experience that inspires them to learn. Schools need to be organized in such a way that even children with learning difficulties learning think that they have the ability to succeed and excel. Holt is of the view that learning in schools is fragmentary, irrelevant,

distorted, and short-lived and does not meet the real needs of children. School experiences are often dull, trivial, redundant, and narrow and that there is limited opportunity to further expand their intelligence, capabilities, and talents. The reality they experience on a day-to-day basis is so different from the reality they are taught in schools that they find school learning meaningless.

### **Theory of cultural production**

Unlike cultural deprivation and cultural reproduction theories, the cultural production theory does not see individuals as passive recipients of the middle-class ideology of the school. Students are merely not objects manipulated by the school. Instead, it recognizes that schooling is a dynamic process, where different forces and power relations come into play. Educational outcomes are not necessarily pre-determined or established. As a result, different educational outcomes are produced. Working class children are informed, conscious, and creative actors who do not accept repression, domination, and subordination pushed through the schooling process. These are opposed to the operative structures and processes that exist in schools. By way of interacting, contesting, and challenging the oppression, these actors produce new cultures, knowledge, ideas, and values. It would mean that school achievement results from learners' engagement in the learning process and it is not that working class children always perform poorly.

The school is not necessarily a sacred place. It is a site with an interplay of multiple discourses, realities, voices, ideologies, and practices. Levinson and Holland (1996) argue that it is a complex site where hegemonies and counter-hegemonies are practiced and these interactions produce an educated person, with a new political and social awareness who could be different from the one envisaged by the State.

### **Theory of school effectiveness**

Many other researchers, however, are not prepared to accept the logic of causal interaction between achievement and family background. Edmonds (1979) provided an alternative interpretation of the interaction between student performance and family background. What is often described as the theory of school effects, now popularly known as the school effectiveness research, asserts that variability in the distribution of achievement of school age children derives from variability in the nature of schools to which children go. School achievement is therefore relatively independent of family background, at least when achievement is defined as acquisition of basic skills. Under the school effectiveness tradition, it is argued that the key to improved achievement among school-age children depends on the ability to compel or persuade schools to embrace practices and factors that are directly linked to effectiveness, measured in terms of student mastery of the subject matter. An effective school is defined to be one where the proportion of low-income children demonstrating good performance is identical to the proportion of middle-class children who do so. Using this definition, a school that fails is not an effective school. Early school effectiveness researchers found a number of organizational and institutional characteristics in the effective schools: instructional leadership role of the principal, instructional emphasis in school, school climate, high expectations, teacher behavior in classrooms, time-on-task, frequent monitoring of student progress, etc. Edmonds (1979) concluded that the most powerful force in school achievement is the school itself. He further argued that the school effect is more powerful than the familial effect, but it is also more powerful than the teacher effect. That is, the effectiveness of the teacher is much more a

function of the nature of the schools in which they work than of any set of characteristics that they possess as individuals.

Edmonds' concept of effective schools has remained widely influential in the contemporary thinking and research on school achievement in both developed and developing countries. A genre of research, known as the effective school research, has grown over the years around his concept.

### **Theory of differential treatment effect**

This view suggests that classroom practices and instructional methods used in classrooms produce unequal student outcomes. Some researchers have argued that the instructional methods often used in classrooms do not favor the poor, girls, linguistic and ethnic minorities, and children coming from difficult households, which eventually contribute to widen the gap between successful and unsuccessful students. Teachers often treat poor children differently from non-poor children. Also, smart ones get more attention than the non-smart ones. Poor children and minorities are sometimes not familiar with the classroom and school procedures and conventions. This explanation would imply that the performance of such children can be improved by improving the instructional methods and teacher-student relationships.

School effectiveness studies have been very popular in developing countries. Bruce Fuller (1986), from his review of 72 such studies undertaken in developing countries over a period of 15 years, concluded that unlike industrialized countries where child's family background appears to be a strong predictor of school achievement, in developing countries the academic achievement of children is influenced by the quality of the school. Measures of school quality that were frequently found to correlate to student achievement are: (a) school expenditures (expenditure per pupil); (b) material inputs (availability of instructional materials, availability of additional reading materials, quality of school building, library size and activity, science laboratories, provision of nutrition and feeding program); (c) teacher quality (years of tertiary and teacher training, in-service teacher training, teacher's verbal proficiency, teacher's social background, school's percent age of full-time teachers); (d) teaching practices (length of instructional program, homework frequency, teacher's expectations of public performance, and time spent on class preparation); (e) school management (quality of principal and student boarding). A number of quality factors believed to be related to achievement and found not to influence student achievement are: class size, laboratories, and individual teacher salary levels.

To conclude, school achievement is not just an academic question. It is equally a political, economic, cultural, and social question. Therefore, understanding about school achievement is possible only through a multidimensional approach, which is precisely what we have done in our study of student performance in the SLC examinations.

## **1.5 Nature and Functions of Public Examinations**

Public examinations, which constitute an inherent feature of the education systems around the world, originated in China as early as 606 AD. These examinations were used for the purpose of selecting students and civil servants on the basis of ability. It was only in the 16<sup>th</sup> century that competitive examinations were introduced into European schools and colleges. Subsequently, European educational institutions started using both written and oral examinations as a means of improving the standards of education. During the nineteenth century, examinations were used widely to provide entry into the universities and select competent people for various professions.

The use of examinations ended the age-old practice of using wealth, social prestige, and family connections in selecting people for public service. It was believed that examinations possess the power to differentiate between the competent and the incompetent persons. Over time, European countries developed their own examination systems. For instance, in Great Britain, the *matriculation* system of examinations came to exist, which was later exported to former colonies. These and several other developments led to the widespread use of written examinations across the world.

### **Key features of public examinations**

Greaney and Kellaghan (1995) have identified at least six key characteristics of public examination systems. First, public examinations are generally summative and formal and are controlled and administered by an authority outside the school. It would mean that those who teach are not directly involved in examining their students. Second, examinations are based on a syllabus or curriculum defined by a curriculum authority outside the school. Students are examined against a common curriculum regardless of the type (public or private) of schools or their location. Third, examinations can be limited to a few core subjects such as language(s), mathematics, and science, or may include the entire subjects in the curriculum. Fourth, public examinations are normally terminal in nature, administered at the end of a level of education (primary, lower secondary, secondary, or higher secondary) or a course of studies. Examinations are routinely conducted annually and results published. Examination conditions are normally uniform and standardized. There can be one public examination for the country as a whole administered nationally. Or, there can be more than one system of examinations. Fifth, examinations generally seek written answers, using essay or short-answer type questions or both. Some systems also use objective type of test items (e.g., multiple choice items). In some subjects, oral and practical components are also included. Finally, students' works are examined by external examiners, leading to award of a grade or mark in each subject.

Public examinations also have some other features. First, the results of individual students and, in some cases the results of the individual schools or districts are made public for a purpose of placing a heavy pressure on them to perform. Second, there might or might not be any formal relationship between internal and external examinations. Third, countries may hold public examinations at the end of school level education or may hold at the end of each cycle of education (primary, lower secondary, or secondary). Fourth, public examinations normally constitute large-scale standardized assessments conducted by national entities or other nationally recognized entities. These assessments are mandated, so a teacher cannot simply opt out of participation.

### **Functions of public examinations**

Public examinations around the world have more or less similar functions. One common function is to provide information concerning the level of educational achievement of a student based on which he or she is selected for the subsequent levels of education. This function is often characterized as the selection function of the public examinations. Based on the performance, universities or institutions of higher learning decide whether to accept or reject a student. It is assumed that one's academic performance at a lower level determines the level of academic performance at a later stage. In recent years, many have started to question the ability of public examinations to predict one's future academic performance. Where places are limited, universities or institutions of higher learning use their own screening devices in selecting the

students. The pyramid structure of education systems, where very few manage to reach the top of the educational ladder, results from the selection that takes place through the public examinations.

The second function, often known as the certification function, relates to providing information on the level(s) of competence acquired by students on definite pre-established standards or learning outcomes. Based on performance in the public examinations, students are given certificates which serve as the basis for being employed in the labor market or for being enrolled in vocational training courses. Not all students aspire to move to higher levels of education. Certifying the skills and competencies one has acquired is essential in cases where students decide to abandon their formal studies to join the world of work. It should be noted that selection and certification call for different types of information. The selection function has to do with the identification of students who are likely to succeed in their subsequent studies, while the certification function has to do with the measurement of attainment of a clearly specified standard of competence. Most countries use the same test for both purposes.

#### Characteristics of a Good Examination System

- Fitness for purpose. The exam papers and the marking system should produce scores that are both reliable and valid.
- Equity, integrity, and public confidence. The conduct of the public examination system should be deemed fair and achieve a high level of public acceptance. The exam should ensure that no particular candidate or group of candidates has an unfair advantage over others.
- Efficiency and cost-effectiveness. The Exams authority should deliver the required services making the best possible use of physical, financial, and human resources. Public exams should be administered according to the agreed schedules and, in particular, results should be issued on time.
- Transparency. The examination process should, as far as possible, be open to public scrutiny. Exams should not be shrouded with mystery.
- Beneficial effect on classroom practice. The public examination system should promote good teaching and learning practices. It should provide a systematic feedback of information to teachers.

Source: [www.worldbank.org/exam](http://www.worldbank.org/exam)

In addition to the selection and certification functions, public examinations have to perform another important task, often known as the ‘accountability’ function. Many countries use the results of public examinations as measures of school effectiveness or school performance, identifying schools with high pass rates as good schools and those with poor pass rates as bad schools. Often, schools and teachers are rewarded or punished based on the results of public examinations. The accountability function implies that test scores should be used for the purpose of incentive and administrative control. In view of the fact that public schools are being funded through public resources, many argue that the performance of schools and teachers should be measured in terms of student achievement in public examinations. The accountability function is emphasized from the reasoning that all investments made in education should result in increased pass rates or test scores. Critics, however, argue that the use of test scores for the purpose of accountability and control might not favor poorly performing schools. The test score-based accountability system does not take account of differences between schools in terms of the availability of human and physical resources and characteristics of student population, which may have a role in school results.

Testing experts advise that, whatever the function, large-scale tests should be valid, reliable, and fair. By validity, testing professionals mean that the test measures what it claims to measure – in this case, what students were actually taught. In addition, public examinations should be reliable;

in other words, they should produce very similar if not identical scores if the same student took the test on two different occasions (assuming no learning occurs in between) or in two different settings. The exams should also be fair. This means that the test questions should not be culturally biased; that the exam should be administered in a way that treats students equitably; that test takers should have an opportunity to learn the material being tested; and that the scores should not underestimate or overestimate the competencies of members of a particular group, such as a racial or ethnic group. It needs to be noted that, in practice, it is almost impossible to design a test that is totally free of error and, thoroughly valid, reliable, and fair.

### **Positive and Negative Consequences of Public Examinations**

Public examinations bring both positive and negative consequences. Many argue that public examinations can help raise academic standards in a number of ways. Kellaghan and Greaney (2004) see the potential in public examinations to act as a 'lever for school reform.' Public examinations are often characterized as a powerful and inexpensive method of influencing the quality of teaching and learning in schools. Some of the positive consequences of public examinations are listed below:

First, examinations encourage schools and teachers to do better and be accountable for performance. This is true for public examinations whose results are made public.

Second, external examinations force teachers to cover course contents. In countries where teachers must teach externally developed curricula and textbooks without much training and supervision, there is a tendency to leave certain portions of the curriculum untaught. Where examinations are centrally set, teachers are under pressure to cover the entire course of study.

Third, public examinations ensure alignment between curriculum and instruction. They drive curriculum implementation in schools. Curriculum represents the knowledge, skills, and attitudes that children acquire, what is often referred to as learning outcomes or competencies. Instruction is a process that helps transform these desired learning outcomes into actual student learning. Public examinations bring the two elements together by expecting on the part of students the mastery of the knowledge, skills, and attitudes emphasized in the curriculum. This keeps teachers focused on the curriculum.

Fourth, public examinations provide motivation to the students to learn more. Some research tends to suggest that external examinations can influence students' level of effort to learn course materials. Some argue that public exams provide an incentive to study, thus improving their achievement and school performance.

Fifth, examinations create a competitive environment between and/or among schools, thereby, making the entire education system competitive and productive.

Sixth, they provide a criterion for measuring schools' progress. One major task of the school is to contribute to the overall development of the child. This objective is 'fuzzy' as there are no concise and commonly agreed measures of overall development. The test scores of public examinations therefore provide a good measure of school achievement. When test scores are the agreed measures of school performance, they provide a relatively simple means of controlling schools.

Seventh, public examinations provide a basis for devising remedial and other special courses for students at risk of failing the examinations.

Finally, public examinations, as argued by many, also act as a vehicle for educational reform. Examination results, if analyzed properly, can provide feedback to schools, teachers, educational planners, administrators, curriculum and textbook writers, and parents.

It should be noted that the above positive benefits are likely to differ for different groups of students. Public examinations, despite several pay-offs, can have numerous, often unintended, negative effects. These are listed below:

First, public examinations give rise to a phenomenon of ‘teaching to the test’ or ‘selective teaching,’ what is often known as the ‘backwash’ effects of examinations. Public examinations signal what is important and what is not important, what should be taught and what should not be taught, what should be done in classrooms and what should not be done, and what should be learned and what should not be learned. Teachers and students act in classrooms the way they will be tested and examined through external examinations. Their actions are geared toward direct preparation for a particular test, such as drilling students in model questions, focusing instruction on a limited subset of skills and knowledge most likely to show up on the test, and ignoring materials that do not appear in the examinations. But, if these test preparation exercises are done with the sole purpose of inflating test scores, they can distort the meaning of education and schooling. Children go to school not just to learn the contents of curricula, but also to develop the personal, intellectual, and social skills that enable them to become productive members of a democratic society. Unfortunately, a heavy emphasis on the public examinations threatens the broad goals of schooling by forcing schools and teachers to focus on test scores. As a result, learning becomes a test-taking or test-passing exercise. Clearly, high-stake public examinations change the focus of education from the demonstration of learning to the attainment of high scores. As teaching becomes ‘coaching for the test,’ real learning and thinking are crowded out.

Second, educationists often classify learning into higher-order cognitive skills and lower-order cognitive skills. Being able to recall simple facts would be an example of lower-order cognitive skills, while ability to solve problems, think critically and analytically, draw conclusions and verify results, investigate situations, and organize and interpret the data are examples of higher-order cognitive skills. For the most part, public examinations focus on the former rather than the latter. Since higher-order skills are not easily examinable, public examinations use questions that test lower-order skills, encouraging the examinees to improve their performance by memorizing by rote and by imitating ready-made answers found in commercially produced exam support materials. Keeves (1994) is of the view that public examinations through recognition of particular learning outcomes have the possibility of either raising or lowering the quality of teaching in schools.

Third, public examinations are too academic and too contents-oriented. They do not test the knowledge and skills that are relevant to life outside the school. Examinations thus produce people who may have ‘facts’ but not know how to conduct life in real life situations.

Fourth, public examinations promote malpractices and cheating. Because of the high stakes attached to these examinations, students, teachers, administrators, parents, and others will use whatever legitimate or illegitimate means is available to boost the pass rates. Cheating is widespread in countries with high-stake examinations. Some research has reported that high-stake tests provide increased motivation to cheat. The commonly reported exam malpractices include hiring substitutes to take exams, bringing and using concealed cheat sheets and notes, bribing exam officers, communicating with outside confederate, etc. The higher the stakes, the

greater the incidence of cheating. In some countries, we see widespread use of test coaching courses and centers and prolific print and video publication of books and software on test-taking skills. In fact test-coaching schools, tutorial services, and test preparation publications are a multi-million dollar industry in many places.

Fifth, public examinations also induce psychological and behavioral problems. The anxiety of preparing for tough examinations and the disappointment of doing poorly often leads to numerous incidents of pathological behavior. Repeatedly failing the public examinations, promoted and respected by the state and society in general, can result in severe psychological toll on the failed candidates. Effects of failure can range from mild cases of low self-esteem to suicide or physical violence directed at others. Exam-induced psychological problems are not as apparent in the Western societies, possibly because the stakes attached to the exams are not as high as in the Asian countries. Waves of exam-caused suicides are common in Korea, Hong Kong, Japan, Singapore, Taiwan, and Vietnam. In recent years, some cases of suicides in Nepal too, have been reported. A study in the US found that low-achieving students who failed the state exam showed increased tendencies toward alienation, anxiety, and apprehension after the test (Richman, Brown, and Clark, 1987).

Finally, public examinations are known to create inequities and further widen the existing disparity between social groups. The claim that tests can be 'objective' and 'neutral' is false. Some research tends to suggest that the so-called objective instruments often produce results that are inaccurate, inconsistent, and biased against minorities, females, and students from low-income families. The language, structure, and contents used in the tests favor some, not others. One study reported that the tests used in standardized tests in the United States reflect the language, culture, or learning style of the middle to upper class whites. Thus, scores on these tests are as much measures of race or ethnicity and income as they are measures of achievement, ability, or skill.

## **Recent Thinking and Trends in Assessment and Examinations**

### ***Assessment as an ethical act***

Generally, assessment and examinations generate high stakes. The results of public examinations determine one's life chances. Whether or not one qualify for a job, college or university degree or a training course is based on the assessment outcomes. Therefore, it is imperative to view assessment as an ethical act. It needs to be ensured that assessment tools, procedures, and methods are fair, valid, accurate, and reliable.

### ***Multiple rather than a single test***

Modern theories on child development emphasize the complexity of human intelligence. Researchers have observed that knowledge, learning, and thinking have multiple dimensions and that a high level of achievement in one area does not necessarily indicate a high level of development in others (Gardener, 1983). Therefore, no single method of assessment is capable of showing achievement of a student on a full range of learning objectives. Unitary test scores ignore the true complexity of human intelligence and thus provide a deceptive picture of individual achievement. A test score is an estimate, not an exact measure. A student's performance may vary depending on which content and skills are tested, when and how the test is administered, whether the formats of tests are familiar or new, whether the material being tested was actually taught, and a variety of other factors. Testing experts strongly urge that

decisions having life-altering consequences, such as whether a student will graduate, should not be made on the basis of a single test score, but should take into account other relevant information. Most terminal public examinations, by their very nature, essentially operate as a single measure. These examinations place too much weight on a single imperfect measure. Testing experts recommend that one single test should not be the sole determining factor in a major decision like awarding of a certificate, but should be used in conjunction with other measures. Multiple assessments need to be used to provide adequate opportunities for learners to demonstrate their achievement.

### ***Assessment for learning rather than assessment of learning***

Examinations typically designed for the assessment of learning estimate how much learning has taken place. Then the information generated from the assessment is used to make decisions about the learner. There is little opportunity for improvement. It is being increasingly emphasized that assessment should exist for learning, meaning that it should be used as a means rather than an end. The most important purpose of assessment is to improve teaching and learning. Assessment should make sense to students, and their performance should be reported and interpreted in terms they can understand. Assessment experiences should be part of a positive learning process; therefore, assessments should not erode students' sense of worth. Current thinking on child learning holds that all learners are born curious and can acquire new knowledge, skills, and attitudes. When learning has not taken place, it is not the fault of the learner alone.

### ***Socio-cultural approach to assessment and examination***

Assessment and examinations have been traditionally dominated by psychometrics, the science of measurement of skills, knowledge, and abilities, often believed to meet the strict criteria for validity and reliability. The psychometric approach seeks to standardize conditions of administration and scoring in order to ensure reliability. The aim is also to assure validity to make sure that results of an assessment reflect student's learning accurately. A socio-cultural approach to assessment recognizes the influence of students' culture, language, ethnicity, and a host of other social factors on teaching, learning and assessment. This approach acknowledges the role of context in one's learning and performance. It means that learning is not influenced by the classroom environment and in-school experiences but also by socio-cultural factors such as students' background, home experiences, languages and dialects, and gender. Unlike psychometric approach that defines learning as an individual psychological event, the socio-cultural approach views learning as a social process. One's ways of learning and demonstrating what has been learned are influenced by how he or she is socialized. If learning is a social process, then student performance should be evaluated and understood in the light of socio-cultural information about the student, the school and the course of study. The psychometric approach seeks to avoid influence of external factors on performance by administering examinations under uniform and standardized conditions. On the contrary, the socio-cultural approach seeks to accommodate student differences by contextualizing examinations and using varied methods of administration.

### ***Emergence of the national assessment movement***

The World Declaration on Education for All held in Jomtien, Thailand in 1990, where governments, non-governmental organizations, and international aid agencies expressed their commitment to provide a basic education of high quality to all the children of the world,

contributed to the emergence of the national assessment movement. The Conference made the point that all schooling efforts should lead to student learning and that quality education should strictly mean student achievement. This was a major departure in the thinking about educational reform. One should be reminded that most national and international efforts from the 1960s to 1980s may have succeeded in bringing more children into schools, but these efforts did not result in increased student achievement. It was recognized that improved access to education has little or no meaning if it fails to enhance student learning. The world community reiterated its commitment for Education for All (EFA) at the Dakar Conference in 2000 with particular focus on quality education. Although national assessments have existed in developed countries for a long time, the repeated international calls for 'quality education' provided impetus to the emergence of national assessment in developing countries as an instrument for measuring student learning. Countries, both developing and developed, soon realized that the focus of school reform should shift from 'inputs' orientation to a new orientation that emphasizes 'processes' and 'outcomes.' It would mean that school reform should lead to increased learning. Donors have been particularly interested in promoting national assessments. Nepal is no exception to this new belief: four national assessments in six years is in itself an evidence of donors' relationship with the assessment.

Kellaghan and Greaney (2004), who have been consistently researching on issues of assessment and examinations, have discussed the importance and features of national assessment in their recent work. According to them, national assessment describes the level of achievements of the entire education system or a clearly defined part of one (for example, grade 4 pupils or 11-year-olds). With the national assessment gaining currency, most countries found their educational management information system (EMIS) inadequate because the existing data systems were mainly focusing on inputs.

National assessments are primarily interested in student learning, their purpose being to assess the extent to which students are learning in schools. Policymakers are the primary users of the information obtained from the assessments. Unlike public examinations whose primary purpose is to select and certify each individual student, the purpose of national assessments is to assess the extent to which students belonging to a particular grade or age have been able to acquire what they were supposed to acquire. The purpose then is to find out the status of the education system in terms of its ability to educate children. These data help the policymakers to identify policy interventions directly related to student learning and redirecting investments in areas likely to boost student learning. National assessments undertaken at different times suggest progress in student learning over time. Teacher trainers, curriculum and textbook writers, administrators, teachers, and parents alike benefit from the availability of assessment data. Since the idea is to find out the level of achievement of a group or sub-group of students rather than the individual learner, national assessments are administered on a sample of schools and students. Normally, these assessments test students' ability in core learning: language, mathematics, or science. Every subject does not need to be tested.

### ***Increasing trend toward international comparisons***

There is an increasing trend toward international comparison of student achievement. So far, there have been three major efforts to conduct international achievement studies. These are: SACMEQ, PISA, and TIMSS. SACMEQ represents a consortium of 15 ministries of education in Southern and Eastern Africa that was established to promote among the member countries the technical ability to monitor and evaluate schooling and the quality of education (Kellaghan

and Greaney, 2004). SACMEQ I was launched in 1995 in which six countries participated in the testing. SACMEQ II took place in 2000 with 14 countries participating in the assessment. It tests grade 6 students for the reason that grade 6 is the last grade of primary education. It gathers information pertaining to educational inputs, general conditions of schooling, equity assessments for human and material resource allocations, and literacy levels among grade 6 students.

OECD countries have been collaborating since 1997 to monitor the outcomes of education in terms of student performance on a regular basis and within an agreed internationally agreed framework, what is known as the Program for International Student Assessment (PISA). It seeks to 'measure how well young adults, at age 15 and therefore approaching the end of compulsory schooling, are prepared to meet the challenges of today's knowledge societies' (OECD, 2003). Its focus is on testing the ability to use knowledge and skills in real-life situations rather than on the mastery of school curriculum. In addition to student assessment, it collects data on student, family, and institutional factors that can help to explain differences in performance. The first PISA was conducted in 2000 in 32 countries (including 28 OECD member countries). PISA 2003 was conducted in 41 countries, including all 30 OECD countries. The first PISA primarily focused on reading, while the 2003 PISA included an in-depth assessment of mathematics. A third PISA is planned for 2006 with the primary focus on science. PISA was initially designed as a policy tool for OECD countries, but in recent years countries from Southeast Asia, Eastern Europe, the Middle East, South America, and North Africa are also participating in this international assessment movement.

The Trends in International Mathematics and Science Study (TIMSS), formerly known as the Third International Mathematics and Science Study, provides data on the mathematics and science achievement of US students compared to that of students in other countries. TIMSS data has been collected in 1995, 1999, and 2003. The TIMSS 2003 focuses on the performance of US fourth and eighth grade students in mathematics and science in comparison with 45 other countries.

### ***Localization of assessment: increasing emphasis on school-based assessment***

While public examinations and national and international assessments provide important information about the learner, school, and the education system as a whole, it is being argued that education can be better served by less formal, formative, progressive, continuous, diagnostic, localized, and teacher-managed assessments, popularly known as school-based assessment. School-based assessment allows the teacher to match the assessment more closely to both the curriculum and the individual student. One of the aims of school-based assessment is to alleviate the heavy pressure of a single final examination – the one-shot test on which everything depends. School-based assessment involves multiple assessments and allows the learners to demonstrate their achievement.

Unlike public examinations that can lead to 'narrowing of the curriculum,' school-based assessments offer broadening of the curriculum by allowing the assessment of all the intended learning outcomes. Three things are crucial in school-based assessment: demonstration of student learning through evidence, collection of evidence of learning over time in a student portfolio, and identification of performance standards against which performance of the individual learner is to be judged. Student portfolio, which is documentation of the learner's achievement over time, plays an important role in school-based assessment. In reporting the progress made by the student in a subject, what is of interest is the final state of student's knowledge and capability, what is referred to as exit portfolio. The exit portfolio should

represent the fullest and latest information on the student's knowledge and capability. For school-based assessment to be effective, it is essential that teachers have skills in conducting assessment programs and judging the quality of student performance against the defined assessment standards.

### **Introducing the public examination system in Nepal**

The SLC was instituted at a time when the public schooling system had not even been conceived. Initially, it served children attending a handful of schools operating in the country. Over the years, it has become an inevitable part of the Nepalese education system. It has gone through different stages since its inception in 1934. A separate chapter in this report provides a historical perspective on the SLC examinations.

The purpose of the SLC examinations is to test the learning achievement of Grade 10 students, which is the terminal grade of secondary education.<sup>4</sup> These examinations take place annually. The OCE, a central entity within the MOES, is responsible for all aspects of the SLC, including test development, printing and distribution, marking, marks processing, and publication of results. There is a SLC Board to make policy decisions concerning the SLC examinations. Chaired by the Secretary of Education of MOES, the Board draws members from different central institutions within MOES and educationists, who are nominated by the MOES. The day-to-day administration of the OCE is overseen by the Controller of Examinations, an official of Class I rank. The key staff members of OCE are civil servants within the Education Service Category, who are managed by the MOES. These staff members are not necessarily text and measurement experts or subject specialists. The fact that they belong to the Education Service Category means they can be transferred to any position within the MOES. Or, anyone within the Education Service Category can occupy these key positions. The OCE mainly functions as an administrative entity. An institutional analysis of OCE was undertaken to examine how it functions as a testing institution. Details on the functioning of the OCE are discussed in a separate chapter of this report.

The SLC examination is conducted in eight subjects, six of which are compulsory subjects: Nepali, English, Mathematics, Science, Social Studies, and Health, Physical Education and Environmental Education (HPE). The two other subjects are optional subjects. Each subject, popularly known as paper, carries a full mark of 100, with a pass mark of 32. The SLC is a group certificate, meaning that to be able to obtain SLC one must pass all eight subjects. The candidates who appear in SLC the first time are called 'regular' examinees. Students who fail in one or two subjects are allowed to re-appear in the examinations the same year. These examinations are known as supplementary examinations. In the case of supplementary examinations, the pass mark is 35. Students who fail in more than 3 subjects can re-take examinations the following year. These candidates are categorized as 'exempted' candidates. The exempted candidates must take the entire papers. Earlier, one could re-take SLC for a maximum of three times. Those failing to pass all eight subjects in three 'tries' were required to re-enroll in Grade 10 in their respective schools and appear as regular candidates. In recent years, however, students can take the SLC examinations any number of times.

As mentioned earlier, students' performance in each subject is marked out of 100. Students' marks are divided into four major performance categories. Those obtaining marks higher than

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<sup>4</sup> Plans are underway to make Grade 12 as the terminal grade of school level education.

80% are awarded 'distinction' and those obtaining 60 to 79% marks are awarded 'first division,' 45 to 59% second division and 32 to 44% third division respectively. Student performance in SLC is often used by universities or institutions of higher learning for admission to higher education. Naturally, higher marks carry a higher value. But these performance categories are in no way related to the students' level of real understanding and knowledge. In other words, it cannot be said how much a person with distinction marks knows or what he/she can do.

Pre-SLC examinations, which are popularly known as 'send-up' examinations, are conducted at the school level to screen students. Normally, schools decide whether or not a Grade 10 student will be allowed to sit for SLC. Since student performance in SLC is used for accountability purpose, schools pre-select students to boost their performance or pass rate in SLC. As per the curriculum policy of MOES, which normally falls within the domain of the Curriculum Development Center (CDC), students are tested based on Grade 9 and 10 curriculum outcomes. For the most part, the SLC examinations involve written tests. But, in English students need to go through 'oral' examinations as well. There are subjects with practical component: science; health, physical education and environment; computer science, etc. The 'practical' component is tested by the individual schools and marks sent to the OCE.

The OCE does not have in-house expertise in test construction, moderation, and marking of answer books. Therefore, it must rely heavily on school teachers, university professors, or subject specialists outside for a number of tasks such as the development of test papers, marking of answer books, and a host of other tasks. Test papers are printed in India. Security is often cited to be the only reason for choosing to print question papers in India. Examinations are conducted nationwide annually, pre-designated sites, which happen to be secondary schools for the most part. As per OCE rule, students cannot take SLC in their own schools, what is called home centers. It means that students need to remain away from families to be able to sit for the SLC examinations. There are over 900 exam centers altogether. It is the policy of OCE to appoint primary school teachers as invigilators. This is done under the expectation that primary teachers cannot help students in exam halls.

The marking of answer books is decentralized. Some 40 marking centers have been developed throughout the country. A conference method of marking has been followed in recent years replacing the old method where answer books were delivered to the examiners in their homes. In the conference method, examiners mark the copy at pre-designated places. Answer books are transported to the marking centers from the exam sites. Normally, the answer copies of one region or district are moved to a different region or district. It prevents markers from identifying their relatives or students. The OCE has in recent years developed marking schemes to help the markers in being accurate and consistent in marking. Normally, it takes two months to publish the results.

HMG/Nepal announces the name and school of the highest scoring student (SLC topper), including the one who achieves the highest marks from among the girls throughout the whole country (topper among the girls). Earlier, the names and schools of 10 best performing students were made public. Schools that perform well in SLC in the country as a whole and within each region are provided with medals and cash prizes annually. In recent years, public schools with a pass rate of 50% or more are also given cash prizes.

1.6 Methodology

The present report provides a synthesis of several studies undertaken to build understanding about student performance in the SLC examinations. As mentioned earlier, at least 13 different studies were undertaken. The methodology used in these studies varied from documentary analysis to surveys. These studies combined both deskwork and fieldwork, and used both qualitative and quantitative data. In the main, the various studies used the following approaches and methodologies:

Archives and documents analysis

The genealogical study and equity analysis primarily relied on deskwork and involved review of policy papers, study reports, Government circulars, plans, programs, decisions, and rules and regulations. Media analysis mainly analyzed the texts as represented by stories, news, editorials, and articles published in some national newspapers. Disparity analysis used secondary data on school performance which was made available to the study team by OCE.

Documents analysis combined with limited fieldwork

The financial analysis draws heavily from the secondary data supported by limited field data. Institutional analysis uses both qualitative and quantitative information gathered through interviews, focus group discussions, and small surveys.

Observation

Process mapping study, which basically seeks to map the processes involved in the planning and execution of SLC operations, used actual observation as a means of data collection. Where possible, the researchers observed the events as they took place in natural settings.

Contents analysis

Assessment of the technical quality of test materials mainly involve contents analysis. Some portion of the equity analysis also involved contents analysis.

Case preparation

School effectiveness study was mainly a qualitative study which involved an in-depth investigation of everyday life of schools. It included analysis of archives and documents, classroom observation, individual and group interviews, focused group discussions, etc.

Field survey

The tracer study and study on student achievement (determinants analysis) adopted survey methods collecting primarily quantitative data using multiple sets of structured questionnaires. Retrospective tracer techniques were used to locate the school leavers.

Table 2. Survey Details

Sample	Number
District covered	42
Schools	551
Public	409
Private	142
Head Teachers	551
Teachers	4,500
Students	26,267
Families/parents	5,600
Focus group discussions	
FGDs conducted at the community level	3,851
FGDs conducted at the district level	82
FGDs conducted at the central level	24
Total FGD participants	47,554

Details on the methodology adopted in each study have been summarized in the respective chapters of this report. Further details can be found in the individual reports concerned. Table 2 displays the number of institutions and individuals contacted and the focus group discussions conducted as a part of the entire study.

## 1.7 Chapter Organization

This report is organized into seven parts. Part I, containing Chapter I, sets the context for the study, followed by objectives and rationale. The Chapter also presents varying theoretical and empirical works that attempt to explain the phenomenon of educational achievement in schools. It also discusses the nature and functions of public examinations as well as the emerging trends in assessments and examinations. Part II, entitled Learning from the Past, contains a genealogy of the SLC examinations. Part III tries to provide understanding of the problems of student performance and contains seven chapters: descriptive analysis of the disparities in student performance in SLC; equity analysis of the SLC examinations; public perceptions of the SLC examinations in Nepal: a study based on print media coverage; analysis of technical quality of the test materials; analysis of the processes involved in the preparation and execution of the SLC examinations; institutional analysis of the Office of the Controller of Examinations; and financial analysis of the SLC examination system. Part IV, Explaining and Predicting Student and/or School Performance, contains two chapters: determinants of student performance in the SLC examinations: evidence from survey data and case study of effective and ineffective schools. Part V, Learning from Comparing, contains a comparative study of School Leaving Examinations in SAARC countries. Part VI provides a chapter on the tracer study of school leavers. Finally, Part VII summarizes the key findings, conclusions, and recommendations of the study. Since two calendars remain in vogue in the country – the Bikram Samvat (BS) and the Gregorian, both have been used in the text, as per the relevance.

## CHAPTER II: HISTORICAL ACCOUNT OF THE SLC EXAMINATION SYSTEM \*

### 1. INTRODUCTION

The traditional education in Nepal was the Sanskrit Gurukul system characterized by a lack of standardization, uniform admission policy, uniform curriculum, and a system for awarding certificates and diplomas. Besides the Gurukul system, there also existed a few Gompas (Buddhist schools), which prepared monks, and a few Persian or Urdu schools, which imparted education on the culture of the Near East. Education of the secular kind hardly existed in the country in those days.

The replacement of Nepal's traditional system of education (the Gurukul) by a modern secular system of education was inevitable in the historical context. The East India Company of the British Empire had consolidated its hold in India. Under the British rule, English was made the official language as well as the medium of instruction in schools and colleges. Politically speaking, Nepal, as the next-door neighbor of India, could hardly resist the influence of the massive change that had taken place in the life of its mighty neighbor. The British exported their system of education to colonized India but with some changes, and the Nepalese rulers imported this system from India. The British system of education incorporated important features of standardization, e.g. uniformity in the admission process, recruitment of teachers, formulation of courses of study and testing students' capabilities through a mass examination system, and certification saleable in the market. The replacement was inevitable also in the context of the global trends towards a mass culture in the aftermath of emerging universal industrialization and technological revolution.

Nepal is a good example of a developing country that has only recently started its transition to mass culture. The traditional society in Nepal, far from being egalitarian in character, was highly stratified based upon the Varna-Ashram model<sup>1</sup>. The absence of modern cultural artifacts like political parties, mass communicators, professional communication, and legislative actions, etc. helped strengthen the caste system and ethnocentrism. This led to a hierarchical social order, namely, a caste-ridden and priest-dominated social structure with strata of inequality and inequities deeply built in.

Attempts have been made here to study the development of OCE in the context of the major political changes that took place during its lifetime. Accordingly, four phases can be discerned in its steady evolution: (I) the Rana phase (1854 -1950), (II) the Post-Rana phase (1950-1960), (III) the Panchayat Phase (1960-1990), and (IV) the Current Phase (1990-2004). Organized under these four periods, this report presents the conclusions in its final section.

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\* This chapter is based on the report 'Historical Genealogy of the SLC Examination' prepared by Profs. Ratna Man Pradhan, Prem Raman Uprety, Chuda Nath Aryal and Pramila Rajbhandari

<sup>1</sup> P. Prabhu, Hindu Social Organization (Bombay: Popular Prakashan, 1963).

## 2. THE RANA PERIOD (1846-1950)

### 2.1 Durbar School

The Rana period began on September 15, 1846, when Jang Bahadur emerged as the prime minister and the commander - in - chief of the Nepali army after the Kot Massacre, installing a century of Rana oligarchy in Nepal. Although an illiterate person, Jang Bahadur was highly impressed by the Western education system during his visit of England in 1850-51. He made a personal inspection of many schools and colleges in India run by Christian missionaries. He felt the need to introduce Western system of education in Nepal. He saw two reasons for this. First, the British were going to stay in South Asia for a long period and it was not possible for the Indians to drive them away in the near future. So the best strategy for Nepal was to be in good terms with the British rulers in India. Second, he also saw that English was the window to look at the Western world.

The Ranas established a school named Durbar School (Palace School) because it was set up within the premises of the palace of the prime minister at Thapathali, Kathmandu. The school, which had been started as a primary school, was gradually upgraded to the secondary level in two decades. The school, however, retained its elite character, for only the children of the Ranas and the royal Shah family could attend it. The medium of instruction was English. The subjects taught at the secondary level were English, mathematics, history, geography, and logic as well as languages such as Nepali, Hindi, Bengali, and Sanskrit. The syllabus and the methodologies of teaching were like those prescribed by Calcutta University with which the school was affiliated for accreditation. The system of examination was oral up to class IV, and written only from class V onwards. All question papers were set in English. Students were tested two times a year, in half-yearly and annual examinations.

In 1910, Durbar School was shifted from Thapathali to its present premise at Ranipokhari after which some commoners also found their way into the school. Initially, the opening of Durbar School classes to children of the commoners ran into a snag because of the ethnocentric values of the ruling elites and the highly stratified nature of the Nepali society. Rana children did not like to share the classroom benches with the commoners for they felt themselves to be “a superior breed of people who were ordained to rule and command, while the duty of the masses was to obey and follow.”<sup>2</sup> Secondly, the higher caste people in the Nepali society ( Brahmins and Chhetris) did not like to mix with the children of the lower castes even in the shrine of learning. The result was a decline in enrollment in the school. To solve this enrollment crisis, the Government hastened to provide some incentives to students such as a stipend of five rupees per month and nine muris<sup>3</sup> of paddy per annum. The Government also provided tiffin (snacks) for the students at daytime and free textbooks to poor and talented students who could not afford to buy them.<sup>4</sup>

In the beginning, Durbar School was linked with Calcutta University. Students were tested in a total of eight subjects. Each subject carried a full mark of 100, with the pass mark at 36. Those

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<sup>2</sup> Prem R. Uprety, *Political Awakening in Nepal : The Search for a New Identity* ( New Delhi: Common Wealth Publisher, 1992), p.11.

<sup>3</sup> A muri is a Nepali unit to measure cereals and flour, equivalent to seventy-one kilograms.

<sup>4</sup> Dhundi Raj Bhandari, *नेपालको ऐतिहासिक विवेचना* (Historical Analysis of Nepal ) ( Banaras: Krishna Kumari, 1958), pp.198-99.

who completed their high school courses had to travel to Calcutta to sit for the Entrance Examination, which was the same as the SLC examination. Later on (1918), Patna University was opted for the entrance examinations. The Government provided students with travel costs and living expenses for the examination period. Patna University conducted the examinations for 5 years (1929-1933). The candidates who were successful in the entrance examination received a warm welcome in Kathmandu in those days (Bhandari, 1958:198-199).

The English system of education was established in Nepal despite heavy opposition launched by the liberal-minded prime minister Dev Shumsher. He saw that neither the Sanskrit system of education nor the British system should meet the needs of the people. To him, the system of education best suited for Nepal were the Bhasa Pathshalas (vernacular schools) and he planned to universalize education through these schools. But his plan to spread education over the mass proved unacceptable to the autocratic interests of his clan members. Dev Shumsher was thrown out of power through a conspiracy and sent to exile in India. With his premature exit, the chances of emergence of a national system of education evaporated. After Dev Shumsher, prime minister Chandra Shumsher continued the spread of English education system, albeit in a very restricted way.

During the Rana period, the Government took no positive measures for maintaining quality education such as giving professional guidance and training to teachers, improving curricula and textbooks, arranging professional meets and interactions of head teachers and teachers, improving the conduct of the SLC examination, and the like.

While the British system of education started taking roots in Nepal, Sanskrit education continued to exist for those who wanted to study Sanskrit grammar and literature and Hindu religious rites and rituals (priestly expertise).

## 2.2 Office of the Controller of Examinations (OCE)

In 1934 the SLC Board was set up, with the Office of the Controller of Examinations (OCE) as its secretariat, to test the proficiency of the high school graduates of Durbar School and award SLC certificates to successful candidates. Initially, the SLC Board followed the system adopted by two universities in India but made some adjustments on their rules and regulations in ways that suited Nepal. The setting up of the SLC Board was a landmark of the Rana times. However, it was only after the issuance of the Education Ordinance in 1940 that the Board started its operation.

## 2.3 Education Ordinance, 1940

In 1940, the Government came up with an Education Ordinance with two objectives: (1) to regularize the school education system and (2) to improve the quality of school education. The Ordinance spelled out three mandates to attain these objectives: (a) assess performance of students twice a year – installing a system of half-yearly and annual examinations, (b) report students' performance records (mark sheets) to report the respective parents twice a year, and (c) remove students failing in the same grade for three times consecutively from the school rolls.

## 3. POST- RANA PERIOD (1951-1960)

During the Rana period, education in Nepal remained essentially the preserve of the rich and the few. This elite character was strengthened further by two other elements: scarcity of educational

institutions and shortage of teaching manpower (Gurung, 1975:62). Thus, by the time when the Rana regime was overthrown by a movement in 1951, Nepal had only 2 colleges, 11 secondary schools, and 321 primary schools. Adult literacy rate stood at a bare 2 percent (Encyclopedia Britannica).

### 3.1 Nepal National Educational Planning Commission, 1954-56

After the fall of the Ranas in 1951, Nepal began to experiment with planned development. Education was accorded a high priority and was recognized as a serious state concern. The people, however, did not wait for the Government and educational institutions sprouted up all over the country under local initiatives. In order to steer this people-initiated growth of education, the Government constituted a Board of Education in 1952. This Board immediately recommended the formation of a Planning Commission to address the educational needs of the country. Accordingly, the Nepal National Educational Planning Commission (NNEPC), the first body of its kind to prepare plans for the development and improvement of education in the country, was set up mandate and to design a comprehensive educational program. The United States Operation Mission (USOM) extended financial assistance.

The Commission submitted its report, known as Education in Nepal, in 1956. The report providing policy guidelines on several aspects of education such as restructuring of levels of school education (with new aims and objectives), functionally designed curricula for primary and secondary schools, a national university with well-defined roles and functions, teacher education, students' progress, and so forth.

The recommendations of NNEPC regarding the examination and assessment of students' progress included student evaluation which according to the Commission should be made broad and comprehensive to cover all objectives of education including the development of worthwhile skills and understanding, physical stamina and strength, character, personality, emotional adjustment, friendliness, etc. The Commission also recommended continuous assessment records of students, learning achievements and scrapping of final examinations in favor of continuous assessment. Among the recommendations were introduction of semester and "credit" system to replace half yearly and annual examinations and letting students repeat only the subjects in which he /she is weak without having to repeat the entire grade, systems of certifying students after 5 years of secondary education, and entrance test for admission of students to colleges and institutions of higher learning.

Although the recommendations on student assessment appeared sound in pedagogical terms, they were not taken seriously and most of them were treated as impractical. The concept of "continuous evaluation", so vigorously recommended, was not in tune with the "two-shots" (half-yearly and annual) examination system. The semester system was never introduced. The recommendation for certification of completion of 5 years of secondary education, two, went unheeded, probably because of the long-time value attached to the SLC Certificate.

Today, after about five decades, if one evaluates the policy guidelines and suggestions on student assessment forwarded by NNEPC, one would not fail to note that their entire set was pedagogically sound and innovative. The set could have been instrumental in catalyzing student assessment system in Nepal, if those guidelines and recommendations were earnestly implemented, guided by educational professionalism and backed by the political will. One will also not fail to note that the Report used the term "evaluation" rather than "examination" and that the whole focus was on scrapping the overly dominant annual/final examination system

designed to measure students' ability to memorize the subject matter and use this measurement for promoting/grading the students. The report also laid stress on the use of continuous assessment of students' progress for providing immediate feedback for their further improvement. Relevance and comprehensiveness of the techniques of evaluation were also addressed.

## **4. PANCHAYAT PERIOD**

### **4.1 All-Round National Education Committee**

In 1960, Nepal entered into a thirty-year period of controlled democracy known as the Panchayat System. It was a partyless democracy. The Governments under this system accorded top priority to education. A high level body called All - Round National Education Committee (ARNEC) was set up in 1961 with mandate to redefine the goals of education and weld the entire education system into Panchayat philosophy Panchayat. As redefined by this Committee, the goals of education should include the inculcation of a feeling of loyalty to the country and the crown, faith in God, spirit of nationalism, and promotion of knowledge of science and technology.

Other recommendations included introduction of two levels of school education- Primary (Grades 1-5) and Secondary (Grades 6-11) and the system of awarding the Primary Education Completion Certificate to students completing the primary level. The Committee, moreover recommended that a comprehensive and regular type of internal assessment structure be introduced at the secondary level and promotion to higher grades be based on performance in internal assessment and final examination and that the pass mark at all levels be set at 40%, 60% for first division and 75% for distinction and that the SLC Examinations in districts should be conducted by Zonal Education Officers as per the instructions of the Department of Education.

### **4.2 National Education System Plan (1971-1976)**

A decade after the introduction of the Panchayat System (1971), the Government came up with a very ambitious macro plan embracing all levels of education, primary to university, and influencing all sub-sectors of education including the student assessment system, known as the National Education System Plan (NESP) (1971-76).

NESP recommended important measures to improve the examination system. Some of them included making internal assessments mandatory from primary level to university, introducing quarterly examinations as a part of internal assessment at school level, and adding 24% of the marks of internal assessment to the scores of SLC examination. Other recommendations included holding the cycle completion external examination for the primary and lower secondary level at the district and zonal levels, conducting the school-level send-up tests at the district level, creating a research unit under OCE for carrying out research studies focused on the improvement of the SLC examination, and decentralizing the conduct of all examinations.

### **4.3 Promulgation of Education Act, 1971**

The Government promulgated the Education Act 1971 to facilitate implementation of the new education system envisioned in the NESP document. To give life and color to the Education Act, the Government came up with the Education Regulations in the same year. It provided a

legal base for educational administration in the country. Among other provisions, the regulations called for the creation of a sub-section in the Ministry of Education entitled Examination Committee. At the beginning, a Joint Secretary of Education headed this committee, but from 1975 onwards, the Secretary of the Ministry himself headed it. The Controller of Examinations acted as its Member Secretary. These Regulations were amended four times by 1977. After the restoration of democracy in 1990, the regulations were amended twice, in 1992 and in 2001. The new regulations of 2001 specified the following objectives of the Controller of Examinations.

- Outline policies for making the SLC examination more efficient and trustworthy.
- Codify the function, duties, and the spheres of jurisdiction of the Examination Committee.
- Outline the power, functions, and duties of the Chairman and the Member Secretary of the Committee.
- Set up a district-level Secondary Education Final Examination Committee with 3 members: Chief District Officer (CDO), Chief of the District Police, and District Education Officer.

The provisions made in the Educational Regulations of 2001 were simply the elaboration of the Act of 1971. These Regulations, no doubt, made OCE stronger both in terms of powers and functions. Some former Controllers of Examination, however, opined that the Examination Committee was only a body of administrators with no representation of stakeholders and subject specialists and could not address the real needs of the students nor could it provide the badly needed technical inputs.

The Education Act of 1971 also made a provision for the district-level Examination Committee to the SLC examination, but without a specific role or relation with OCE.

### Improvement in School Level Examination System under NESP

As per the NESP recommendations, the Government introduced an elaborate examination system to assess the performance of students of the three levels, giving weights to both internal assessment and level of performance in the final examination. The characteristics of this elaborate examination system are described in the table below:

**Table 1. Cycle Completion Examination Scheme**

Cycle Completion Exam & Exam Level	Distribution of Weights (%)	
	Internal Assessment	Final Exam (in %)
Primary Level CCE (At the end of Grade 3)	40% for 2 Terminal Examinations 20 % for Development of health habits, and social & emotional behaviors	40
District - Level Exam		
Lower Secondary Level CCE (At the end of Grade 8)	20% for 2 Terminal Examinations 10% for 2 Unit Tests	50
Zonal Level Exam	10% for Behavioral change 10% for Homework	
Secondary Level CCE (Send-Up Test at end of Grade 10)	20% for 2 Terminal Examinations 10% for 2 Unit Tests 5 % for Homework	60
District - Level Exam	5% for Extracurricular activities	
SLC (National Level Exam conducted at district level for students hardly passing the Send-Up Test)	25% of the internal assessment marks to be added to marks scored at the SLC exam	75

### Contributions of NESP

NESP should be credited for a number of reforms introduced in the school education system. Some of its important contributions to curriculum and assessment are:

- A good amount of work was done in the area of curriculum development, which helped install a continuous process of curriculum development. A uniform curriculum was implemented for the whole country.
- The school textbooks were re-written incorporating matters related to Nepal. Along with the new textbooks came a series of 'Teachers' Guidebooks, which immensely helped the teachers and contained suggestions for teachers about what methods to use for assessing students' learning by lesson.
- A Research Unit was established at OCE to analyze SLC results and provide diagnostic feedback to managers of the school system for continuous improvement in the performance of SLC candidates.

A central - level Examination Committee was set up exclusively for taking care of the improvement of the SLC Examination.<sup>5</sup>

### Failure of NESP

In spite of the many reforms that it brought NESP failed miserably. Of the many explanations put forward to show why despite the strong state support, one particular reason given was that it could not garner support from the critical section of the stakeholders and the people.

## 5. CURRENT PHASE (1990-2004)

Once the multiparty democracy was restored in 1990, attempts were made to improve the quality of education and keep it in line with the education systems of other SAARC countries. Two commissions were appointed and several taskforces were formed to do a situation analysis and suggest the necessary measures for solving the problems in the school education system. In this section, an attempt is made to describe the main features of the reports and their impact.

### 5.1 Report of the National Education Commission of 1992

The first elected Government after the restoration of democracy appointed an education commission called National Education Commission (NEC) in 1991. The Commission was given a list of assignments: redefine the national goals of education; to review all levels of education; examine the standard, relevance, and usefulness of the curricula; recommend appropriate steps for reforming in the examination system and the manner of its conduction; and formulate new policies regarding multi-university and nonformal education.

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<sup>5</sup> Despite the good intent behind setting up the Examination Committee, it later assumed the character of a 'superstructure' above the SLC Board. In the opinion of some ex-controllers, this Committee was denied the representation of important stakeholders and subject specialists. Placed as it was under the Ministry of Education, the Committee could neither provide the badly needed technical inputs nor make any significant decisions for the improvement of SLC examination.

NEC identified a number of problems with the SLC examination and the OCE. Some of the problems identified were problems related to OCE management, conduct of examinations, setting of question papers, and checking of answerbooks.

Lack of coordination between schools and OCE as well as lack of orientation of teachers and administrators involved in examination were two other problems noted. In an effort to bring the long-needed improvement in the SLC examination system, the Commission made several recommendations, some of which are adoption of a decentralized policy in conducting SLC Examination; initiation of appropriate reforms in three areas of question setting, examination of the answer scripts, and result publication; development of OCE as an autonomous body; evaluation of the performance of students on the basis of tests administered in monthly, quarterly, half-yearly, and annual examinations at each level; and evaluation of the teachers on the basis of the students' performance of students.

Three of these recommendations made have been implemented. First, the management of the SLC examination has been decentralized at the regional level. Secondly, training programs have been organized to acquaint the subject experts with the technical aspects of evaluation. Thirdly, the long delay (6 to 8 months) in the publication of the SLC results has been addressed. Today the results are published within two months of the examination.

## 5.2 Report of the Secondary Education Development Project, 1997

The Secondary Education Development Project (SEDP), funded by a loan from the Asian Development Bank and a grant from the British Government, was introduced in 1997 to bring improvement in four areas: (1) curriculum and textbook development, (2) teachers' effectiveness/competency, (3) learning assessment/examination, and (4) overall planning, management, and evaluation of the secondary education sub-sector.

SLC reform was one important objective. The Government approved an SLC-specific plan known as "A Strategic Plan for Examination Reform", blueprinted by SEDP. Along with this strategic plan came a consultative document with the title "A New SLC for the year 2058 BS and beyond" in November 1997, which made strong criticisms of the SLC examination. Some of them are listed below:

- The current SLC examination system offers certification to only a small minority; it should not be so restrictive. Passing does not necessarily carry any actual entitlement for a Government post or a place in higher education. Candidates often require grades well above the basic pass level in some or all subjects even to enter the selection process. SLC is therefore generally a necessary, but not a sufficient condition for access to higher education or Government employment.
- SLC, in its present form, is not an effective guarantee of educational quality. The type of questions used places a heavy emphasis on recall, on filling students' minds with information.
- There is an almost total absence of teaching/assessment of skills and abilities that can be assessed by an examination paper such as the ability to plan and implement a project or investigation, or to engage in some form of practical work.

The Project Report proposed a number of strategies for reform of the SLC system. Some of the important ones are as follows:

- SLC should be given a new name like “Certificate Completion of Secondary Education,” which not only signals substantive change in the existing system but also brings about real change and helps mobilize support.
- The certificate should be made more descriptive of the achievement of the individual student. To achieve this, the scoring currently done in terms of numerals should be replaced by the letter grade system, which would enable us to positively recognize as many individuals as possible and help eliminate the Pass, Fail, and Distinction categories.
- The core subjects (e.g., mathematics, science, Nepali, and English) determined, the students ought to be given a wide range of options, as far as possible, regarding their choice of optional subjects. Schools should be allowed to develop their own optional courses. But the teaching of these optional courses should be made subject to rigorous monitoring by OCE.
- It is desirable that the school-based assessment system attains success since it is the most important component of SLC reform. So a comprehensive manual to guide the school teachers on each subject needs to be prepared

The report cautioned that the reform of the SLC system had to be phased out according to a strategic plan to allow students and teachers to adjust themselves to the change.

### **5.3 Secondary Education Perspective Plan, 1997-2001**

Another important contribution of the SEDP Project was the preparation of the Secondary Education Perspective Plan (SEPP) in January 1997 with ADB loan assistance and DFID grant. This plan included the following SLC-related objectives:

- Explore the possibility of introducing single subject certification.
- Decentralize the examination management.
- Strengthen the capability of OCE.
- Reintroduce the formative assessment system.
- Conduct the SLC Examination in only 5 core subjects.
- Make OCE collaborate with CDC for development of quality tests and improved marking schemes.
- Make OCE autonomous with authority to retain and use its revenues for its own improvement

As per the intents and vision of SEPP/ SEAP and the changing needs of time, OCE started undertaking several reform measures in 1997/98. Their implementation continues to this day and is mostly focused on improvement in the management of examinations and quality of question papers. Some of the actions taken up are described below:

#### **Examination Quality Enhancement**

- Preparation and dissemination of a specification chart (with model test items) for Grade 8 district - level examination

- Preparation and dissemination of a specification chart (with model test items) for Secondary level examination
- Orientation/training on construction of test items and marking schemes based upon the newly prepared specification chart
- Preparation and use of parallel sets in English and compulsory mathematics and multi-sets in all other subjects
- Initiation of an oral examination in SLC examination to assess listening and speaking skills in English
- Training for the monitors of English oral examination
- Conducting orientation/training for the markers and scrutinizers of SLC answer scripts.
- Short-term trainings for lower secondary teachers on the construction of improved test items and preparation and use of marking schemes.

### **Decentralization of Examination Management**

For a smooth operation and monitoring of the SLC examinations, OCE has made the regional and district - level offices accountable. Both these offices now receive fund from OCE for the management /holding of SLC examination. Examination sections exist today in all the five Regional Education Directorates and the seventy - five District Education Offices.

### **Administration of Examination**

Administration of the Send-Up Test has been entrusted to secondary schools. The district -level Examination Coordination Committee has been empowered to make decisions with regard to the selection of SLC examination centers. Since 1996 (2052 BS) REDs have been authorized to distribute copies of mark sheets, issue provisional migration certificates, and make corrections on names, castes, birth dates, etc in compliance with the OCE rules and regulations. REDs have also been entrusted with the work of monitoring and supervision of SLC examinations in various districts within their jurisdictions.

### **Marking and Scrutiny of Answerbooks**

Under SEPP, several marking centers have been set up for answerbook checking. These centers are also given the responsibility of coding the answerbooks before they are sent to the examiners. On completion of marking and scrutiny, the centers also do the decoding and copy the marks in the markslips, which they send to OCE.

## **5.4 Report of the High Level National Education Commission, 1998**

Seven years after NEC (1992) made sets of recommendations for the improvement of the education sector, another commission was appointed in 1998. The 1998 Commission made several recommendations to improve the student assessment system some of which are phasing out of the annual system and gradual implementation of the semester system, introduction of the letter grading system and making internal assessment a vital component of the school curriculum. Other recommendations include gradual development of OCE as an autonomous

institution, making REDs responsible for conducting SLC examinations and conducting SLC examination at the end of Grade 12.

The Government did not straightaway implement the recommendations made by the two commissions. Instead, it formed four special taskforces, each headed by Government bureaucrats, presumably to screen the measures suggested and choose the best, viable, and important ones for implementation. The taskforces added a number of new recommendations in their town adding further to the complexity of the reform package.

The report on the four taskforces presented to the Minister of Education and Sports in 2001 endorsed the use of the specification grids for preparing test papers and recommended that the grids be made available to teachers at subsidized rates and that orientation/training be organized for teachers on how use them. The report raised questions on the difficulty level of the multi-set question papers used by OCE and recommended the use of parallel question sets instead. It also reiterated the need to have an Item Bank established at OCE. Its long-term recommendations included the establishment of five regional offices of OCE for better management and supervision of examination as well as for reducing the workload at the center. Adoption of the letter grading system, computerization of old records of SLC results, discontinuation of financial grants to schools failing to secure the minimum pass rate of 30% in the SLC examination, etc. were also mentioned.

## 5.5 Recent Reform Measures at OCE

OCE has recently initiated some reforms to enhance the quality of SLC examination as per the recommendations made by SEDP/SEEP. The important initiatives taken in 1997-2003 are as follows:

- Preparation and dissemination of specification charts with model test items for lower secondary and secondary cycle completion examinations
- Orientation training for test developers on the construction of test items and for answerbooks markers on the newly prepared specification charts
- Preparation and use of parallel sets (English and mathematics) and multi-sets in all subjects of SLC examination
- Initiation of oral examination in SLC examination to assess students' listening and speaking skills in English
- Short-term trainings for lower secondary teachers on the construction of improved test items and use of marking schemes

Some headway was made in the period towards delegating authorities (decentralization) to district-level offices for smooth management of SLC examination. Some of the important decisions made during this period were:

- DEOs have been made more independent and powerful in terms of monitoring and management of the examination by allocating funds to them.
- OCE has started sending the money needed for the management of SLC examination to DEOs with authority to spend it keeping within the budget limits.

- Regional and district-level offices have been made more accountable; examination units have been created in all five REDs; and a SLC Examination Coordination Committee has been established in every district education office.
- Administration of send-up tests has been delegated to secondary schools and the district - level Examination Coordination Committee has been empowered to make decisions on the location of SLC examination centers.

## 6. CONCLUSIONS

OCE has passed through several distinct phases in its history and the SLC Board through many changes and reforms since its inception. Starting with 34 candidates, OCE now caters to over 300,000 examinees, which means a 8823 - fold growth.

Initially established to conduct school examinations for the children of Kathmandu elites, OCE has now become an organization to serve the needs of the Nepalese masses. For many years after inception, it had conducted the examination only at one center in the capital. Today, examination is held in around 900 examination centers in various districts. OCE must be lauded for the way it has been doing for the smooth management of the SLC examination in so many centers scattered all over the country.

OCE has recently introduced some reform measures as recommended by various educational bodies. These include development of parallel sets of questions, coding of answerbooks, preparation and dissemination of the specification of grids to serve as models for framing better test items, and regular holding of orientation/trainings for test developers and answer markers and scrutinizers.

OCE has, indeed, achieved tremendous progress in its history of seventy years. There is, however, much to be done. The challenge for OCE is not only to be able to conduct the SLC examination for the ever-increasing number of students across the country with ease and efficiency, but also to play a catalytic role with CDC and other educational agencies in improving the quality of school education. The biggest problem that confronts OCE today, however, is the high rate of failure in the SLC examination every year.

Analysis of SLC results of the past fifteen years (1985-2004) reveals a failure rate of over 60 percent on average. Further analysis of the 2060 SLC results (Bhatta, 2004) shows that public schools that are mostly attended by students from rural areas with socially and economically disadvantaged background tend to perform poorly at an alarming scale. There is also a wide gap in performance between the boys and girls and among the various development regions.

Apart from the social, political, and economic reasons for these wide disparities in performance levels, experts have questioned the technical quality of the SLC examination. It is claimed that the SLC test items are not standardized and that the test reliability is also low. It is also reported that the test items are poorly constructed and ambiguous words put rural children in disadvantage. Some even claim that in some subjects of such as mathematics and science, some of test items are too difficult for the average public school student. In recent years, due to the Government's policy of limiting examination centers only to district headquarters for security reasons, many rural children, particularly girls, have reportedly been forced to take the SLC examination in difficult circumstances away from home. This has further aggravated the disadvantage that rural children face.

Educationists all around the world commonly believe that changing the system of public examination is one of the most powerful 'levers' of educational reform. It is generally agreed that high quality assessment is essential for a high quality education. High quality assessment, however, is possible only when an organization like OCE develops into a strong national institution with high-level professional and administrative competence and resources. But this is possible only when adequate, policy and resource support becomes available to this organization, which has faithfully served the country all these years.

## CHAPTER III: DISPARITIES IN SCHOOL PERFORMANCE IN THE SLC EXAMINATIONS \*

### 1. INTRODUCTION

There are few annual events in Nepal that generate as much public interest and media attention as the publication of the SLC examination results. Every year, the publication of the SLC results is followed by extensive media discussions on a host of topics related to the performance of students and schools in these examinations (Onta, 2005). And every year, one common theme there is the popular perception that widespread disparity exists in SLC performance between genders, between public and private schools, and across students from different regions, and ethnic groups.

Needless to say, these differences in SLC performance are also an issue of concern for policymakers in the Government. But neither the public nor the Government has to date compiled a comprehensive description of such disparities. The report ‘Disparities in school performance in the SLC examinations’ on which the present chapter is based; attempts to fill this information gap. Using SLC school performance data for the past five years, it presents tables, graphs, and maps that succinctly describe the differences in SLC performance across (i) subjects, (ii) school types (public vs. private<sup>1</sup>), (iii) genders, (iv) districts, and eco-development regions. In particular, geographical information system (GIS) color maps are used to show how student participation and performance in SLC differ across districts and regions. When discussing gender disparities, the gender gap in the participation of students in the SLC examinations is presented along with the gender gap in SLC performance.

The disparity in performance across ethnic groups is also a potentially important dimension of the existing disparities in SLC performance. But a rigorous analysis of inter-ethnic differences in performance requires data on the ethnicity of each SLC candidate, information that is not included in the student records available at OCE. It has, therefore, not been possible to include an analysis of these differences in the main text of the report.<sup>2</sup>

It must be emphasized that the report ‘Disparities in school performance in the SLC examinations’ is exploratory in approach and only aims to describe the SLC performance of and differences in performance among schools and regions. It makes no attempt to explain the

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\* This chapter is based on the report ‘Disparities in school performance in the SLC examinations’ prepared by Dr. Saurav Dev Bhatta for the SLC Study team.

<sup>1</sup> In this report, the term “public schools” refers to government-aided and unaided community schools. All other types of schools are classified as private schools.

<sup>2</sup> Considering the importance of this aspect of performance, an attempt was made to obtain some preliminary estimates of disparities in SLC performance between the most disadvantaged ethnic group—the Dalits—and the rest of the population by grouping students into these two groups according to their last names. The problem with this approach is that many of the last names are common to more than one caste/ethnic group, making it difficult to accurately identify the ethnicities of individual students using surname information alone. Hence, the results of this preliminary analysis have not been presented.

Note: Unless specified otherwise as AD, the years are given in Bikram Samrat (BS)

causes behind any observed differences. The descriptive analyses presented in the report do, nevertheless, give some insights into potential factors that may affect SLC performance, insights that could prove useful when a comprehensive analysis of the determinants of performance is done at a latter stage by the SLC study team.

As should be clear from the above paragraphs, the focus of afore-mentioned report is on school performance in the SLC examinations. The measures of school performance used here include the school's average aggregate SLC score as well as subject-wise SLC scores in both absolute terms and percentage terms. In addition, the percentages of students passing the examinations and the percentages of students in the different division categories are also used as measures of school performance.<sup>3</sup> The summary statistics included in the tables in this chapter are limited to means and coefficients of variations of the variables of interest. In general, the disparities captured in these tables have not been tested for statistical significance.

The analyses presented in this chapter are based on data for the years 2000 (2056 BS) to 2004 (2060 BS) available from the Office of the Controller of Examinations (OCE, 2004). It should be clarified, however, that OCE was unable to provide the researchers with data for individual students who sat for the SLC examinations. The data obtained from them only included summary information for individual schools and districts, a limitation that made it difficult to perform more detailed analyses of SLC performance. Furthermore, the data analyzed in this paper only include school-level summary information on regular students. The performances of repeat students and students who have taken supplementary examinations<sup>4</sup> are, therefore, not reflected in these analyses. It should be pointed out that since many students manage to pass the SLC examinations as supplementary exam candidates, the inclusion of supplementary exam results in the analyses could give a different picture of student performance in the SLC examinations. Readers interested in getting an overview of how the analyses might change upon including supplementary exam results should refer to the summary tables presented in Appendix A of 'Disparities in school performance in the SLC examinations' report.

The rest of the chapter is organized as follows. Section 2 gives a comprehensive picture of the SLC performance of students and schools for 2060 BS—the most recent year for which data are available—highlighting the difference in performance across subjects, school types, and genders without, however, discussing the spatial variation in the performance of schools across the nation. Section 3 focuses on how performance varies across space, namely eco-development regions and districts, which also includes descriptions of the differences between genders and school types across spatial units. The following section briefly looks at the changes in SLC performance over time, primarily using district-level data. Section 5 presents a brief description of the relationships between different indicators of school-level performance in the SLC examinations. The final section presents conclusions.

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<sup>3</sup> Students are tested in eight subjects—six compulsory and two optional—in the SLC examinations. In order to pass these examinations, they are required to secure passing scores (32 out of a maximum of 100) in each of the eight subjects. A student who passes with an average score of less than 45 is given a third division pass certificate. Similarly, the ranges for second and first division passes are 45 to 49 and 60 to 100 points, respectively.

<sup>4</sup> Students who fail in a maximum of two subjects in the regular SLC examinations are allowed to take the SLC examinations again in just those subjects within four months of taking the regular SLC examinations. These “make-up” examinations are known as supplementary examinations.

## 2. SLC PERFORMANCE OF SCHOOLS AND STUDENTS IN 2060<sup>5</sup>

The year 2060 can be considered a relatively good year for students taking the SLC examinations. Of the 175,418 regular students from 4,709 schools who sat for the SLC examinations that year, 46% passed and around 16% secured first division. While these figures represent an improvement from the previous year's of pass rate of 32% and the percentage of first division students was only 12%. But the 2060 pass rate is, by no means, impressive. Furthermore, this aggregate pass rate provides no information on how SLC performance varies across population groups, school types, and subjects—information essential for gaining a deeper understanding of the current status of student performance in SLC examinations.

This section presents an overview of the SLC performance of schools in the whole nation for the year 2060, highlighting the disparities in performance across school-types, subjects, and gender. Evidence on the variation in school performance by regions and districts will be presented in Section 3. Because of the unavailability of data for individual students, the overview focuses on the performance of schools and does not include detailed discussion on the performance of students per se.

Table 1 summarizes some of the key figures related to student performance in the SLC examinations of 2060 at the national level. Note that although the pass rate is only 46%, most of the students who passed performed rather well. More specifically, over 91% of the successful candidates secured first and second division, while less than 9% passed in the third division. Another interesting observation is that, compared to males, there were far fewer female students who appeared in the SLC examinations of 2060. Furthermore the pass rate for female students was distinctly lower than that for males. Also notice that 79% of the students appearing in these examinations came from public schools, others (21%) came from private schools. And although not shown in this table, 71% of the first divisions were from private schools whereas only 20% of the third division holders were private school students. These observations based on aggregate data for students in the whole nation suggest that gender composition and school type might be important variables in explaining the differences in performance of schools as well.

**Table 1. 2060 SLC Results at a Glance**

	Total	Male	Female
Total SLC candidates	175,418	101,867	73,551
Total Pass	81,008	51,158	29,850
Pass Percent	46%	50%	41%
First Division	16%	18%	13%
Second Division	26%	28%	25%
Third Division	4%	4%	3%
Total Dropped	1,553	858	695
Total Withheld	745	447	298
Total Cancelled	24	18	6
Total Expelled	2	2	0
Total no. of schools			4709
Total no. of public school students		138,635 (79%)	
Total no. of private school students		36,783 (21%)	

<sup>5</sup> In the sections that follow, all the dates are given in Bikram Sambat (BS) except when citing references. Recall that the years 2056 B.S. to 2060 BS correspond to the years 2000 AD to 2004 AD.

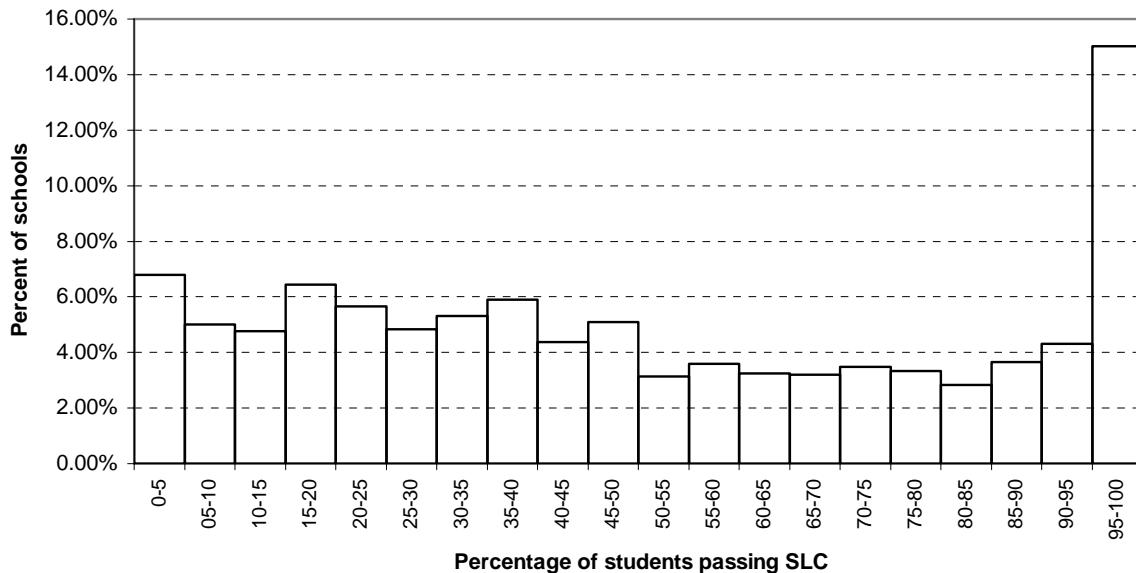
## 2.1 Distribution of schools according to student pass rates

As a first step towards understanding the variations in school-level SLC performance across the country, it is instructive to look at the distribution of schools in terms of the percentage of students passing from these schools. Table 2 presents detailed information on the number and percentage of schools in different pass categories. The two figures that follow are based on the data in this table.

The frequency histogram in Figure 1 shows the percentages of schools (Yaxis) that fall under different student pass percentage categories (X axis). For example, it shows that 95 to 100 percent of the students passed the SLC examinations in around 15% of the 4709 schools in the list. Setting aside the 95-100% pass category, however, it appears that there is a relatively uniform distribution of schools over the different pass percentages categories.

**Table 2. Distribution of Schools according to SLC Pass Percentage**

% of students passing	Number of public schools	Number of private schools	Total number of schools	% of public schools	% of private schools	% of all schools	Cumulative % of public schools	Cumulative % of private schools	Cumulative % of all schools
0-5	309	11	320	9.0%	0.9%	6.8%	9.0%	0.9%	6.8%
05-10	229	7	236	6.7%	0.5%	5.0%	15.7%	1.4%	11.8%
10-15	216	8	224	6.3%	0.6%	4.8%	22.0%	2.0%	16.6%
15-20	290	13	303	8.5%	1.0%	6.4%	30.5%	3.0%	23.0%
20-25	256	11	267	7.5%	0.9%	5.7%	38.0%	3.9%	28.7%
25-30	219	9	228	6.4%	0.7%	4.8%	44.4%	4.6%	33.5%
30-35	241	9	250	7.0%	0.7%	5.3%	51.4%	5.3%	38.8%
35-40	261	17	278	7.6%	1.3%	5.9%	59.0%	6.6%	44.7%
40-45	192	14	206	5.6%	1.1%	4.4%	64.6%	7.7%	49.1%
45-50	212	28	240	6.2%	2.2%	5.1%	70.8%	9.9%	54.2%
50-55	138	10	148	4.0%	0.8%	3.1%	74.9%	10.7%	57.3%
55-60	148	21	169	4.3%	1.6%	3.6%	79.2%	12.3%	60.9%
60-65	120	33	153	3.5%	2.6%	3.2%	82.7%	14.9%	64.2%
65-70	101	50	151	2.9%	3.9%	3.2%	85.6%	18.8%	67.4%
70-75	104	60	164	3.0%	4.7%	3.5%	88.7%	23.4%	70.9%
75-80	102	55	157	3.0%	4.3%	3.3%	91.6%	27.7%	74.2%
80-85	73	60	133	2.1%	4.7%	2.8%	93.8%	32.4%	77.0%
85-90	67	105	172	2.0%	8.2%	3.7%	95.7%	40.5%	80.7%
90-95	49	154	203	1.4%	12.0%	4.3%	97.2%	52.5%	85.0%
95-100	97	610	707	2.8%	47.5%	15.0%	100.0%	100.0%	100.0%
Total	3,424	1,285	4,709	100%	100%	100%	100%	100%	100%

**Figure 1. Percent of Total Schools with Different Student Pass Rates, 2060**

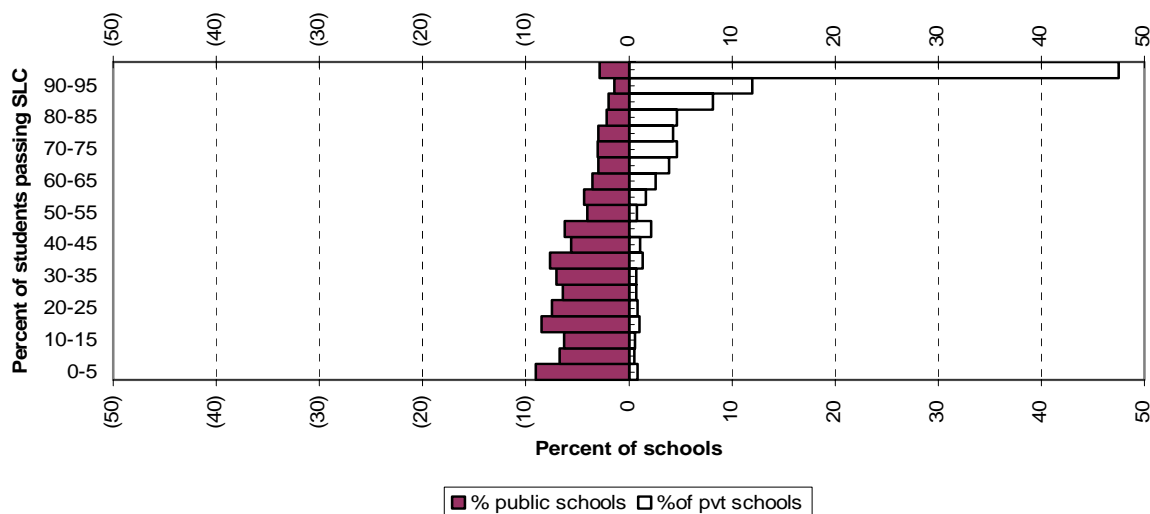
As the above result is inconsistent with the popular view that student pass rates are very low in the majority of schools, it is useful to investigate this phenomenon further by looking at public and private schools separately. We should expect to see lower pass rates in public schools and higher ones in private schools in general. Figure 2 presents the relevant frequency distributions for public and private schools on a single graph so that they can be easily compared <sup>6</sup> The only structural difference between this graph and Figure 1 is that now the horizontal and vertical axes have been flipped.

The stark difference in the shapes of the two histograms in Figure 2 shows that public and private schools differ sharply in terms of pass rates. More specifically, the figure shows that the majority of public schools have relatively low SLC pass rates, with less than 3% of these schools in the 95-100% pass range. On the other hand, the percentages of private schools in the low pass rate categories are very small. Furthermore, the difference in the distribution of pass rates is heavily unbalanced in favor of private schools for high pass rate categories. For example, while less than 3% of public schools have pass rates in the 95-100% range, over 47% of private schools fall in this pass range category. In fact, an overwhelming majority (over 76%) of private schools have pass rates above 80% compared to a mere 8.5% of public schools with such high pass rates. It should be clear from the above discussion that there is a significant disparity in SLC performance between public and private schools. Hence, any study of school performance in SLC must give due consideration to the differing characteristics of these two types of schools. Further discussions on the performance difference between public and private schools will be presented in Section 2.4.

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<sup>6</sup> This graph is analogous to population pyramids used to show the distributions of male and female populations.

**Figure 2. Percent of Private Schools with Different Pass Rates, 2060**



## 2.2 Variations in school performance across different subjects

This subsection documents how the SLC performance of schools differs by subject areas. The subjects studied include only the 6 compulsory subjects, namely, English, Nepali, Mathematics, Science, Social Studies, and HPE. The primary indicators for school performance used here are (i) the average score (out of 100), and (ii) the percentage of students who passed.

Summary statistics published by the OCE in the past indicate that the performance of students in the SLC examinations varies considerably across subjects. For example, most students have historically performed very poorly in Mathematics, Science and English, while their performances in other subjects like Nepali and Health, Population and the Environment (HPE) have been relatively more satisfactory (OCE, 2002). It is likely that this variation in the performance of individual students by subject area is reflected in the SLC performance of schools as well.

Table 3 presents a summary of how the performance of schools differs by subject.<sup>7</sup> The second column shows considerable variation in average scores across the different compulsory subjects. In particular, the average scores in Mathematics, Science, and English are lower than scores in other subjects, and lower than the overall average score in the SLC examinations. The low score in Mathematics is particularly troubling since it is possible for students to secure close to a perfect score in this subject. The highest and lowest average scores are in Nepali and Science, respectively. These results for schools are basically consistent with past evidence on SLC performance for students.

A more interesting set of observations, however, can be made from the figures in column (3) of the table. The coefficient of variation is an indicator of the dispersion of data points. Hence, the numerical values in the third column show the extent to which the schools vary in terms of performance in individual subjects. For example, the coefficient of variation is the highest for Mathematics. This indicates that the performance of schools varies the most from school to

<sup>7</sup> Recall that the maximum average score in any subject is 100.

school in this subject. In other words, not only is the average score of schools relatively low in Mathematics, but the variation in performance across schools also the greatest in this subject. Notice that the performance across schools varies a lot in the other two difficult subjects—Science and English—as well. The least variation in school performance is in HPE, followed by Nepali and Social Studies.

**Table 3. Subject wise SLC Performance of Schools**

Subject	Avg. Score	Coeff. of Variation	%pass	Coeff. of Variation	%1st & 2nd div	Coeff. of Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Overall SLC <sup>8</sup>	48.95	0.22	50.69	0.63	47.88	0.72
English	34.77	0.39	73.73	0.40	48.68	0.61
Nepali	44.48	0.21	91.19	0.16	49.62	0.63
Mathematics	39.94	0.41	67.47	0.42	38.08	0.82
Science	30.27	0.35	75.40	0.35	35.32	0.96
Social Studies	43.60	0.23	89.42	0.20	46.32	0.72
HPE	40.59	0.19	97.73	0.07	75.49	0.36

The numbers in columns (4) to (7) show a similar pattern of subject wise variation in performance measured in terms of student pass rate and percentage of students securing first and second division scores. The average performance is lower in English, Science, and Mathematics than in other subjects. And the variation in performance among schools is also higher in these three subjects as reflected in their high coefficients of variation.

There are a couple of additional interesting observations that can be made from these columns. The first is that while the pass rates in individual subjects are relatively high (they range from 67 % in Mathematics to 98 % in HPE), the overall SLC pass rate is much lower (51%). Most likely, this difference between pass rates in individual subjects and overall SLC rate is related to the fact that a student receives a failing mark in the overall SLC examinations if s/he fails in any single subject. In other words, the failure rate in the SLC examinations would look less alarming if there were a system of certification in individual subjects instead of in the overall SLC examinations.

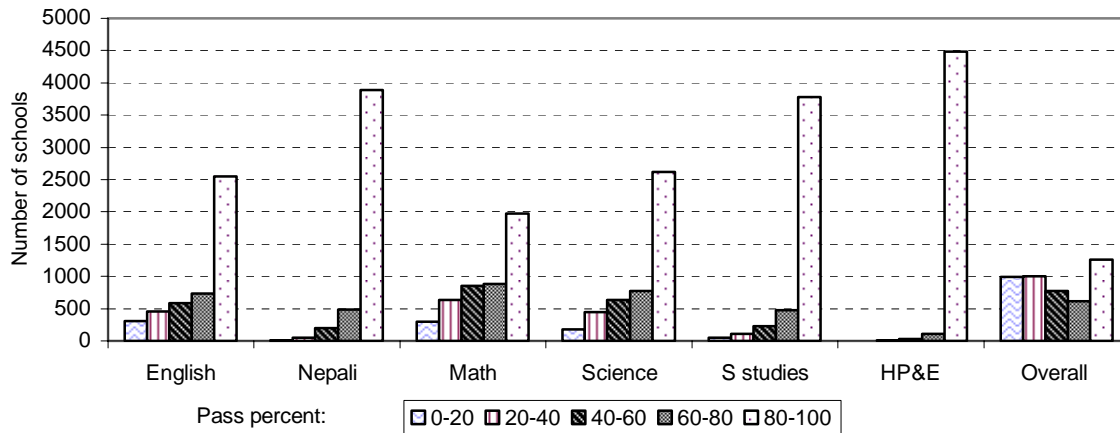
The second observation is related to the average performance of schools in Health, Population and the Environment. The pass rate of 97% in this subject is distinctly higher than these in other subjects. Furthermore, the variation in pass rates across schools is the lowest in this subject, as indicated by its coefficient of variation of 0.07. Also note from column (6) that, on average, around 75% of the students who pass in any school secure first and second division scores in HPE. The conspicuously high level of performance in this particular subject raises questions about the uniformity of the difficulty level across subjects.

The differences observed above in subject wise student pass rates across schools can also be seen clearly in Figure 3. For example, the figure shows that the average pass rate in HPE is 80 to 100 percent in almost 4,500 schools (out of approximately 4,700 schools in the nation). In other words, the average school performance is uniformly high in this subject, with little variation

<sup>8</sup> Note that the overall SLC pass percentage of 51% in this table is different from the pass percentage in Table 2.1. The reason is that while Table 2.1 refers to the percentage of *students* who passed SLC examinations in the whole nation, the pass rate in Table 2.2 refers to the average of the pass rates in the 4,709 *schools* in the nation.

across schools. Performances in Social Studies and Nepali are also relatively strong and uniform across schools. In contrast, the pass rates in Mathematics, Science and English are more evenly distributed across the lower score ranges as well, indicating poorer performances in these subjects and a relatively wide variation in performance across schools.

**Figure 3. Number of Schools by Subjectwise Pass Rate, 2060**



### 2.3 Differences in school performance between public and private schools

In 2060, approximately 73% of the schools with students appearing in the SLC examinations were public schools, the rest private schools. As discussed in Section 2.2, private schools, on average, perform much better than public schools in SLC examinations. If 50% pass rate is used as the dividing line between low and high performance schools for 2060, over 90% of the private schools fall under the high performance category compared to less than 30% for the public schools. In this subsection, we will study the disparity in performance between these two types of schools in further detail by looking at their differing performances across subjects.

Table 4 presents subjectwise average scores for public and private schools. Observe from columns (2) and (4) that the average overall score in SLC is around 39 percent higher (or 17 points higher) for private schools compared to public schools. Also observe that the coefficient of variation is larger for public schools than for private in each subject, indicating a greater diversity of performance among public schools. It should be noted that differences in performance are larger in English, Mathematics, and Science than in the other subjects. Furthermore, the average scores of public schools in Science and English are below the passing score of 32%. As can be seen from the large coefficients of variation for both public and private schools, these are also the three subjects where performance varies the most across schools. One implication of these findings is that the difference in performance among these two types of schools is determined largely by the difference in performance in these three subjects.

The performance difference between public schools and private schools, especially in the three difficult subjects, is seen even more clearly in Table 5 where student pass rate is used as the indicator of school performance. The only subject where the pass rates do not differ much between these two types of schools is HPE. Overall the information provided in Table 5 is qualitatively similar to that in Table 4.

Finally, the subject wise frequency histograms for public and private schools in Figures 4 and 5 also show the difference in performance across these two types of schools. Since the majority of schools in the nation are public schools, the shapes of the histograms for public schools (Fig 4) are similar to the shapes of the subject wise frequency histograms for all the schools taken together (Fig. 3).

**Table 4. Subjectwise Difference in Scores--Public vs Private Schools**

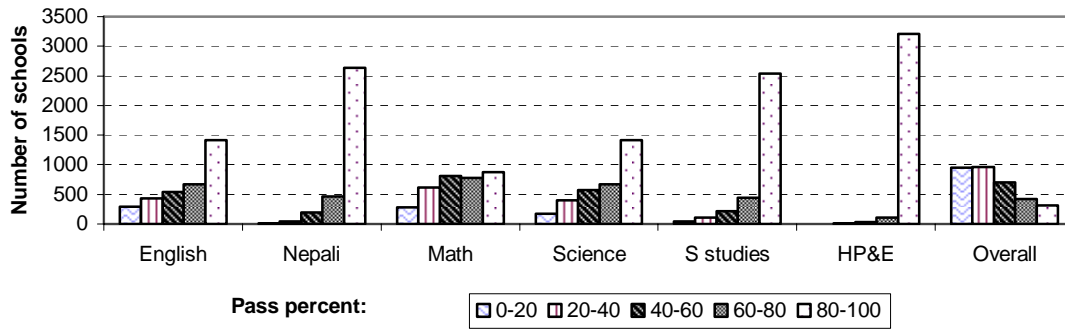
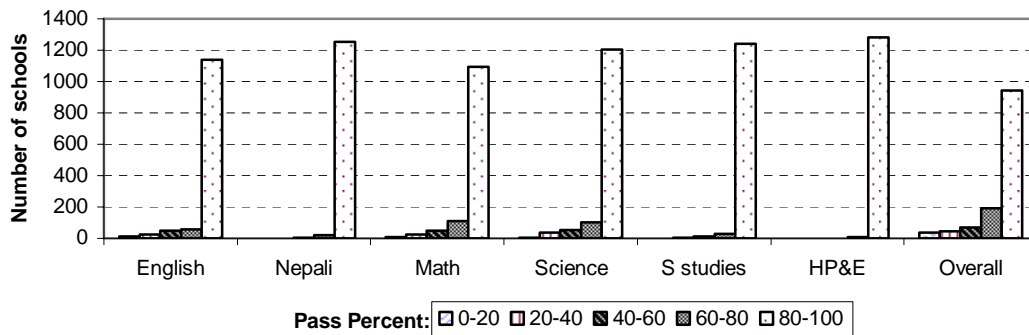
Subject	Public Schools		Private Schools		Public-Private Difference	
	Avg. Score	Coeff of Variation	Avg. Score	Coeff of Variation	Difference in Avg Score	Difference in Coeff of Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Overall SLC	44.30	0.15	61.65	0.14	-17.36	0.01
English	29.25	0.33	49.20	0.24	-19.95	0.09
Nepali	41.35	0.18	52.65	0.15	-11.30	0.03
Mathematics	33.14	0.34	57.69	0.26	-24.54	0.08
Science	25.83	0.26	41.86	0.23	-16.03	0.03
Social studies	40.53	0.21	51.62	0.17	-11.09	0.03
HPE	37.97	0.17	47.45	0.14	-9.48	0.03

**Table 5. Subjectwise Difference in Pass Rate--Public vs Private Schools**

Subject	Public Schools		Private Schools		Public-Private Difference	
	Pass %	Coeff of Variation	Pass %	Coeff of Variation	Difference in pass %	Difference in Coeff of Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Overall SLC	38.25	0.69	84.71	0.26	-46.46	0.43
English	65.39	0.45	91.23	0.19	-25.84	0.26
Nepali	86.84	0.19	97.59	0.06	-10.74	0.13
Mathematics	56.88	0.46	89.31	0.18	-32.43	0.28
Science	67.60	0.40	92.40	0.15	-24.80	0.25
Social Studies	84.29	0.23	96.98	0.09	-12.69	0.14
HPE	95.72	0.08	99.53	0.02	-3.81	0.06

In the case of private schools, however, the histogram for each subject is heavily skewed to the left (i.e., has a long tail on the left), indicating that an overwhelming majority of the private schools have high pass rates in all the subjects. In particular, Figure 5 shows that there are no private schools with pass rates lower than 60% in HPE and lower than 20% in Nepali—the two subjects in which public schools too show a relatively good performance.

Before proceeding to the next section, it will be worthwhile to point out that the coefficient of variation difference column (7) in Table 5 also provides evidence on the uniqueness of HPE in terms of school performance. Clearly, the difference in the coefficient of variation of pass percentage for this subject is one order of magnitude lower than the figures for the other subjects. This implies that HPE is the only subject where variation in pass percentage across public schools is similar to variation across private schools. Relating this observation to the discussion in Section 2.2, it would be reasonable to say that the capability of the SLC examinations to discriminate between good and bad performance in HPE is rather limited.

**Figure 4. Number of Public Schools by Subjectwise Pass Rate, 2060****Figure 5. Number of Private Schools by Subject Wise Pass Rate, 2060**

## 2.4 Gender differences in school performance

Recall from section 2.1 that only 41% of the regular female SLC candidates passed the examinations in 2060 compared to 50% of the male candidates. The total number of female students appearing for the examinations was also distinctly lower. Although the percentage of female SLC candidates naturally differs from school to school, the data for 2060 show that, on average, only around 40% of the candidates from any school were girls.

Table 6 presents the average scores for girls and boys in different subjects. Observe that both boys and girls have performed particularly poorly in Science, securing scores below the pass score. Their performance in Nepali, on the other hand, is not only good but is also very similar. The table shows that girls, on average, have lower scores than boys in every subject. And the difference in scores between the genders is greatest in Mathematics. Girls have performed relatively poorly in the other two traditionally difficult subjects—Science and English—as well. But a surprising finding in the table is that although girls have performed better in Social Studies than in all other subjects (except Nepali), this is the subject with the second highest difference in performance between boys and girls.

**Table 6. Subjectwise Difference in Scores—Boys vs Girls**

Subject	Girls		Boys		Girls-Boys Difference	
	Avg. Score	Coeff of Variation	Avg. Score	Coeff of Variation	Difference in Avg Score	Difference in Coeff of Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Overall SLC	46.18	0.29	49.49	0.23	-3.32	0.06
English	33.83	0.43	35.43	0.38	-1.60	0.05
Nepali	43.96	0.23	44.72	0.20	-0.76	0.03
Mathematics	36.28	0.48	42.40	0.39	-6.13	0.08
Science	28.63	0.38	31.38	0.34	-2.75	0.04
Social studies	41.82	0.25	44.72	0.22	-2.90	0.03
HPE	40.03	0.21	40.92	0.19	-0.89	0.02

The coefficient of variation columns in Table 6 indicates that the average scores for girls vary more from school to school than for boys. And this is especially true for Mathematics—the subject where the difference in performance between boys and girls is the greatest. As can be seen from Table 7, the results are similar when the subject wise pass percentages between boys and girls are compared.

**Table 7. Subjectwise Difference in Pass Rate—Girls vs Boys**

Subject	Girls		Boys		Girls-Boys Difference	
	Pass %	Coeff of Variation	Pass %	Coeff of Variation	Difference in Pass %	Difference in Coeff of Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
English	70.76	0.47	75.67	0.38	-4.91	0.09
Nepali	89.97	0.21	91.76	0.16	-1.79	0.05
Mathematics	61.40	0.55	71.60	0.38	-10.20	0.17
Science	71.00	0.44	78.36	0.33	-7.36	0.12
Social Studies	86.44	0.26	91.21	0.18	-4.77	0.08
HPE	97.21	0.10	98.04	0.07	-0.84	0.03

Although not shown in this paper, the subject wise histograms for boys are more skewed to the left than those for girls. This difference in shape between the two sets of histograms indicates that schools are more concentrated in the higher pass rate categories when we look at the pass rates for boys than when we look at the pass rates for girls. Hence, it suggests that there are a large number of schools where the pass rates for boys are greater than the pass rates for girls.

### 3. SPATIAL DIFFERENCES IN SLC PERFORMANCE

Section 2 summarized the differences in school-level SLC performance across subjects, school types, and genders at the national level using data from the SLC examinations of 2060. This section focuses on the disparities in SLC performance across sub-national spatial units, namely eco-development regions and districts. It is a well-known fact that there are significant socio-economic differences across the ecological belts and development regions of the nation. For example, indicators of health, literacy, economic development, and human development in general suggest that the Mid and Far Western regions of the country are relatively disadvantaged

compared to the Eastern, Central, and Western regions (UNDP 2004). Similarly, barring a few exceptions, the socioeconomic conditions in hilly and mountainous regions are worse than the conditions in the Tarai. The discussion in this section should shed some light on the extent to which such inter-regional differences exist in school-level SLC performance as well.

### 3.1 Differences in student participation and performance across regions

For the purpose of the analysis presented below, the nation has been divided into 16 regions using the standard development and ecological region classifications used in most studies (5 development regions  $\times$  3 ecological regions), but treating Kathmandu Valley separately. Since Kathmandu Valley is distinctly ahead of the rest of country in terms of most socioeconomic indicators, including it in the central hill region would significantly distort the results for the central hills. It is, therefore, useful to analyze the SLC results of the Valley separately.

#### Regional variations in participation in the SLC examinations

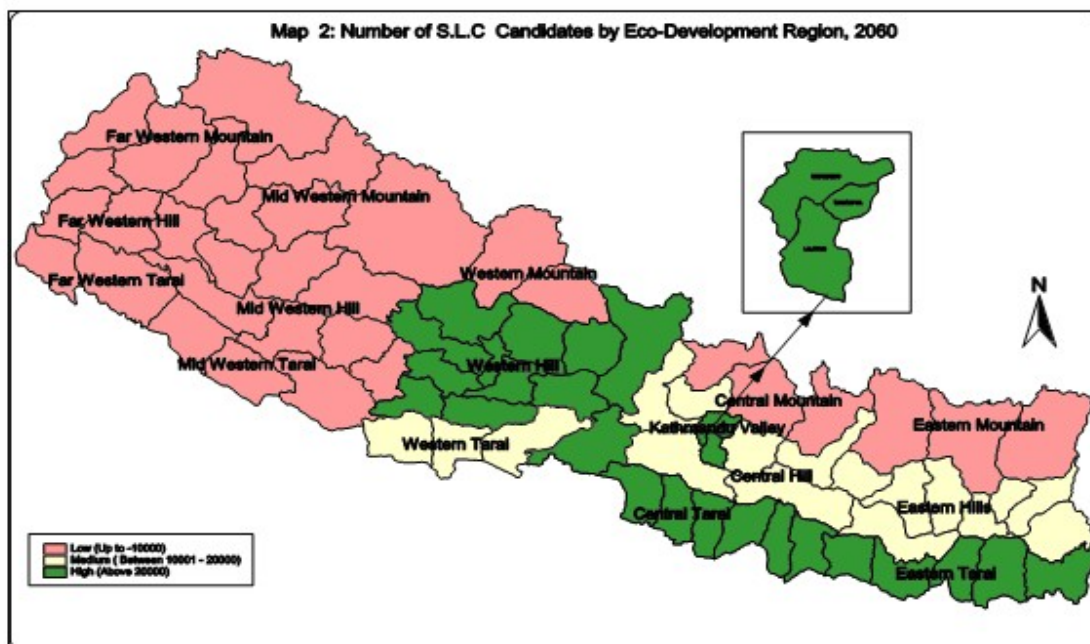
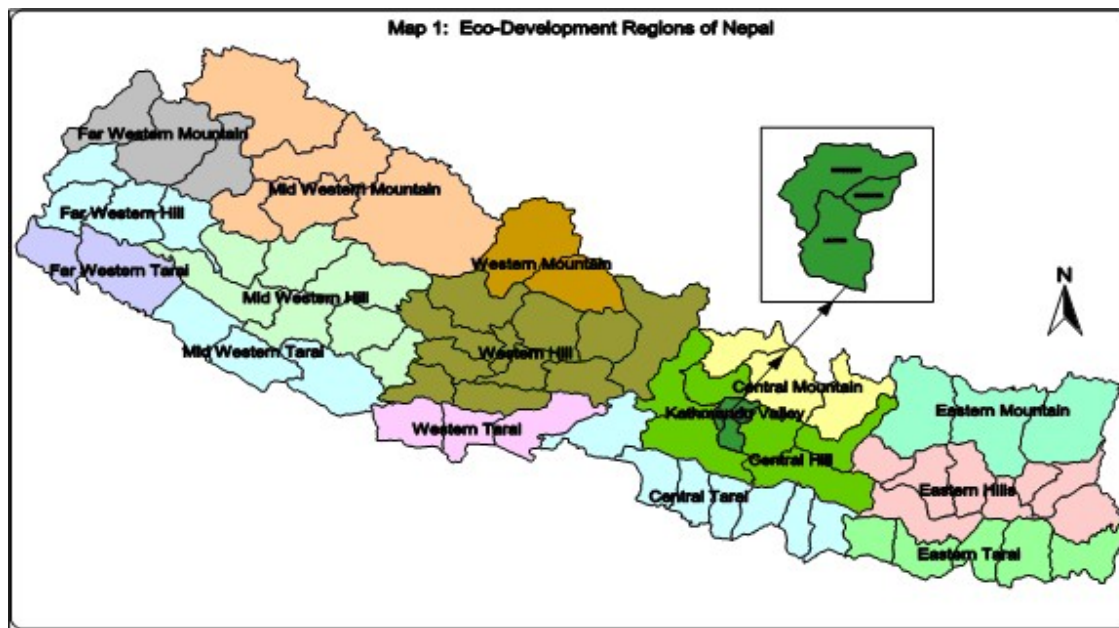
The various eco-development regions plus Kathmandu Valley are shown in Map 1. The following two maps provide a visual overview of the interregional differences in the number of SLC candidates and the gender gap in participation in the SLC examinations, respectively.

The gender gap in SLC participation (or appearance) is defined as the difference between the number of boys and the number of girls who appeared in the SLC examinations expressed as a fraction of the total number of SLC candidates. The data related to Maps 1, 2, and 3 are presented in Table 8.

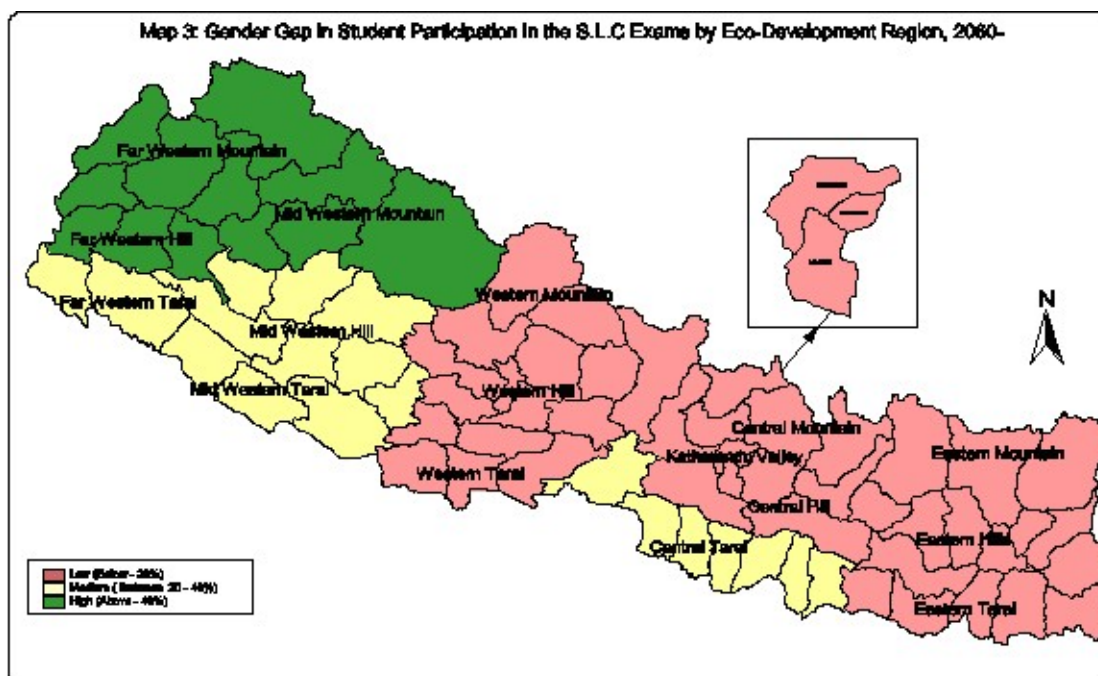
**Table 8. SLC Candidates by Eco-Development Region, 2060**

Eco-Dev Region	Number of SLC candidates			% of males and females		% of Gender gap
	Male	Female	Total	Male	Female	
Eastern Mountain	1,480	1,138	2,618	56.5	43.5	13.1
Eastern Hills	8,196	6,952	15,148	54.1	45.9	8.2
Eastern Tarai	17,400	12,767	30,167	57.7	42.3	15.4
Central Mountain	2,248	1,559	3,807	59.0	41.0	18.1
Central Hill	7,517	5,559	13,076	57.5	42.5	15.0
Central Tarai	13,281	7,290	20,571	64.6	35.4	29.1
Kathmandu Valley	13,282	11,708	24,990	53.1	46.9	6.3
Western Mountain	67	61	128	52.3	47.7	4.7
Western Hill	16,306	13,474	29,780	54.8	45.2	9.5
Western Tarai	5,999	4,505	10,504	57.1	42.9	14.2
Mid-Western Mountain	837	227	1,064	78.7	21.3	57.3
Mid-Western Hill	4,251	2,583	6,834	62.2	37.8	24.4
Mid-Western Tarai	3,604	2,213	5,817	62.0	38.0	23.9
Far Western Mountain	1,337	512	1,849	72.3	27.7	44.6
Far Western Hill	2,735	1,130	3,865	70.8	29.2	41.5
Far Western Tarai	3,327	1,873	5,200	64.0	36.0	28.0
Total	101,867	73,551	175,418	58.1	41.9	16.1

Observe from Map 2 that while the number of SLC candidates increases progressively from the Mountains to the Tarai in the eastern half of the country, the entire Mid and Far Western regions are characterized by low participation in SLC examinations. In fact, the candidates from Kathmandu Valley alone outnumber the candidates from the Mid and Far Western regions. The other regions with large numbers of SLC candidates include the Western Hills, and the Central and Eastern Tarai.



As can be seen from Map 3, three of the regions with low SLC participation—the Far Western Mountain, Far Western Hills, and Mid Western Mountain regions—are also the worst-performing regions in terms of the gender gap in SLC participation. This result, however, is not surprising considering that the status of women in these regions is generally low (UNDP 2004). Another observation worth pointing out is that Central Tarai stands out among the Western, Central, and Eastern regions as the only one with a relatively high gender gap in SLC participation



### Regional variations in performance in the SLC examinations

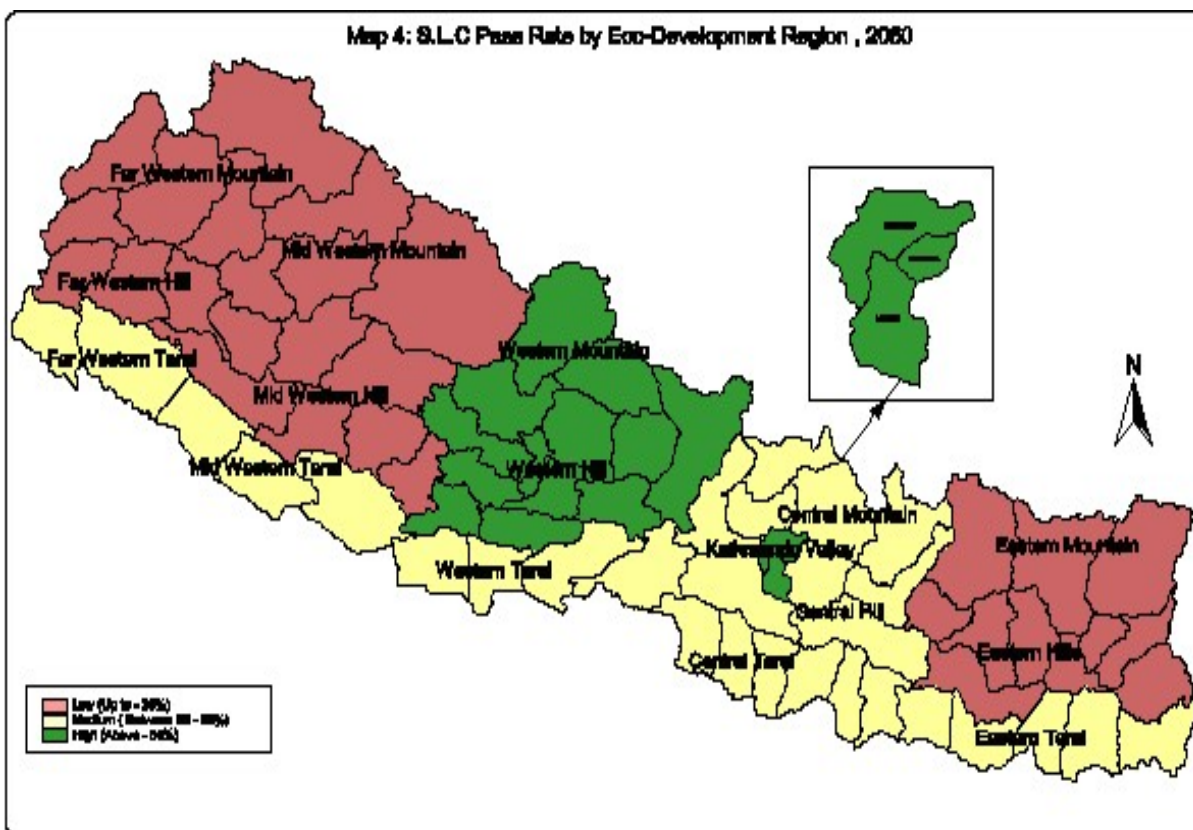
The variations in average SLC pass rates (pass percentages) and the gender gaps in pass rates across the regions are presented in Maps 4 and 5, respectively. The corresponding data can be found in Table 9. It is interesting to note that, apart from Kathmandu Valley, the best performing regions are the Western Hills and Mountains rather than any of the Tarai regions even though the latter are generally more accessible and have better physical infrastructure. At the same time, however, the worst performing regions are also in the Mountains and Hills. These poor performers are concentrated in the Eastern and Mid-Far Western Development Regions.

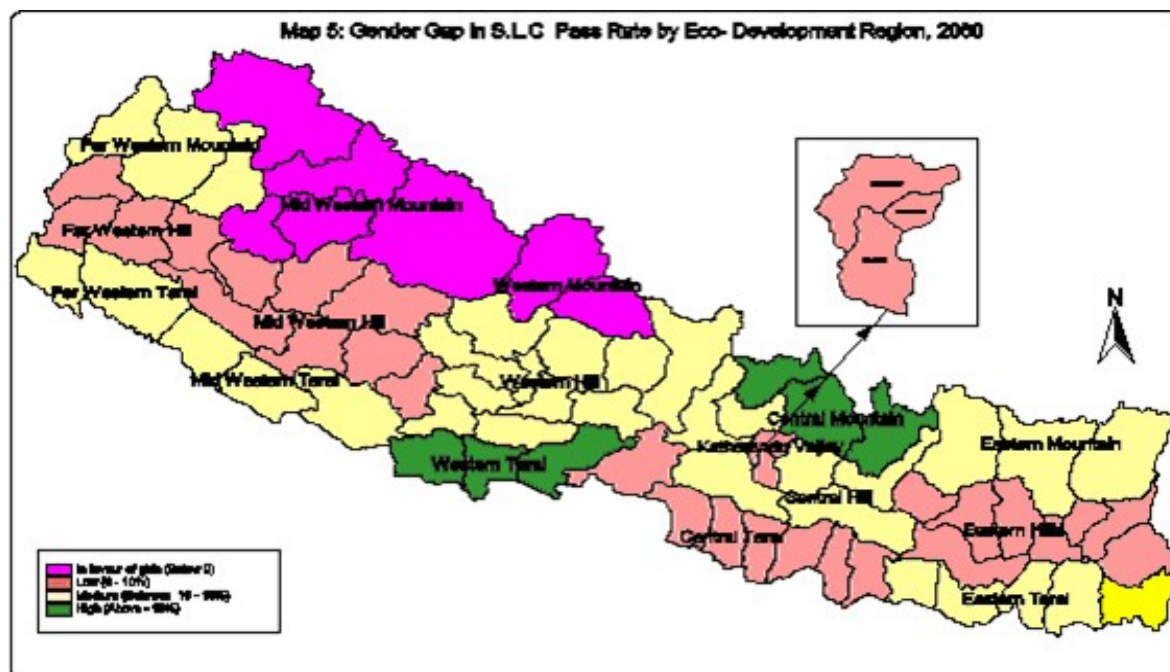
Map 5 shows the gender gaps in SLC pass rate<sup>9</sup> for the different regions. Observe that the Mid - Western and Western Mountain regions actually have negative gender gaps, indicating a higher pass rate for women compared to men. Interestingly, there appears to be no correlation between the regional distribution of pass rates and distribution of gender gaps in pass rate, or between the gender gaps in student participation and pass rates. For example, the two eco-development regions with the highest gender gaps in pass rate, the Central Mountains and the Western Tarai, have SLC pass rates in the medium range (35% – 55%) and gender gaps in participation in the low range, while Kathmandu Valley—a region with low gender gaps in both pass rate and participation—has the highest pass rate among all the regions. Also, note that the Mid-Western Mountain region looks very good in terms of the gender gap in pass rate even though it is characterized by a low SLC pass rate (less than 35%) and high gender gap in participation. In the case of the Mid-Western Mountains, it is likely that although the region has a high gender gap in SLC participation, the performance of girls that do participate in examinations is relatively good.

<sup>9</sup> The gender gap in pass rate is defined as the pass rate for boys minus the pass rate for girls. Hence, a positive gender gap denotes a higher pass rate for boys while a negative gender gap denotes a higher pass rate for girls. The gender gaps for other performance indicators are defined in a similar manner.

**Table 9. Performance of SLC Candidates by Eco-Development Region, 2060**

Eco-Dev Region	% pass			Gender gap (%)	% 1st & 2nd division			Gender gap (%)
	Male	Female	Total		Male	Female	Total	
Eastern Mountain	36.8	23.2	30.9	13.6	31.9	20.1	26.8	11.8
Eastern Hills	34.7	25.9	30.6	8.8	28.9	20.8	25.1	8.1
Eastern Tarai	45.2	32.4	39.8	12.9	40.2	28.0	35.0	12.1
Central Mountain	51.0	33.8	44.0	17.2	47.6	30.4	40.6	17.2
Central Hill	48.2	33.7	42.0	14.4	43.9	30.8	38.4	13.1
Central Tarai	41.6	35.0	39.2	6.6	37.8	32.0	35.7	5.8
Kathmandu Valley	77.3	69.2	73.5	8.1	72.6	66.2	69.6	6.4
Western Mountain	52.2	70.5	60.9	-18.3	50.7	67.2	58.6	-16.5
Western Hill	64.1	49.4	57.4	14.7	59.8	45.6	53.3	14.2
Western Tarai	56.1	39.0	48.8	17.1	52.6	37.2	46.0	15.4
Mid-Western Mountain	15.3	20.3	16.4	-5.0	14.1	18.1	14.9	-4.0
Mid-Western Hill	24.7	18.5	22.4	6.2	7.8	8.4	6.5	3.5
Mid-Western Tarai	42.9	31.8	38.7	11.1	40.3	29.9	36.3	10.4
Far Western Mountain	38.7	25.2	34.9	13.5	9.3	14.8	9.2	0.4
Far Western Hill	30.2	22.0	27.8	8.1	25.9	17.0	23.3	8.9
Far Western Tarai	42.6	28.8	37.7	13.8	39.8	26.6	35.0	13.2
Total	50.2	40.6	46.2	9.6	45.0	37.4	41.5	8.4





Recall from Table 1 that 46% of the 2060 SLC candidates passed the examinations and around 42% secured first and second division scores. Data in Table 9 also show the regional distribution of SLC performance using percentage of students in these upper division categories as the performance measure. As might be expected, the distribution is similar to that for SLC pass rate. But now the Far Western Tarai, Eastern Tarai, and Western Hills have moved down in performance category. In terms of this measure of performance, Kathmandu Valley and the Western Mountain region stand out as the only regions with over 55% of the students securing first and second division scores. The gender gap in the percentage of students securing first and second division scores is qualitatively similar to the gender gap in pass rate. Notice that the Western Mountain region again distinguishes itself as one of the two regions with the difference in performance in favor of girls. Recall from Map 3 that this region also has a very low gender gap in student participation.

### 3.2 Private-public performance differences across eco-development regions

#### Distribution of schools across regions

The public-private performance gap in school students at the national level has already been discussed at length in Section 2. This gap, however, differs widely across the different regions of the country. In order to study the regional variations in it, it is first necessary to look at the regional distribution of schools, especially since some of the regions do not have any private schools.

Recall that, of the 4709 schools with SLC students in 2060, approximately 73% (3,424) were public schools and the rest (1,285) private schools. Tables 10 and 11 present the regional distributions of public and private.

Table 10 shows that only 11% of the public schools are located in the Mountain region, probably because of the small population of this region. The eco-development region with the largest share of public schools is the Western Hills (21.2%) and, among the development

regions, the Mid, and Far Western regions have distinctly lower shares of public schools. Table 11 suggests school distribution is even more lopsided in the case of private schools, there are no private schools in the Far Western, Mid-Western and Western Mountain regions, only 7.1% of them are located in the entire Far Western and Mid Western development regions, and over 44% of them are concentrated in Kathmandu Valley. Also the Valley—the only region where private schools outnumber public schools—has 2.5 times more private schools than public schools. For the regional distribution of private schools see Map 6.

**Table 10. Distribution of Public Schools across the Eco-Development Regions, 2060**

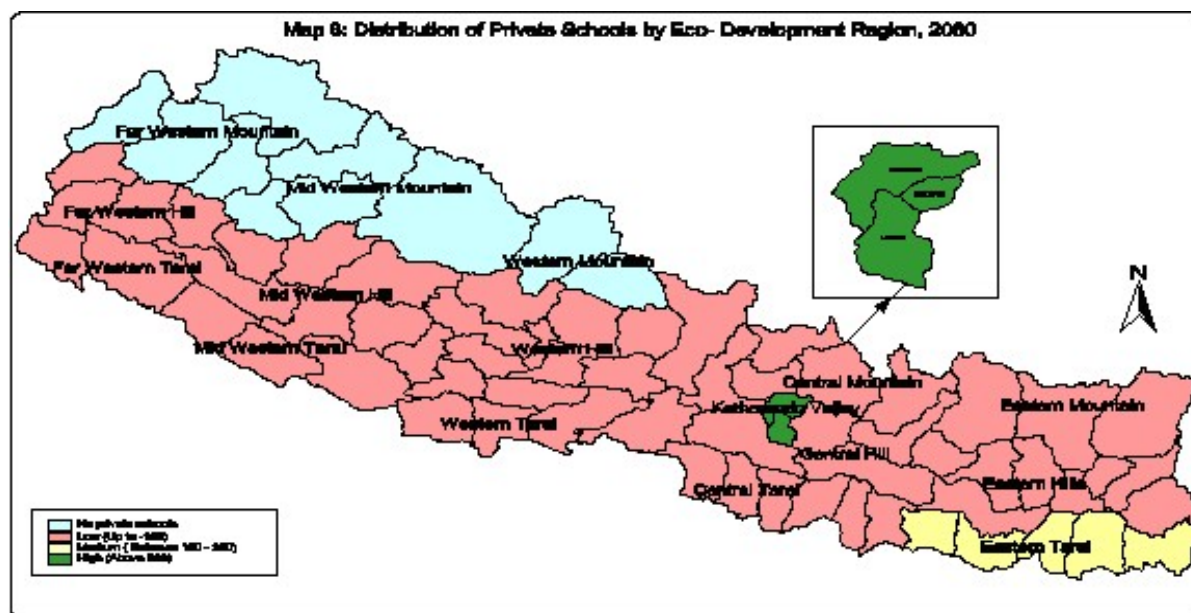
	Ecological Regions			Total
	1. Mountain	2. Hills	3. Tarai	
1. Far West	2.8	4.6	2.8	10.2
2. Mid-West	1.8	6.6	3.4	11.7
3. West	0.4	21.2	4.7	26.3
4. Central	3.1	9.5	9.5	22.2
5. East	2.9	10.3	9.8	23.0
6. Kathmandu valley (K.V.)		6.6		6.6
Total	11	59	30	100.0

**Table 11. Distribution of Private Schools across the Eco-Development Regions, 2060**

	Ecological Regions			Total
	1. Mountain	2. Hills	3. Tarai	
1. Far West	0.0	0.5	2.6	3.1
2. Mid-West	0.0	0.2	3.9	4.0
3. West	0.0	10.0	6.7	16.7
4. Central	0.3	4.2	9.4	13.9
5. East	0.4	3.4	14.2	18.1
6. Kathmandu valley		44.1		44.1
Total	0.7	62.4	36.9	100.0

### Regional variations in the performance of public and private schools

The regional variations in the performance of public and private schools are shown in Maps 7 through 9 and Table 12 Comparing Map 7 with Map 4, it is clear that the regional distribution of pass rates for public schools largely follows the pattern for all schools. But while the pass rate in the entire Tarai region is in the medium range (35-55%) with all schools taken together, the rate for public schools in most of a Tarai is low (below 35%). Also note that the Western Hills and Kathmandu Valley belong to the medium performance category rather than in the high performance category in the case of public schools. The differences between Map 7 and Map 4 in the case of the Tarai, Western Hills, and Kathmandu Valley is most likely due to the presence of large numbers of private schools in these regions. The Western Mountain region again distinguishes itself as the only region with pass rate for public schools in the high range (above 55%). As shown in Map 8, the regional distribution of pass rates for private schools is drastically different—they are uniformly high (over 55%) in twelve of the thirteen regions where private schools exist. The performance of private schools in the remaining region—the Eastern Mountains—is in the medium range (35% to 55%).



**Table 12. Performance of Public and Private Schools across Regions, 2060**

Region	Pass % (Public)				Pass % (Private)				Pass % gap (Pvt. – public)
	Male	Female	Total	Gender Gap	Male	Female	Total	Gender Gap	
Eastern Mountain	36.4	23.0	30.6	13.5	48.8	30.6	40.3	18.2	9.7
Eastern Hills	31.6	23.5	27.8	8.1	78.6	70.0	75.2	8.6	47.4
Eastern Tarai	33.9	21.7	28.6	12.2	80.4	73.2	77.7	7.2	49.0
Central Mountain	49.8	32.9	42.8	16.8	98.3	100.0	98.7	-1.7	55.9
Central Hills	43.1	29.6	37.2	13.5	90.4	80.7	86.9	9.8	49.7
Central Tarai	32.7	27.4	30.8	5.3	85.7	76.5	82.6	9.2	51.8
Kathmandu Valley	59.9	48.3	53.9	11.6	86.9	84.8	86.0	2.1	32.1
Western Mountain	52.2	70.5	60.9	-18.3	No private schools				
Western Hills	59.8	45.0	53.0	14.8	92.6	87.5	90.6	5.1	37.6
Western Tarai	44.3	28.7	37.4	15.6	87.7	74.6	82.7	13.0	45.3
Mid-Western Mountain	15.3	20.3	16.4	-5.0	No private schools				
Mid-Western Hills	24.1	18.0	21.8	6.1	85.0	57.6	72.6	27.4	50.8
Mid-Western Tarai	29.7	18.5	25.4	11.2	85.2	76.0	81.8	9.3	56.3
Far Western Mountain	38.7	25.2	34.9	13.5	No private schools				
Far Western Hills	29.2	20.9	26.7	8.2	56.4	59.4	57.1	-2.9	30.4
Far Western Tarai	35.4	21.9	30.5	13.4	65.2	53.0	61.1	12.2	30.6

Map 9 presents the distribution of gap in SLC pass rates between public and private schools across the different regions. While private schools show better performance in all regions with private school, the gap is particularly high in Mid-Western Tarai (56.3%). Surprisingly, it is relatively low (32.1%), although the Valley has the fourth highest pass rate for private schools. This can be explained by the relatively good performance (53.9% pass rate) of public schools there. Also note that the private-public pass rate gap in the Eastern Mountains is significantly lower than in other regions.

### Regional variations in the gender gap in public and private schools

The distribution of gender gap in SLC pass rates also differs markedly between public and private schools. The regional variation in gender gap for public schools presented in Map 10 and Table 12 is essentially the same as that for all the schools taken together (Map 5)—in favor of girls in the Western/ Mid-Western Mountain regions; low in the Central Tarai, Eastern Hills, and Far/Mid-Western Hills; and high in the Western Mountains, Western Tarai and Central Mountains. As shown in Map 11, the gender gap for private schools, on the other hand, is negative in the Central Mountains and Far Western Hills, and low (less than 15%) in most of the regions. In the case of Kathmandu Valley, in particular, the gender gap is much lower for private schools compared to public schools. The highest gap is in the Mid-Western Hills, a region where private-public pass rate gap is also quite high. The Eastern Mountain region, whose gender gap in pass rate for public schools is in the medium range, has a high gender gap in the case of private schools.

### 3.3 Differences in student participation and performance across districts

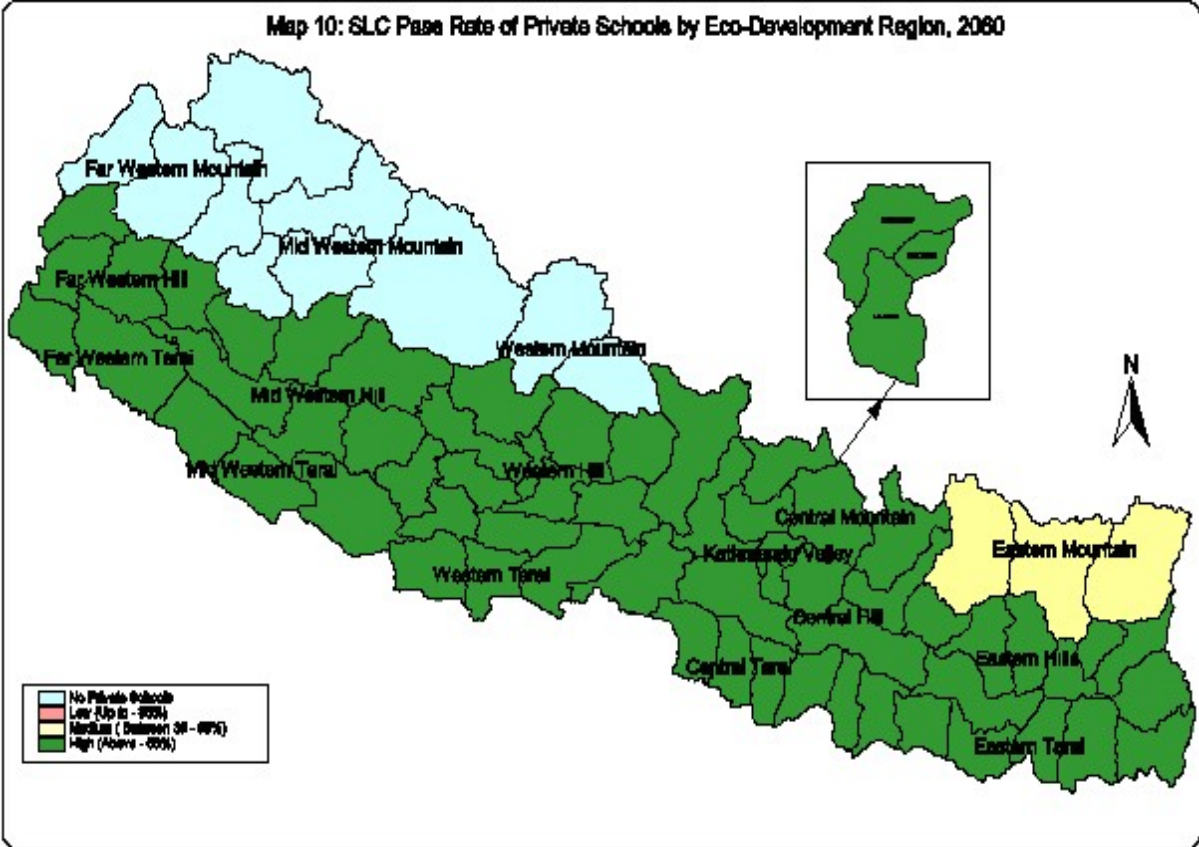
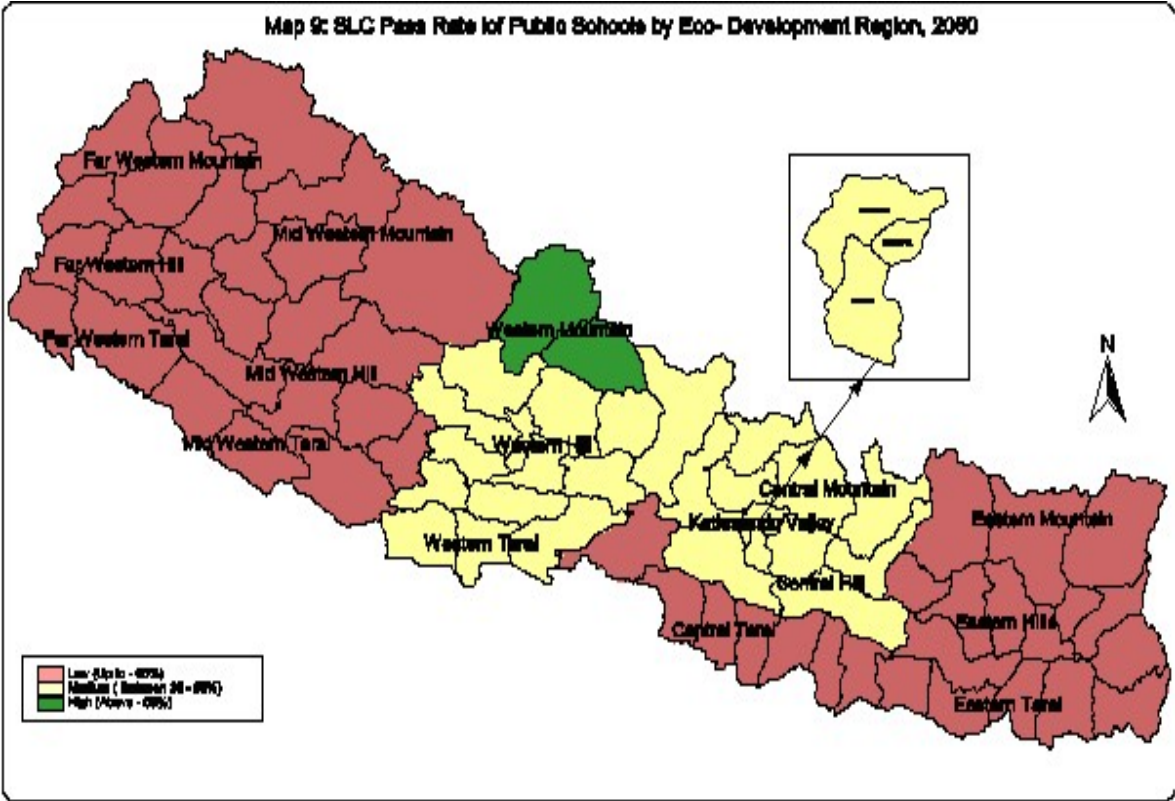
The analyses presented in this and the following subsections are similar to those in Sections 3.2 and 3.3, except that the discussion here goes into further detail by focusing on districts rather than regions. It is, however, important to keep in mind that the patterns in the maps in these subsections might sometimes differ from those presented earlier because of difference in the ranges used in constructing the maps.

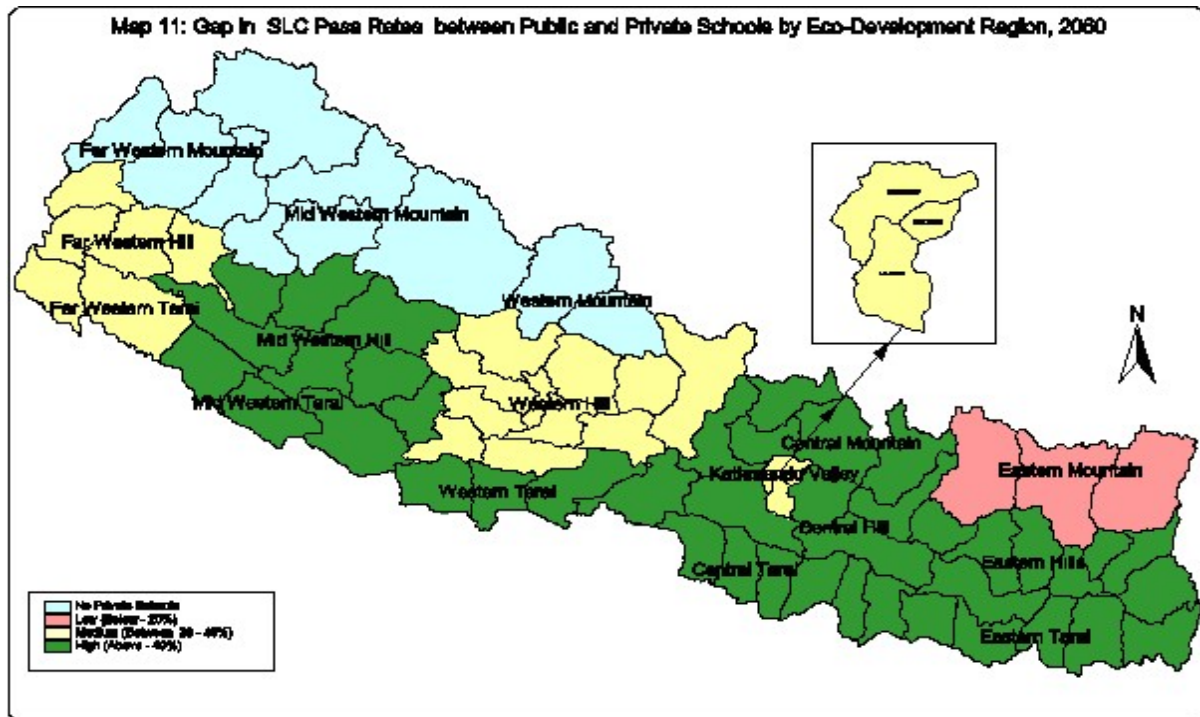
#### Regional variations in participation in the SLC examinations

In terms of the distribution of SLC participants across 75 districts, Kathmandu ranks at the top in the 2060 SLC examinations with 15,337 candidates, followed by two districts in Eastern Tarai, namely, Jhapa and Morang. Among the other districts with high SLC participation (over 4000 candidates), Kaski stands out as the only Hill district in this category apart from the districts in Kathmandu Valley. Mustang and Manang have, respectively, the lowest and second lowest number of SLC candidates in the nation.

Interestingly, the number of girls taking SLC examinations is higher than that of boys in Manang and Panchthar, Map 12, Table 13. Note that the worst nine districts in terms of gender gap in SLC participation are from the Mid and Far Western development regions. Surkhet and Kanchanpur, both relatively urbanized areas, are the only districts in these regions with low gender gaps. Also, Mahottari is the only district in the high gender gap category in the Western, Central, and Eastern development regions. Variations in SLC performance across districts

The SLC pass rates and gender gaps in them across the districts have been presented in Maps 13 and 14, respectively. Table 13 offers the corresponding district-wise data. The distribution of pass rates in Map 13 is consistent with the regional distribution shown in Map 4 earlier. Again observe that the districts in the Mid and Far Western regions are generally characterized by low (below 35%) rates, while those in the Western Hills and Mountains have done better relatively. One exception is Bajhang in the Far Western Mountain region with an impressive rate of 52.8%, it is clearly an outlier in the low performing Western third of the country. Pyuthan is the only other Hill district with a relatively high rate (51.8%); explained by the fact that it borders the generally good performing Western Hill districts in the east. The poorest performer is Humla pass rate 0.8%, followed by four other remote districts, namely Mugu, Dailekh, Kalikot, and Bajura.



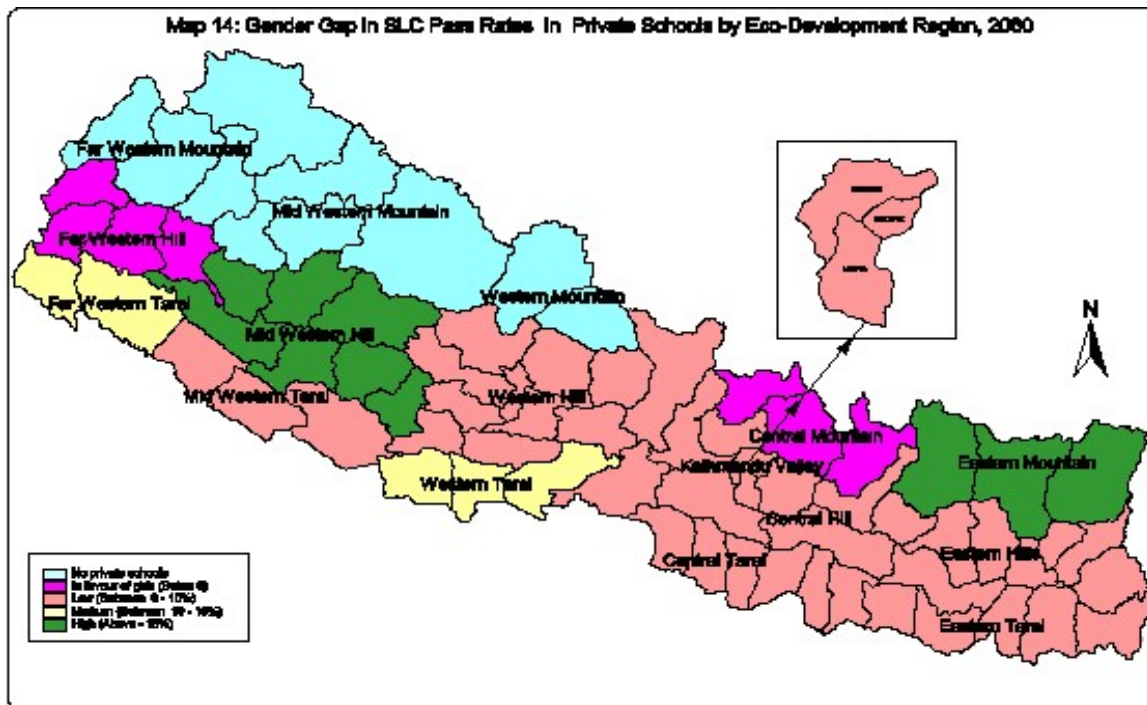
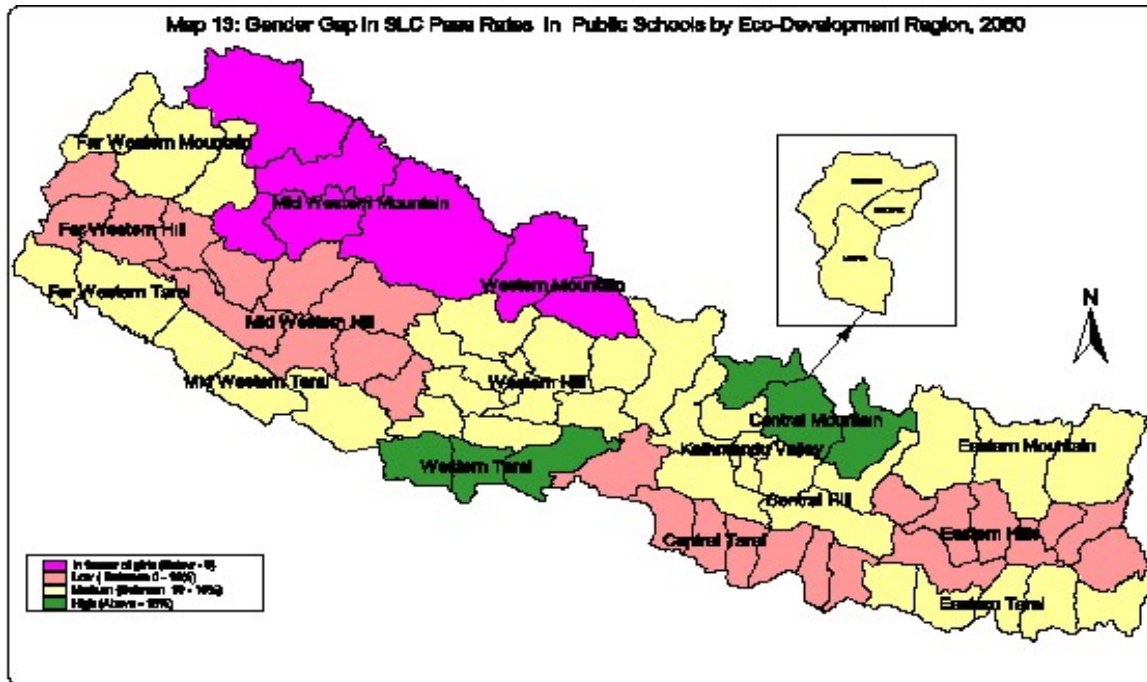


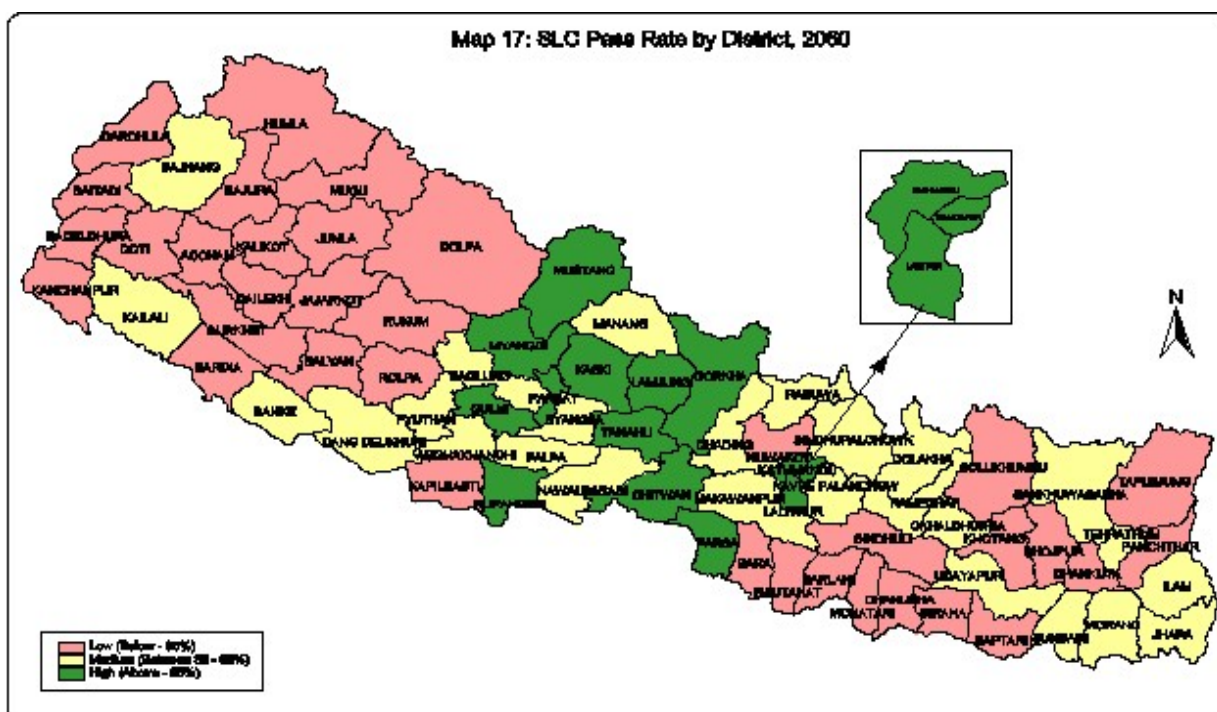
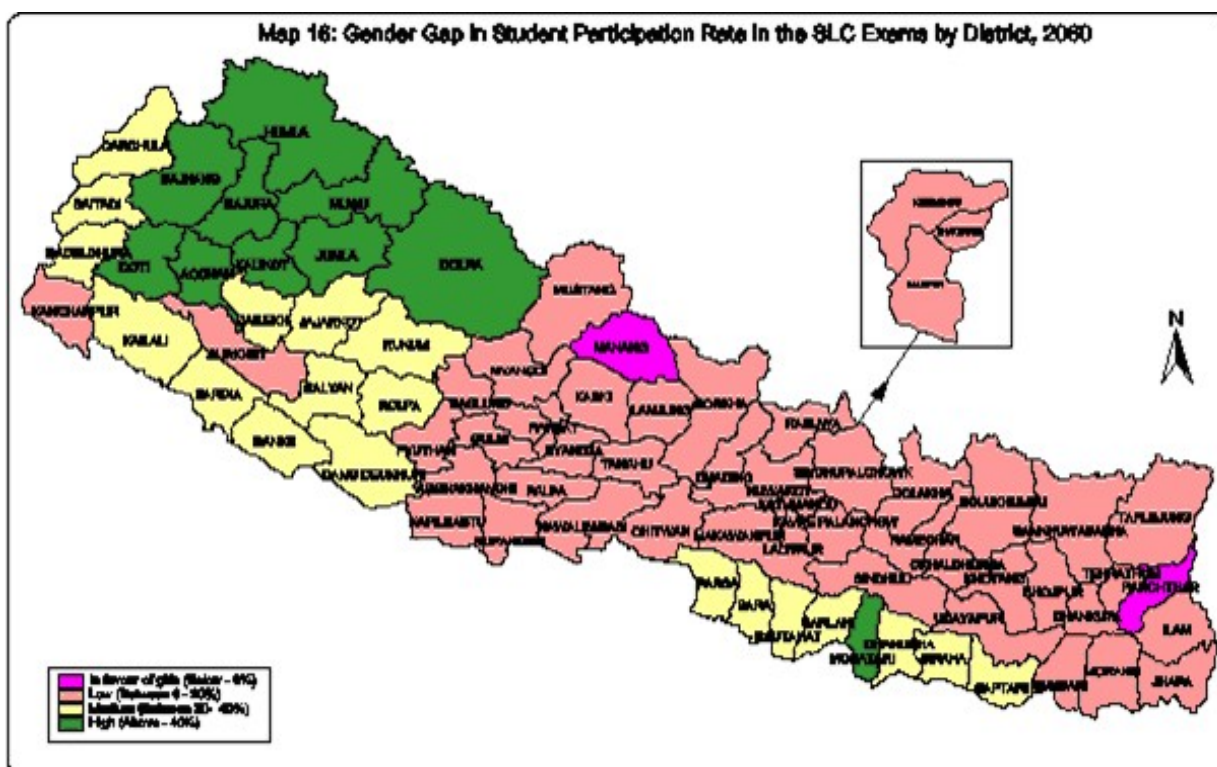
With a figure of 78.1%, the district with the highest rate in 2060 is Gorkha, a Western Hill district which has done consistently well over the past few years: 65 of the 66 schools are public schools. Although detailed case studies of schools and students are needed to thoroughly understand the reasons behind its excellent performance that public schools can compete effectively with private schools. Kathmandu, which has a figure of 76.3%, ranks second after Gorkha. Other districts with very high rates (above 65%) include Myagdi, Lalitpur, Mustang, Bhaktapur, and Kaski. Apart from Kathmandu and Bhaktapur, they all belong to the Western Hill and Mountain regions.

In terms of the gender gap, Map 14 shows that four Western/Mid-Western Mountain districts—Jumla, Dolpa, Mustang, and Manang—have rates in favor of girls. And most of the other Mid and Far Western districts have low gender gaps in performance even though the number of female SLC candidates there is relatively low compared to the males. The performance gender gaps in Doti and Kanchanpur, however, are among the highest in the nation. Also note that none of the female candidates from Humla passed the examinations in 2060. Interestingly, although the districts in the Western Hills show high figures, they are not good performers in terms of the gender gap. Lamjung, in particular, shows the highest difference between the rates of boys and girls, and two other Western Hill districts—Syangja and Palpa—rank among the bottom six. In the eastern half of the country, the districts with high gender gaps in pass rate include Ilam, Jhapa, Solukhumbu, Dolakha, Sindhupalchok, and Kavre Palanchowk.

Another way to identify districts that stand out in terms of the gender gap in SLC pass rates is through the use of the graph in Figure 6 which shows the district wise SLC pass rate for girls on Y-axis and for boys on X-axis. If, for any district, the rate for girls were exactly equal to that for boys, that district would be represented by a point on the 45° (diagonal) line shown on the

graph. If the figure for girls stands higher, the district lie above the diagonal. Observe that except for Dolpa, Jumla, Manang, and Mustang, all other districts are below the line: these are the only districts where the rates for girls figure above those for boys. These four districts continue to show better performance for girls even when performance is measured in terms of the percentage of first and second division students.



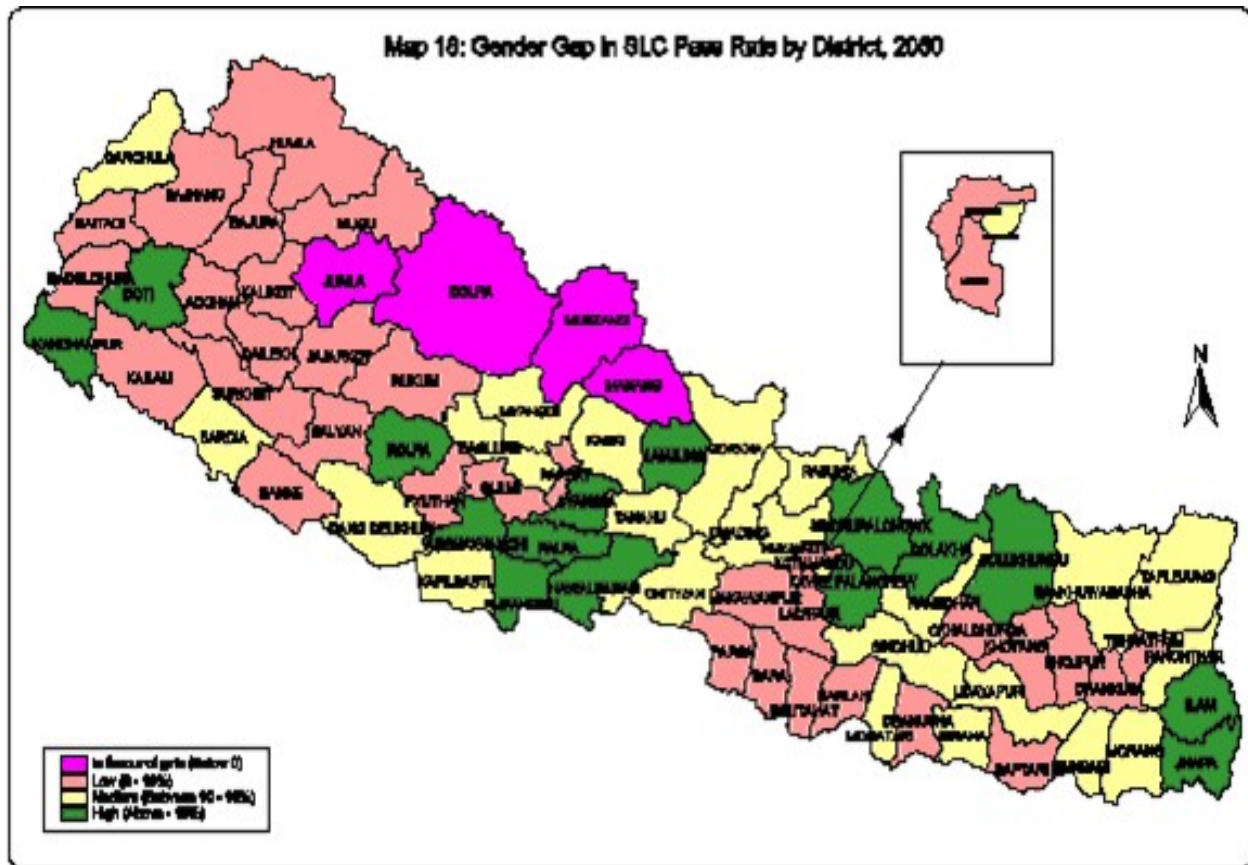


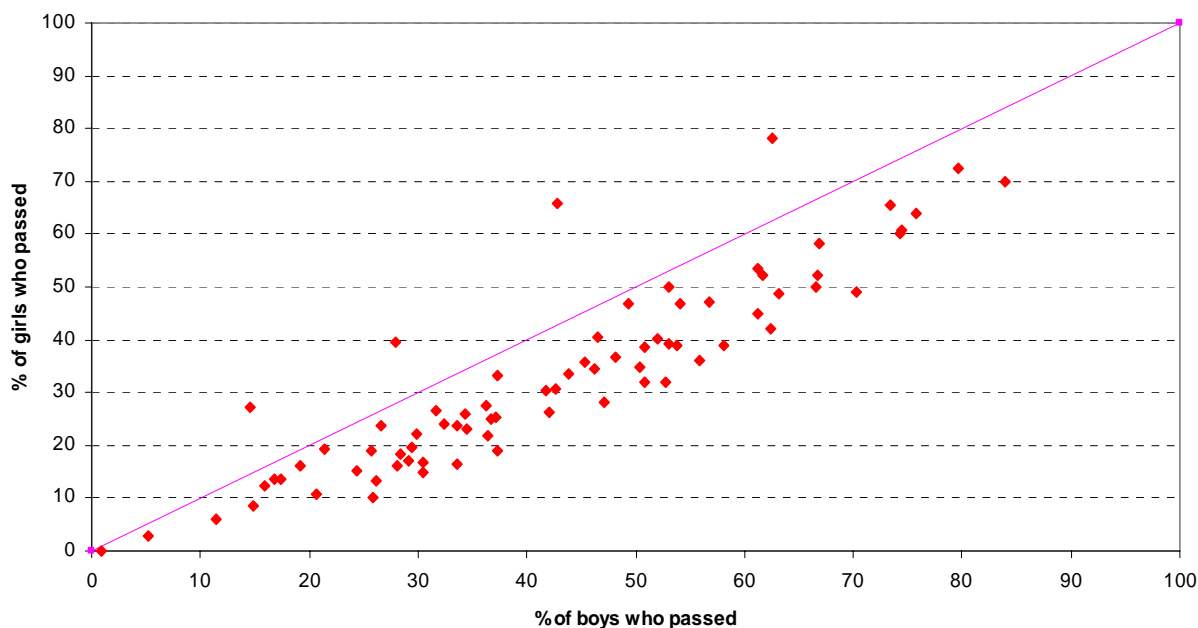
### 3.4 Private-public performance differences across districts

#### Distribution of schools across districts

Table 14 summarizes the distribution of schools across the districts is. The district with the smallest number of schools (4) in the nation is Manang. All other Mountain districts west of Manang have very few schools. Naturally, Kathmandu ranks at the top, followed by Lalitpur, Jhapa, Morang, and Kaski—all relatively urbanized. These are also the districts with a heavy concentrations of private schools.

As for the distribution of private versus public schools within the districts, Table 14 shows that over 80% of the schools in 56 of the 75 districts are public schools. In fact, 20 districts have no private schools at all (Map 15), and private schools outnumber public schools in only three districts, namely the three districts in Kathmandu Valley. These data provide clear evidence that currently public schools are the only institutions that can provide equitable access to education particularly in the Mid- and Far Western Hill and Mountain regions.



**Figure 6. District-Level Pass Percentages for Boys and Girls, 2060**

### Variations in the performance of public and private schools across districts

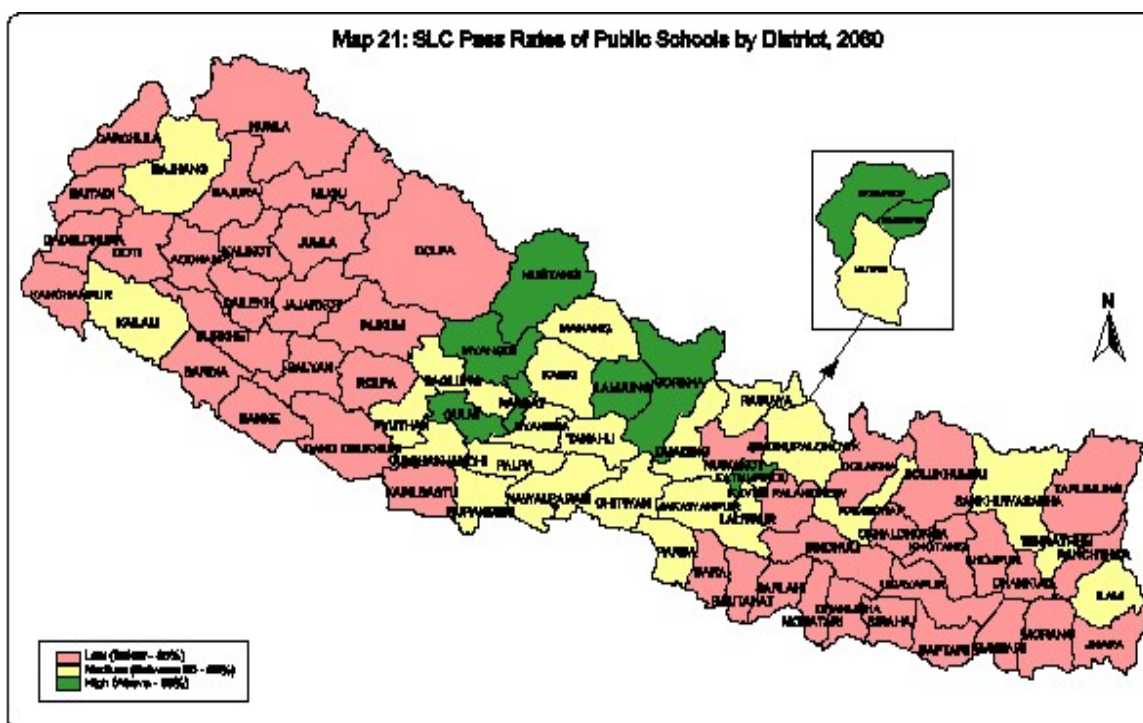
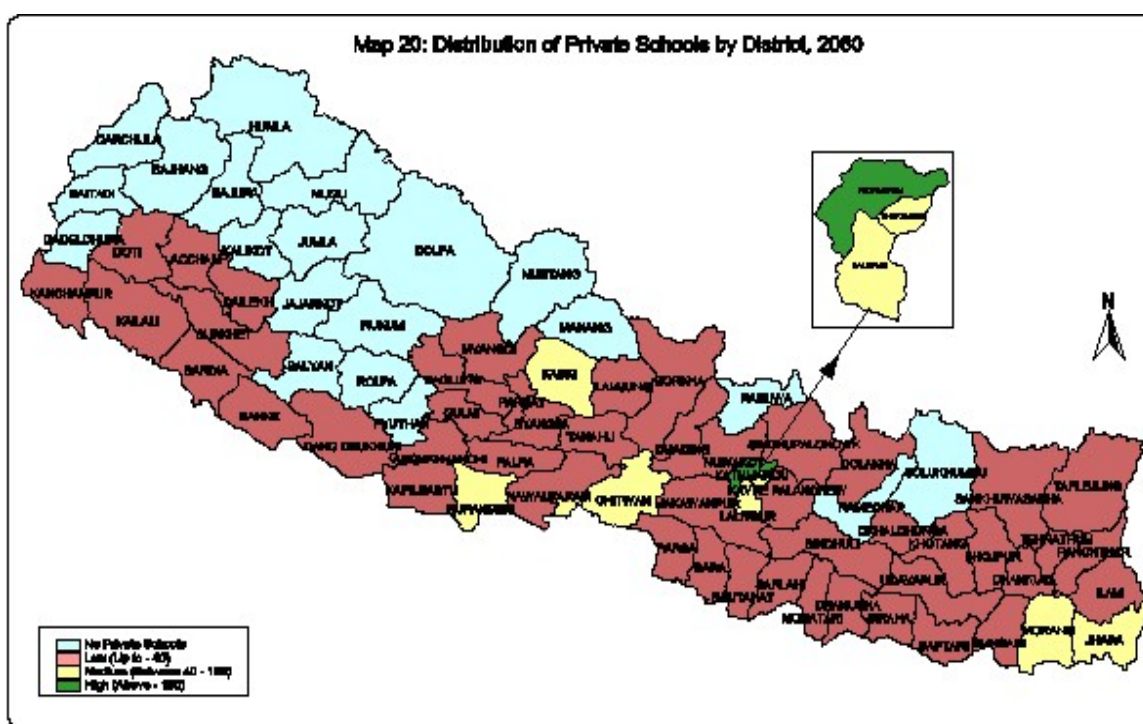
Maps 16 and 17 display the pass rates for public and private schools. Note that the overall rates of schools shown in Map 13 are identical to the figures of public schools in Map 16 in districts where private schools do not exist. Given the relatively small presence of private schools in most other districts, the rates in Map 16 look very similar to those in Map 13 for these remaining districts as well. It is, nevertheless, worth highlighting a few observations in the case of the Western Hills and Mountains and Kathmandu Valley.

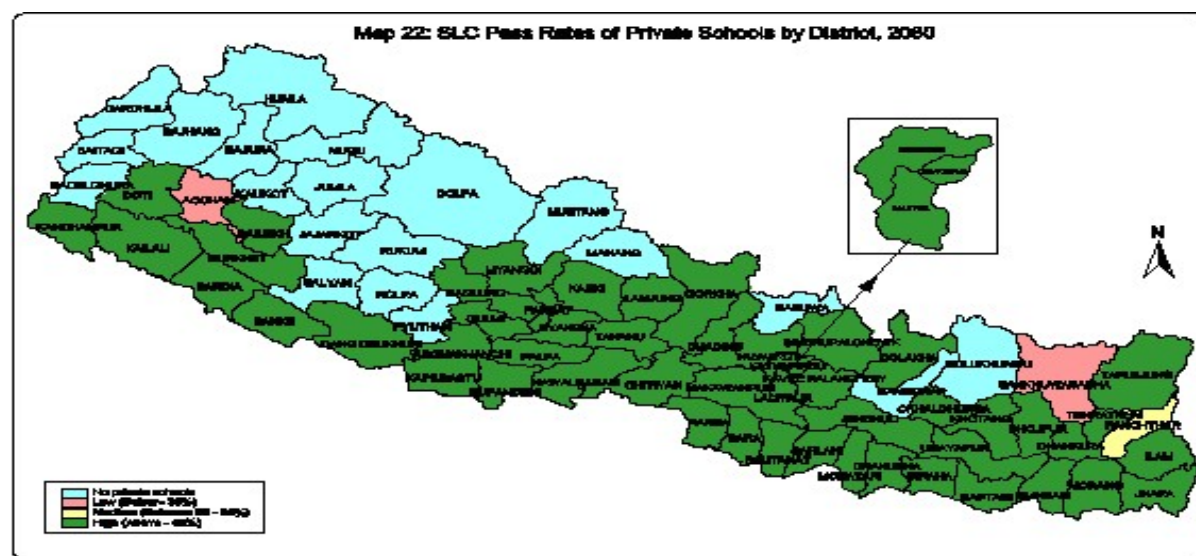
First, note from Map 16 and Table 15 that the rate for public schools in Lalitpur is in the medium range (between 35 and 55%) while its overall figure shown in Map 13 lies in the high range, a clear indication of the disparity between the public and private schools in this district. It is, hardly surprising that the rate for private schools in Lalitpur lies shown in Map 17 in the high range. Similar observations can be made in the case of Tanahu and Kaski, two Western Hill districts with overall high pass rates.

The distribution shown in Map 17 indicates that, except for the case of three districts, the pass rates of private schools lie in the high range (above 55%) in all districts where private schools exist. The three exceptions are Achham, Sankhuwasabha, and Panchthar. The rate gaps between private and public schools in Achham and Sankhuwasabha are actually negative, indicating higher pass rates for public schools. Table 15 also reconfirms the existence of large performance gaps (above 40%) between private and public schools in most of the districts. Observe that Kailali and Parbat are the only two districts with private schools where the gap between the two school types are relatively low (less than 20%).

**Table 14. Distribution of Schools across Districts**

District	No. of schools			% public schools	District	No. of schools			% public schools
	Public	Private	Total			Public	Private	Total	
Achham	37	2	39	95	Lamjung	57	3	60	95
Arghakhanchi	52	1	53	98	Mahottari	42	2	44	95
Baglung	61	8	69	88	Makwanpur	48	13	61	79
Baitadi	52	0	52	100	Manang	4	0	4	100
Bajhang	36	0	36	100	Morang	92	58	150	61
Bajura	24	0	24	100	Mugu	13	0	13	100
Banke	34	21	55	62	Mustang	8	0	8	100
Bara	50	14	64	78	Myagdi	36	3	39	92
Bardia	33	4	37	89	Nawalparasi	63	22	85	74
Bhaktapur	35	52	87	40	Nuwakot	56	5	61	92
Bhojpur	45	1	46	98	Okhaldhunga	38	1	39	97
Chitwan	59	47	106	56	Palpa	75	4	79	95
Dailekh	37	0	37	100	Panchthar	45	7	52	87
Dandeldhura	33	1	34	97	Parbat	61	4	65	94
Dang	50	25	75	67	Parsa	31	23	54	57
Darchula	35	0	35	100	Pyuthan	32	0	32	100
Dhading	54	6	60	90	Ramechhap	45	0	45	100
Dhankuta	47	7	54	87	Rasuwa	13	0	13	100
Dhanusha	56	21	77	73	Rautahat	43	3	46	93
Dolakha	40	3	43	93	Rolpa	24	0	24	100
Dolpa	6	0	6	100	Rukum	31	0	31	100
Doti	37	3	40	93	Rupandehi	63	60	123	51
Gorkha	65	1	66	98	Salyan	31	0	31	100
Gulmi	77	5	82	94	Sankhuwasabha	36	3	39	92
Humla	10	0	10	100	Saptari	53	6	59	90
Ilam	48	17	65	74	Sarlahi	45	11	56	80
Jajarkot	20	0	20	100	Sindhuli	47	4	51	92
Jhapa	87	68	155	56	Sindhupalchok	54	1	55	98
Jumla	12	0	12	100	Siraha	48	12	60	80
Kailali	53	24	77	69	Solukhumbu	33	0	33	100
Kalikot	19	0	19	100	Sunsari	56	39	95	59
Kanchanpur	42	10	52	81	Surkhet	50	2	52	96
Kapilvastu	35	4	39	90	Syangja	82	17	99	83
Kaski	81	69	150	54	Tanahun	80	14	94	85
Kathmandu	134	376	510	26	Taplejung	32	2	34	94
Kavrepalanchok	76	26	102	75	Tehrathum	31	2	33	94
Khotang	55	1	56	98	Udayapur	43	8	51	84
Lalitpur	57	139	196	29	Nepal	3,424	1,285	4,709	73



**Table 15. Performance of Public and Private Schools across Districts**

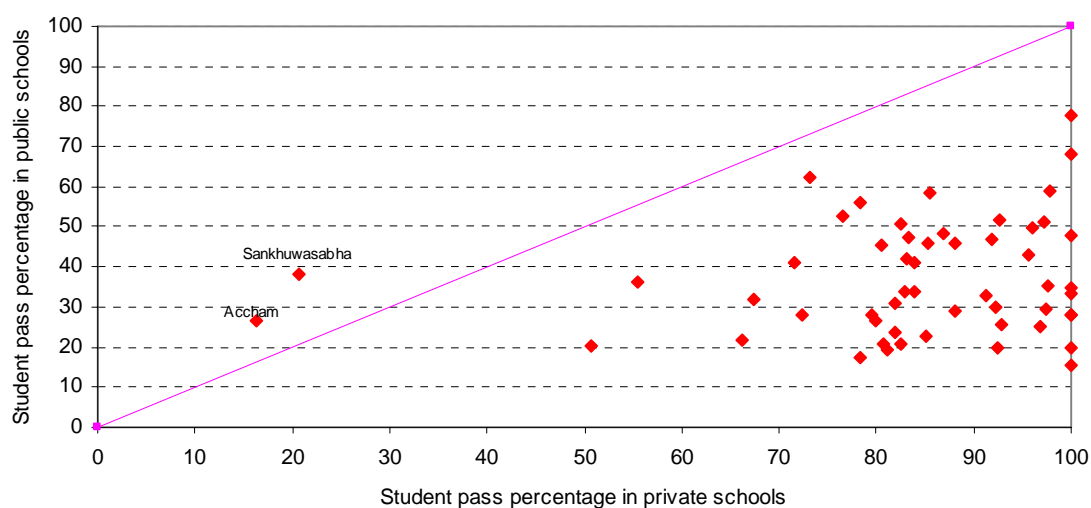
District	Pass % (Public)				Pass % (Private)				Pass % gap
	Male	Female	Total	Gender Gap	Male	Female	Total	Gender Gap	% pass
Achham	27.3	23.8	26.3	3.5	15	20	16	-5	-10
Arghakhanchi	49.8	34.5	42.8	15.3	94	100	96	-6	53
Baglung	46.1	34.6	41.0	11.4	76	66	72	10	30
Baitadi	29.9	22.2	27.6	7.7					
Bajhang	54.1	46.7	52.8	7.4				No private schools	
Bajura	16.0	12.5	15.2	3.5					
Banke	30.6	23.4	27.8	7.1	75	68	72	7	45
Bara	26.1	23.5	25.2	2.6	97	97	97	0	72
Bardia	24.0	12.7	19.6	11.3	97	71	93	26	73
Bhaktapur	59.3	44.4	51.9	14.9	93	92	93	1	41
Bhojpur	23.8	14.7	19.7	9.1	100	100	100	0	80
Chitwan	56.5	43.9	50.7	12.6	87	75	82	12	32
Dailekh	11.5	5.9	9.4	5.6				No private schools	
Dandeldhura	30.6	23.3	28.2	7.3	100	100	100	0	72
Dang	35.4	21.3	30.1	14.2	95	88	92	7	62
Darchula	28.4	18.3	24.5	10.1				No private schools	
Dhading	52.5	37.6	46.1	14.9	87	90	88	-4	42
Dhankuta	24.9	16.4	20.8	8.5	85	79	83	6	62
Dhanusha	22.6	16.7	20.6	6.0	81	81	81	0	60
Dolakha	39.5	24.5	33.4	15.0	100	100	100	0	67
Dolpa	14.6	27.3	18.3	-12.6				No private schools	
Doti	28.9	10.3	23.8	18.7	79	93	82	-14	58
Gorkha	84.0	69.6	78.0	14.4	No boys	100	100	N/A	22

District	Pass % (Public)				Pass % (Private)				Pass % gap
	Male	Female	Total	Gender Gap	Male	Female	Total	Gender Gap	% pass
Gulmi	60.0	51.7	56.1	8.3	84	64	78	20	22
Humla	0.8	0.0	0.8	0.8				No private schools	
Ilam	53.1	35.7	45.3	17.4	83	77	80	5	35
Jajarkot	16.8	13.6	15.8	3.1				No private schools	
Jhapa	39.8	22.5	31.7	17.3	72	59	67	13	36
Jumla	28.0	39.5	30.4	-11.5				No private schools	
Kailali	40.1	28.3	36.3	11.8	58	51	56	8	19
Kalikot	14.9	8.5	13.0	6.4				No private schools	
Kanchanpur	27.8	15.5	22.5	12.3	89	70	85	19	63
Kapilvastu	26.7	15.2	22.0	11.5	69	60	66	9	44
Kaski	59.0	42.5	51.2	16.5	98	97	97	1	46
Kathmandu	64.5	53.1	58.6	11.4	86	84	85	2	27
Kavrepalanchok	42.6	23.8	34.0	18.8	89	75	84	14	50
Khotang	17.0	13.4	15.4	3.6	100	100	100	0	85
Lalitpur	51.0	41.2	45.9	9.9	86	84	85	2	39
Lamjung	68.7	46.1	59.0	22.5	96	100	98	-4	39
Mahottari	34.0	23.0	30.7	11.0	82	No girls	82	N/A	51
Makwanpur	50.9	41.5	47.0	9.4	93	91	92	2	45
Manang	42.9	65.8	54.8	-22.9				No private schools	
Morang	37.4	27.2	32.8	10.1	94	88	91	6	58
Mugu	5.2	2.9	4.8	2.3				No private schools	
Mustang	62.5	78.3	69.1	-15.8					
Myagdi	73.2	61.1	67.9	12.1	100	100	100	0	32
Nawalparasi	49.3	31.7	41.1	17.6	92	71	84	21	43
Nuwakot	34.2	22.4	29.2	11.8	91	84	88	7	59
Okhaldhunga	36.9	32.7	35.0	4.2	100	100	100	0	65
Palpa	43.8	26.1	35.2	17.7	97	100	98	-3	62
Panchthar	27.4	13.8	20.4	13.6	56	45	51	12	30
Parbat	66.6	57.8	62.3	8.7	76	70	73	7	11
Parsa	50.9	38.3	47.2	12.7	86	79	83	8	36
Pyuthan	53.0	50.1	51.8	2.9				No private schools	
Ramechhap	43.8	33.5	39.4	10.3					
Rasuwa	50.8	38.7	45.6	12.1					
Rautahat	20.1	18.4	19.5	1.6	82	77	81	5	62
Rolpa	25.9	10.1	20.5	15.8				No private schools	
Rukum	19.2	16.0	18.1	3.2					
Rupandehi	49.4	32.3	42.0	17.0	87	76	83	11	41
Salyan	25.7	19.0	23.4	6.7				No private schools	
Sankhuwasabha	42.6	31.5	38.0	11.1	25	17	21	8	-17
Saptari	29.2	18.9	25.6	10.3	92	94	93	-1	67
Sarlahi	28.4	23.4	26.5	5.0	86	65	80	20	53
Sindhuli	33.3	23.6	29.3	9.8	98	94	97	4	68
Sindhupalchok	57.5	38.3	49.6	19.2	95	100	96	-5	46
Siraha	21.2	11.1	17.5	10.1	78	78	78	0	61
Solukhumbu	30.4	15.0	24.0	15.5				No private schools	

District	Pass % (Public)				Pass % (Private)				Pass % gap
	Male	Female	Total	Gender Gap	Male	Female	Total	Gender Gap	
Sunsari	34.5	20.7	28.2	13.8	80	79	79	1	51
Surkhet	18.0	8.6	14.0	9.5	85	58	73	27	59
Syangja	57.6	37.8	48.2	19.8	91	80	87	10	39
Tanahun	58.5	45.0	52.7	13.6	83	67	77	15	24
Taplejung	34.6	20.9	28.1	13.7	100	100	100	0	72
Tehrathum	48.9	46.1	47.6	2.8	100	100	100	0	52
Udayapur	38.3	28.1	33.8	10.2	84	79	83	5	49
Nepal	41.5	30.8	36.4	10.7	85	80	83	5	46

The difference in performance between public and private school students at the district level can also be seen from the graph in Figure 7, which gives the figures for private and public school students in each district. Observe that most of the districts fall significantly below the 45° line—a clear indication of the distinctly superior performance of private schools. Furthermore, if Accham and Sankhuwasabha are set aside, the district-level rates for private schools range from around 50% (in one district) to 100% (in nine districts) compared to a range of around 15% to 80% for public schools. None of the districts has a 100% rate for public school students. Also note that the district with the lowest figure for public schools has a 100% rate for private schools. As in Table 15 also shows, the only districts where the rates are higher for public schools are Accham and Sankhuwasabha, two districts with the lowest figures for private schools. Although a separate graph has not been presented, similar public-private differences are observed when the percentage of first and second division students is used to measure performance.

Figure 7. District-Level Pass Percentages for Public and Private Schools, 2060



### Variations in the gender gap in public and private schools across districts

Table 15 also presents the district-wise distribution of gender gap in SLC rates for public and private schools. It is interesting to note that there is little similarity in the gender gap between public and private schools in districts where both types of schools exist. In the case of public schools, four districts in the Western and Mid-Western Mountains—Jumla, Dolpa, Mustang, and Manang—show gender gaps in favor for girls. The gap is low in the Mid- and Far Western regions in general. In the Far West, Doti stands out as the only region with a high gender gap for public schools. The gap for private schools in Doti, on the other hand, is in favor of girls. Also notice that there are altogether ten districts with negative gender gaps for private schools and the differences between rates for boys and girls in public schools in five of these ten districts—Doti, Sindhupalchowk, Arghakhanchi, Palpa, and Lamjung—lie in the high range. On the other hand, many of the districts with high gender gaps for public schools show correspondingly high gender gaps for private schools. Hence, school type does not appear to have any significant association with gender gap in performance.

## 4. CHANGES IN PERFORMANCE OVER TIME

This section briefly discusses the changes in various aspects of SLC performance between 2056 and 2060. Analysis of a longer time period is not possible because of data unavailability. Although the discussion covers some changes at the national level, it focuses more on highlighting the changes in performance and gender gap in performance at the district level.

### 4.1 Changes in SLC performance at the national level

The SLC performance of students for the years 2056 to 2060 is summarized in Table 16. Perhaps the most surprising statistic presented in this table is the large drop (over 35%) in the number of SLC candidates between 2056 and 2057. This drop was so significant that the number of SLC candidates in 2060 remained below that in 2056 in spite of the progressive increase in student participation during the 2057-60 period. The unusually large number of SLC candidates in 2056 was the result of a decision by OCE to allow all exempted students to participate in the 2056 SLC examinations as regular students. This one-time opportunity for exempted students to appear in the examinations as regular students was provided to facilitate transition of SLC curriculum and grading system from the then-existing 900 and 700 point systems to the current 800 point system. Other interesting trends captured in this table include a declining rate of increase in the number of SLC candidates,<sup>10</sup> the rise in the participation rate and performance of girls, and increase in the percentage of first and second division students.

Note that while there was a large decline in the number of SLC candidates and student performance between 2056 and 2057, there was a striking improvement in the performance of students between 2059 and 2060. Compared to a pass rate of 32% in 2059, the percentage increased to 46% in 2060. There were also significant improvements in the percentage of students securing first and second divisions, and in the percentage of girls showing superior

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<sup>10</sup> Although the number of SLC candidates has been increasing since 2057, the percentage over the years has been declining. For example, against a 15% increase between 2057 and 2058, 2058 - 2059 shows only 12% and 2059 and 2060 is even lower—3%.

performance. Interestingly, however, the rate in 2060 is no higher than the one in 2056, and is actually lower than the figures for 2054 (47%) and 2055 (49%).

**Table 16. SLC Performance in Various Years (2056-2060)**

		2056		2057		2058		2059		2060	
Students who took the examinations	Total	205,539	100%	132,210	100%	152,334	100%	170,389	100%	175,418	100%
	Boys	123,466	60%	81,741	62%	91,789	60%	100,366	59%	101,867	58%
	Girls	82,073	40%	50,469	38%	60,545	40%	70,023	41%	73,551	42%
	Total	93,978	46%	41,801	32%	47,565	31%	54,607	32%	81,008	46%
Students who passed	Boys	60,982	30%	28,131	21%	31,622	21%	35,949	21%	51,158	29%
	Girls	32,996	16%	13,670	10%	15,943	10%	18,658	11%	29,850	17%
	Total	93,978	46%	41,801	32%	47,565	31%	54,607	32%	81,008	46%
Students securing different divisions	1st div.	19,836	10%	14,911	11%	19,822	13%	20,969	12%	28,723	16%
	2nd div.	50,580	25%	23,884	18%	25,529	17%	30,727	18%	45,445	26%
	3rd div.	23,562	11%	3,006	2%	2,214	1%	2,911	2%	6,840	4%
Students who failed		111,561	54%	90,409	68%	104,769	69%	115,782	68%	94,410	54%
Number of schools		3,775		4,099		4,448		4,553		4,710	

## 4.2 Changes in SLC performance at the district level

Given the wide variations in the socio-economic conditions of the various districts, we should expect to see notable differences in SLC performance across districts over the years. An efficient approach to studying these differences in performance changes across districts involves the use of “transition matrices” that classify districts into performance categories based on their SLC performance in 2056 and 2060. The year 2056 is used as the base year since it is clear from the discussion in Section 4.2 that comparing the 2060 results with those from 2057, 2058, and 2059 will give a misleading picture of the improvements in performance.

Table 17 presents a transition matrix with rows and columns representing the performance classifications of districts in 2056 and 2060, respectively. A district is placed in the high performance category in any year if more than 50% of the students in the district passed the SLC examinations. Otherwise, it is assigned to the low performance category. For example, a district that is in the high-performance category in both 2056 and 2060 is placed in quadrant (I). The interpretation of the other quadrants is similar.

Table 17 allows us to make a number of interesting observations. First, quadrant IV has, the largest number of districts. These districts had low pass rates in 2056 and continued to remain in the low performance category in 2057 as well. Second, among the 24 high performance districts in 2056, only 8 could maintain their superior results in 2060. Surprisingly, one of them (quadrant I) is Bajhang, a district located in a region where most of the districts are consistent poor performers. Quadrant III lists the districts that made the transition from the low performance category in 2056 to a high performance one in 2060 where Ilam figures as the only district from the Eastern region.

**Table 17. Change in Performance Category of Districts between 2056 and 2060**

	High performance in 2060 (pass % > 50%)	Low Performance in 2060 (pass % ≤ 50%)
High performance in 2056 (pass % > 50%)	(I) Bajhang Gorkha Gulmi Kathmandu Lalitpur Manang Mustang Parbat	(II) Darchula Dhanusha Dolakha Dolpa Kapilvastu Mahottari Panchthar Ramechhap Rasuwa Rautahat Salyan Sarlahi Siraha Sunsari Taplejung Tehrathum
Low performance in 2056 (pass % ≤ 50%)	(III) Bhaktapur Chitwan Ilam Kaski Lamjung Makwanpur Myagdi Parsa Pyuthan Rupandehi Sindhupalchok Syangja Tanahun	(IV) Achham Arghakhanchi Baglung Baitadi Bajura Banke Bara Bardia Bhojpur Dailekh Dandeldhura Dang Dhading Dhankuta Doti Humla Jajarkot Jhapa Jumla Kailali Kalikot Kanchanpur Kavrepalanchok Khotang Morang Mugu Nawalparasi Nuwakot Okhaldhunga Palpa Rolpa Rukum Sankhuwasabha Saptari Sindhuli Solukhumbu Surkhet Udayapur

To see how the performance disparity across districts has changed over time, it is instructive to look at the coefficient of variation of district pass rates presented in Table 18. Overall, there has been an increase in performance disparity across districts between 2056 and 2060, indicated by the increase in the coefficient of variation of district pass percentage. But observe that the disparity across districts has been declining since 2058. It should also be kept in mind that district rankings in terms of pass rate have also been fluctuating over the years, but without any systematic pattern. For example, Gorkha, which ranked at the top in 2060 with a 70% pass rate, ranked 9<sup>th</sup> in 2059. On the other hand, the bottom ranking district in 2059, Bhojpur, moved up to the 11<sup>th</sup> position in 2060, replaced by Humla with the most record for that year.

**Table 18. Disparity in Performance across Districts, 2056-60**

	2056	2057	2058	2059	2060
Average pass % for Nepal	45.72	31.62	31.22	32.05	46.18
Coeff of var of district pass %	0.32	0.54	0.65	0.57	0.46

### 4.3 Changes in the gender gap of districts

Table 19 summarizes the changes in gender disparity between 2056 and 2060 at the district level in its transition matrix. The rows of the matrix classify districts into high and low disparity categories according to the initial (2056) difference in pass percentage for men and women. The columns separate the districts that experienced a reduction in gender disparity from those that experienced an increase.

The most interesting finding is that between 2056 and 2060 gender gap in performance increased in 52 of the 75 districts. Among the 42 districts that started with low gaps in 2056, only six districts saw it reduced (quadrant I) and it was narrowed in 17 of the 33 high gender gap districts.

Table 20 shows the gender gap for the 2056-60 along with the coefficient of variation of the gap across districts. Overall, the variation in performance gap across districts has decreased during the past few years even though the gap itself shows an increasing trend. But as indicated by the

coefficients of variation for 2059 and 2060, there has been a small increase in the disparity in gap in the last two years.

**Table 19. Change in Gender Gap in the Performance of Districts between 2056 and 2060**

	Reduced gender gap in 2060	Increased gender gap in 2060
	(I)	(II)
Low gender gap in 2056 (gap < 8.1%)	Dolpa, Jumla, Manang, Mustang, Pyuthan, Tehrathum	Achham, Doti, Parsa, Sunsari, Bajhang Gulmi, Ramechhap, Tanahun, Bajura, Humla, Rasuwa, Taplejung, Banke, Jajarkot, Rautahat, Bara, Kalikot, Salyan, Bardia, Kapilvastu, Saptari, Bhojpur, Khotang, Sarlahi, Dailekh, Mahottari, Sindhuli, Darchula, Mugu, Sindhupalchok, Dhankuta, Okhaldhunga, Siraha, Dhanusha, Panchthar, Solukhumbu
	(III)	(IV)
High gender gap in 2056 (gap ≥ 8.1%)	Arghakhanchi, Makwanpur, Bhaktapur, Morang, Chitwan, Parbat, Dang, Rukum, Gorkha, Rupandehi, Jhapa, Syangja, Kailali, Kaski, Kathmandu, Lalitpur, Lamjung	Baglung, Palpa, Baitadi, Rolpa, Dandeldhura, Sankhuwasabha, Dhading, Surkhet, Dolakha, Udayapur, Ilam, Kanchanpur, Kavrepalanchok, Myagdi, Nawalparasi, Nuwakot,

**Table 20. Disparity in Gender Gap across Districts, 2056-60**

	2056	2057	2058	2059	2060
Gender gap in pass % for Nepal	9.19	7.32	8.12	9.20	9.63
Coeff of var of district gender gap	1.17	0.98	0.95	0.53	0.83

## 5. CONCLUSIONS

This chapter has presented an overview of the disparities in school performance in the 2060 SLC examinations, focusing on differences across subjects, genders, regions, and districts. It has also briefly discussed the changes in district-level SLC performance between 2056 and 2060. Because of the unavailability of information on individual students, the analyses presented here have been based on school, district, and national level data. The key findings of the study are summarized below.

### Disparities in performance across subjects

The SLC results for 2060 show considerable variation in school performance across the six compulsory subjects, with relatively poor performances, in the three subjects that students have historically found difficult, namely Mathematics, Science, and English. Both average scores and pass rates in these three subjects were lower than the scores and pass rates in Nepali, Social Studies, and HPE.

The compulsory subjects with the highest and lowest average scores are Nepali and Science, respectively. The average score in Science is approximately 40% lower than the score in Nepali.

The subject with the highest and lowest pass rates, however, are Mathematics and HPE, respectively.

Not only is the average pass rate the lowest in Mathematics, but the variation in performance across schools is also the highest in this subject. The least variation in performance across schools is in HPE, the subject with the highest pass rate. The conspicuously high pass rate and low performance variation across schools in HPE raise questions about the uniformity of the difficulty level across subjects.

While the pass rates in individual subjects are relatively high (between 63% and 97%), the overall SLC pass rate of schools is much lower (51%). Hence, it is clear that the failure rate in the SLC examinations would look less alarming if there were a system of certification in individual subjects instead of in the overall SLC examinations.

### **Disparities in performance between public and private schools**

- In 2060, approximately 79% of the students taking SLC examinations came from public schools and approximately 73% of the schools in the nation were public schools.
- Based on the 2060 results, it is clear that public schools, on average, lag far behind private schools in performance. Compared to an average pass rate of 85% for private schools, the figure for the public schools was only 38%. Similarly, while an overwhelming majority of private schools showed pass rates in the 80-100% range, the same were less than 7% the public schools. Also, the average SLC score of public schools was around 39% below that of private schools.
- The average scores and pass rates for public schools are lower than those for private schools in all subjects, with particularly high pass rate differences in Mathematics, Science, and English. The differences in pass rate and average score between the two school types are, however, relatively low in HPE.
- Overall, the variations in performance across schools are greater across public schools than across private schools. The subjects in which SLC performance varies the most across schools are Science and English. But the performances in these two subjects vary much more across public schools than across private schools.

### **Disparities in performance between boys and girls**

The number of girls taking SLC examinations in Nepal has historically been lower than the number of boys. And despite improving female participation during the past few years, the percentage of girl candidates in 2060 was still only 42%.

The average SLC performance of girls has also been historically lower than that of boys. In 2060, the average overall score for girls was around 7% lower than the score for boys, and the pass rate for girls was only 41% compared to a 50% rate for boys.

Although the overall pass rate for girls was lower than that for boys in all the compulsory subjects in 2060, the gender difference in pass rate was rather small in Nepali and HPE—two subjects in which both boys and girls performed relatively well. The subjects with the largest gender gap in pass rate were Mathematics and Science.

### Disparities in performance across regions and districts

Among the eco-development regions, the Western Hills, Central Tarai, and Eastern Tarai had the largest number of SLC candidates in 2060. The districts in the Mid and Far West, on the other hand, were generally characterized by low participation in the SLC examinations. The districts with the highest and lowest numbers of SLC candidates in 2060 were Kathmandu and Mustang, respectively.

Gender gap in student participation in SLC examinations was relatively high in the Mid- and Far Western districts, with the nine worst-performing districts located in the Mid- and Far Western development regions. Interestingly, Manang and Panchthar showed gender gaps in participation in favor of girls.

Apart from Kathmandu Valley, the regions with the best pass rates were the Western Hills and Mountains rather than any of the Tarai regions. Gorkha, one of the Western Hill districts, actually ranked first among all the districts in 2060 with a pass rate of 78.1%. As 65 of the 66 schools in Gorkha were public schools, the excellent performance of this district provides clear evidence that public schools have the potential to compete effectively with private schools.

Although the districts in the Mid- and Far Western regions were generally characterized by low pass rates, the Far Western Hill district of Bajhang had an impressive pass rate of 52.8% in 2060.

Most of the districts in the nation had low pass rates in 2056 and continued to remain in that category in 2060 as well. Bajhang, Gorkha, Kathmandu, and Lalitpur are some of the districts that managed to remain in the high pass rate category between 2056 and 2060.

While there was an overall divergence in pass rates across districts during the 2056-2060 period, variations in performance across districts have been slowly decreasing since 2058.

The Western Hill districts, which ranked high in terms of pass rate, performed poorly in terms of gender gap in pass rate. Lamjung, in particular, showed the highest gender gap in pass rate in the nation. Most of the districts in the Mid and Far Western development regions had low gender gaps in pass rate. And four Mountain districts in the western half of the nation—Dolpa, Jumla, Manang, and Mustang—actually had pass rates that were higher for girls than for boys.

The gender gap in pass rate increased in 53 districts between 2056 and 2060 and the variation in gender gap across districts also increased during this period. Kathmandu, Bhaktapur, and Gorkha were among the few districts that experienced a reduction in gender gap between these two years.

The districts in the Mountain and Hill regions in the western half of the country did not have any private schools in 2060 and except for the three districts in Kathmandu Valley, all other districts had more public schools than private schools. It is, therefore, clear that only public schools can provide equitable access to education for the vast majority of the population.

Private schools had higher pass rates than public schools in all districts except for Accham in the west and Sankhuwasabha in the east.

These findings bring up a number of policy implications. As discussed above, high SLC failure rate appears to be largely a result of the difficulties students face in passing three subjects, namely English, Science, and Maths. Hence, it is important that the Government give special attention to these three subjects when devising plans and policies to improve the quality of education. Furthermore, since there is a very high variation in Math scores across public schools, a more equitable distribution of qualified Math teachers across the country is a prerequisite to

ensure that students from the backward regions are not left behind. At the same time, it is also time for the Government to rethink its current system of “group certification” in the SLC examinations, where a student cannot obtain a pass certificate unless she secures pass scores in *all* eight subjects. Replacing this system by a system of “individual subject certification”<sup>11</sup> would expand the educational opportunities for students by allowing them to pass different subjects at their own pace.

The large gap in performance between public and private schools points to an urgent need for the Government to act more seriously on its commitment to provide adequate education for all. Considering that generally only relatively rich urban families can afford private school education for their children, the performance gap between these two types of schools can only lead to a widening of the gulf between the haves and the have-nots in the nation. And by now, Nepalis are quite aware that ignoring issues of inequality can have dire socio-economic consequences. Since an overwhelming majority of Nepali school children attend public schools, efforts to tackle the inequalities must start with a plan for improving the quality of public schools. The strengthening of public schools should also help to reduce the existing disparities in academic performance of students across the different regions of the country.

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<sup>11</sup> In this system, a student would be given a certificate where her performances in individual subjects would be listed. Failing any single subject would not result in her failing the SLC examinations altogether.

## CHAPTER IV: EQUITY ANALYSIS OF SLC EXAMINATIONS \*

### 1. INTRODUCTION

In Nepal, education has been considered as one of the key instruments for the progress and prosperity of the country ever since the advent of democracy in 1951. In the course of time thereafter a lot of progress has been achieved in the extension and expansion of educational opportunities at all levels. Particularly after restoration of democracy in 1990, there was a common realization that while access to all levels of education had increased significantly, participation had remained unequal in terms of gender, development regions, eco-zones, ethnic/caste groups, etc. For example, after over five decades of interventions to expand and extend participation in education, the Net Enrollment Rate (NER) at the school level reveals a wide range of gender disparity. As per the data (2003), NER at the primary level has been recorded as 89.4% for boys and 77.5% for girls. This gender gap remains wider at the lower secondary and secondary levels and varies across the development regions and eco-zones. The NER by school level and region revealing gender and regional disparities is shown in Table 1.

**Table 1. NER by School Level and Development Region 2003 (in %)**

Level Development Regions	Primary			Lower Secondary			Secondary		
	Total	Girl	Boy	Total	Girl	Boy	Total	Girl	Boy
Eastern	80.8	77.0	84.5	48.8	45.7	51.8	34.7	32.8	36.5
Central	79.8	70.8	88.4	41.1	35.8	45.9	33.9	30.1	37.5
Western	86.7	83.0	90.0	47.8	47.1	48.6	30.4	28.0	32.9
Mid-Western	88.4	82.1	94.6	35.9	29.7	41.6	15.8	12.1	19.4
Far-Western	89.5	84.1	94.7	34.4	27.0	41.3	18.8	13.3	24.2
Nepal	83.5	77.5	89.4	42.9	38.7	46.8	29.5	26.3	32.7

Source: School Level Educational Statistics of Nepal, 2003, HMG/MOES/DOE.

It is clear from the above table that at all the three levels of school education and in all the five development regions, NER of girls is lower than that of boys. Moreover, the higher the level of school, the lower is NER in all the regions. NER (covering boys and girls both) varies across regions. Although the highest NER is seen at the primary level in the Mid-Western and Far Western regions, these regions show the lowest NER at the lower-secondary and secondary levels for both the genders. For instance, the NER in the Mid-Western region is the lowest (19.4% for boys and 12.1% for girls) at the secondary level (all regions). Clearly, inequalities exist at the very entry level.

Taken by eco-zone, the total NER varies from the highest value of 92.7 % in Western Hills to the lowest of 70.7 % in Central Tarai at the primary level. At the lower secondary level, Western Hills have the highest NER, i.e., 56.3% and Central Tarai and Mid-Western Mountains show the lowest NER of about 29%. NER at the secondary level is surprisingly low in all the eco-zones. For example, the secondary level NER in a top-ranking region like Eastern Tarai is only 38.3%

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\* This chapter is based on the report 'Equity Analysis of SLC Examinations' prepared by Prof. Pramila Rajbhandari for the SLC Study Team

and Mid-Western Mountain region, with the lowest enrollment rate, has NER value of only 14 %. Thus, there is a common trend: the higher the school level, the lower is NER across the eco-zones. In terms of gender disparities in all the eco-zones except the Eastern Hills (where NER of girls is a bit higher), NER of boys is ahead of girls at all school levels.

Likewise, inequality is seen at the literacy levels of genders across regions and ethnic groups at the national level. For example, the proportion of literate population (6 years+) was recorded as 54% (65% for males and 42.5% for females) in 2001. This genderwise difference in literacy ranged from about 20% in Dhading and Kathmandu to 42% in Bajhang. By development region, a still wider gender gap persists between Mid-Western and Far Western Hill districts. The extent of gender gap in literacy appears to be related directly to the level of literacy; that is, the higher the literacy level, the lower is the gender gap (Literacy Situation in Nepal, 2002).

Thus, the proportion of literate persons (6+ years) in the country has not only remained low but also shows inequality between genders and across regions.

Evidence also exists to show that the achievement levels at all the levels of school education do vary between gender in all the eco-development regions as well.

Analysis of the SLC Examination results of the past few decades reveals that the pass rates have been not only discouraging, they also reveal disparity in performance levels between genders and across regions.

For example, an analysis of the SLC results of 1985 to 2004 (2041 to 2060 BS) showed that "except for occasional jumps in performance", the pass rate in many of the years was below 45%, ranging from about 25% (2048 BS) to 49.2 % (2055 BS). Besides this, evidences of bigger difference were vividly seen. In the year 2004, the overall pass rate had stood at 46.18% (41% for girls and 50% for boys). The gender gap in pass rate was especially high in Mathematics and Science. The performance gap between public and private schools (pass rates 85% for private schools and 38% for public schools) was even more alarming. Regarding regional differences in SLC performance in the same period, Kathmandu Valley had a pass rate of 74% while the worst performing region had only 16% (A Descriptive Analysis of Disparities in Student Performance in SLC 2005).

The perpetually low level of SLC pass rates (ranging from 25% to 49% as mentioned above) in SLC examination results and the varying degrees of this rate across the gender, ethnicities, regions, subjects, etc is an evidence of the high degree of inefficiency and wastage of valuable national resources. Also, in the recent years, the percentage of SLC pass rate has been further declining, which is a grave concern of the policy makers/planners, educators, parents, students, and the civil society as well.

It is thus time to ask whether the entire SLC examination practices and processes, the exam question papers, marking or other post-exam activities are fair to all or whether the entire SLC examination operations themselves are the potential sources of inequity or unequal outcomes. Theories of testing reveal that an equitable public examination is one that offers equal opportunity to all to participate in the tests and demonstrate one's learning achievement and competence. Meanwhile, some of the research studies also report that public examinations are never neutral and that they favor some groups of students at the cost of others.

As such, there has also been a realization to analyze the various dimensions of inequities/disparities in SLC examination results under an equity perspective. In other words, there is a need to study whether SLC examination is equitable to all so that the students

possessing a similar level of capability irrespective of gender, ethnicity/caste, and location differences to perform in the exam obtain similar results. Against such a backdrop, the SLC Study Team undertook a study to examine how the SLC examination system has been contributing to put some groups of students at an advantage or disadvantage compared to other students and is helping to continue the existing spatial, gender, ethnic/caste-related disparities in results. The following paragraphs summarize the findings of the study.

For details on the objectives and methodology, please refer to the report 'Equity Analysis of SLC Examinations'.

## **2. RESPONSIVENESS EQUITY CONCERNS IN THE SLC EXAMINATION**

This Section attempts to examine the various contextual factors such as remoteness, inaccessibility, poverty, level of educational attainments/ literacy, level of socio-economic status associated with SLC exam that put some students at an advantage against others. The findings of the study 'Equity Analysis of SLC Examination' have revealed that these factors were responsible in placing certain groups of students at advantage compared to others groups in the SLC exam. The findings relating to the contextual dimensions of inequalities have been discussed under the heading of Structural Inequities below.

The SLC exam-related factors like the Manual guiding the entire exam practices/procedures, test materials, testing situations, and other associating aspects were also examined to see whether these have been sources of inequity or unequal outcomes placing the students at a disadvantage against others. These aspects have been dealt under the headings of Responsiveness of SLC Examination Practices and Processes towards Equity Concerns.

### **2.1 Structural Inequalities**

Nepal is a country of geographical and social diversities. The ridges, which run east-west and the numerous north to south flowing rivers divide the country into diverse topographical areas, reflecting its socio-cultural, educational, and economic diversities. Consequently, particular parts of the country are often associated with disadvantages due to adverse topographical situations leading to inaccessibility, isolation, lack of integration with development activities, or poor access to road links/markets, poor educational infrastructure, health facilities, etc. These features interlinked with low literacy rates, low parental income, lack of good schools, shortage of qualified and trained teachers, and paucity of quality instructional aids that result in low levels of learning achievement.

The students who live in and attend schools located in the remotest areas of the country are at a great disadvantage. Their access to good schooling is restricted and they have little or no opportunity for exposure to high quality schools/ resources which eventually lead to low performance.

Attempts have been made in this study to analyze how some groups of students become more or less disadvantaged compared to others in terms of how much they can perform in SLC examinations due to inherent structural conditions such as regional disparities in terms of HDI, literacy, gender, ethnicity and caste, type of school, home conditions and learning environment, cultural and religious beliefs regarding gender roles and conflicting role expectations for boys

and girls, the need to work inside/outside school (which differ for boys and girls), influence of private tuition, quality of schooling, etc.

### Regional and Eco-Zones Disparities (Human Development Index)

According to the Nepal Human Development Report, 2004 (UNDP), the Human Development Index (HDI) has improved marginally from 0.403 in 1996 to 0.471 in 2001. A wide gap persists between the rural and urban areas and between the eco-development regions. The document reports that the HDI in the urban areas stood at 0.581 and that in the rural areas at 0.452. The HDI is lowest in the Mountains followed by the Tarai and the Hills. Region wise, the Far Western and Mid-Western Development Regions lag far behind. These low levels of HDI indicate poor socio-economic conditions and limited opportunities for the expansion and progression of human capabilities, denial of access to gainful employment opportunities/ high level of parental income that severely limit access to quality schooling of the children.

On the other hand, the situation/ opportunities are much better for the children living in the locations with higher HDI values. The age-old remoteness, inaccessibility, severe poverty, limited access to productive assets, etc, of those backward locations of the country have created structural inequities in access to quality educational opportunities (schools with conducive learning environments, qualified and trained teachers, quality instructional aids, etc) for the children substantial in those areas. Consequently, these situations do place children/ students of these locations at disadvantage in many ways restricting their access to good schooling, exposure with quality educational materials/qualified and trained teachers, and result in their poor.

The out the inter-relations of the HDI values and the SLC pass rates for the different eco-development regions were these have been computed and presented in Table 2.

**Table 2. Performance of SLC Candidates and HDI by Eco-Development Region**

Eco-Dev Region	Pass %		Gender		HDI	HDI rank	Pass rank
	Male	Female	Total	Gap (%)			
Kathmandu Valley	77.3	69.2	73.5	8.10	0.612	1	1
Central Hills	48.2	33.7	42.0	14.40	0.547	2	6
Eastern Hills	34.7	25.9	30.6	8.80	0.500	3	13
Western Tarai	56.1	39.0	48.8	17.10	0.494	4	4
Eastern Tarai	45.2	32.4	39.8	12.90	0.491	5	7
Western Hills	64.1	49.4	57.4	14.70	0.489	6	3
Western Mountain	52.2	70.5	60.9	-18.30	0.488	7	2
Eastern Mountain	36.8	23.2	30.9	13.60	0.477	8	12
Central Tarai	41.6	35.0	39.2	6.60	0.451	9	8
Far Western Tarai	42.6	28.8	37.7	13.80	0.450	10	10
Mid-Western Tarai	42.9	31.8	38.7	11.10	0.440	11	9
Central Mountain	51.0	33.8	44.0	17.20	0.425	12	5
Mid-Western Hills	24.7	18.5	22.4	6.20	0.417	13	15
Far Western Hills	30.2	22.0	27.8	8.10	0.403	14	14
Far Western Mountain	38.7	25.2	34.9	13.50	0.355	15	11
Mid-Western Mountain	15.3	20.3	16.4	-5.00	0.347	16	16
Total	50.2	40.6	46.2	9.60	0.471		

The ranking analysis of the 16 regions, pass rates and HDI values shows a positive relationship between with the rank correlation at 64. Attempts were also made to analyze the interrelationships of these variables at the district level. Accordingly, a strong correlation

between HDI and SLC pass rate was found at the district-level as well. This is depicted in Table 3 and discussed in the following section.

### Regional and Eco-Zone Disparities in terms of Literacy Status

As described in the earlier sections, literacy in Nepal is not only low but also manifests regional /ecological and gender variations. An attempt has been made here to probe into the inter-relations of the students' SLC performance with HDI and literacy status at the district level (Annex 2). It was observed that Humla and Mugu districts representing the Mid-Western Mountain with the lowest total pass percentage of 0.8 and 4.8 % respectively had the lowest value of literacy rate (27.1 and 28 % respectively) corresponding closely to their with HDI (0.367 and 0.304 respectively). In contrast, Kathmandu district, which has the highest total pass percentage (76.3%), has also the highest HDI value (0.652) and the highest level of total literacy rate (77.2 %) and female literacy rate (66.6 %).

The interrelationships among the variable such as, HDI, SLC performance, and literacy status (total literacy rate, male literacy and female literacy rates) also show high correlations at the district levels, shown in Table 3.

**Table 3. Correlations between HDI, Literacy Rates, and Pass Rates (SLC 2004)**

	1	2	3	4	5	6	7
HDI (1)	1.000						
Total Literacy Rate 2001 (2)	0.883	1.000					
Male Literacy Rate 2001 (3)	0.810	0.967	1.000				
Female Literacy Rate 2001 (4)	0.897	0.984	0.911	1.000			
Male Pass % (5)	0.697	0.653	0.610	0.671	1.000		
Female Pass % (6)	0.603	0.540	0.492	0.557	0.909	1.000	
Total Pass % (7)	0.665	0.614	0.570	0.629	0.984	0.967	1.000

### Disparities (Gender, Ethnicity, and Caste)

Historically, the Gender Gap in SLC exam participation and performance has been a familiar phenomenon in Nepal. The recently completed study 'Disparities in School Performance in the SLC examinations' (2005) reveals that the number of girls taking the SLC examinations in Nepal has been historically lower than the number of male candidates. Although the participation of girls has been improving over the past years, the percentage of girl candidates in the year 2003 was only 42%. Furthermore, the average SLC performance of girls has also been lower than that of boys. In 2003, the average overall score for girls was around 7% lower than the figure for boys, and the pass rate for girls was only 41% compared to 50% pass rate for boys. The study also reveal that, although the overall pass rate for girls was lower than that for boys in all compulsory subjects in 2003, the gender difference in pass rate was rather small in Nepali and HPE-two subjects in which both boys and girls performed relatively well. The subjects with the largest gender gap in pass rate were Mathematics and Science.

The study also shows ethnic disparities in SLC pass percentage and total average scores. It reports that out of the total respondents (about 19,000), the students representing Newar community had the highest pass percentage (70%) and the highest total average score (54.9%), followed by Brahmans, Chhetris, Janjatis, and Dalits. The Report on Literacy Situation in Nepal (2001) depicts the lowest literacy status of some ethnic groups, namely, Tharus, Tamangs, Yadavs, and Muslims. These groups had a literacy status lower than the national average (70%).

Similar trend is revealed in the SLC exam performance of ethnic groups shown in the following Table 4.

**Table 4. Literacy Status and SLC Pass Percentage of Selected Ethnic Groups**

Ethnic Groups	Tharu	Tamang	Yadav	National Average
Literacy %	47.12	45.04	40.83	70
SLC pass %	37.7	42.2	31.7	46

Sources: Literacy data from Literacy Situation in Nepal, 2002

SLC pass percentage from Survey Data, 2004

The literacy rates of some ethnic groups below the national average clearly had similar SLC pass percentages. The research findings show a positive relationship between literacy attainment and the status caste and ethnic, as well. Acharya (2004) reports that the caste and ethnic disparity in literacy attainment is still reflected in the output level; for example, the increase in literacy rate among upper caste hill women (19%) and hill ethnics (18.7%) are higher than those of other caste and ethnic groups.

Thus, inequalities are obviously exist not only between the genders but also are within the hierarchies of caste and ethnicities.

### Characteristics of Schools Contributing to Inequalities

The public schools in Nepal often lag far behind the private schools in their total pass percentage and total average scores in SLC results. Analysis of the SLC results of the year 2003 (2060 BS), shows that the pass rate of public schools was as low as 38% compared to an average pass rate of 85% for the private schools. Also by subject, the pass rate and the average scores were lower than those of private schools in all subjects, with substantial differences in Mathematics, Science, and English. The type of school (private and public) in the country does thus make a difference in placing the students at a disadvantage.

Over the years, the total number of students participating in the SLC exam from public schools was overwhelmingly high. In the year 2003, it was 79% compared to 21% of the students from the private schools. It is also a reality of the country that the mainstay for a very large majority of students is the public school system due to the low socio-economic status of the parents who cannot send their children to the private schools.

These facts show that completion of the tenth Grade in the private schools raises the probability of passing the SLC exam with higher scores.

This national scenario suggests that the students competing from the private schools enjoy a substantial advantage over their counterparts (who represent lower level of socio-economic stratum) from the public schools.

Thus the question arises: Are the public schools doing justice to their students belonging to the low socio-economic status or are from backward groups?

### Schools, Home Backgrounds, Cultural and Social Taboos

Research evidences gathered at the national and international levels have confirmed that the features of a good school such as regular teaching, teachers' time on task; availability of trained, qualified, and well-motivated teachers (good command of the subject matter content and possession of pedagogical skills); availability of complete set of textbooks and teaching aids;

science equipments; comfortable classrooms with benches and desks; toilet facilities for boys and girls have direct impact upon the accomplishment of high level learning achievements of students.

Most of the secondary schools of our country, public or private, lack these aspects in varying degrees and are thus directly or indirectly associated with the inequalities in the performances of their students.

The Focus Group Discussions (FGDs) undertaken to collect the views/perceptions of the parents (as a part of the Studies on Student Performance in SLC, 2005) on the causes of low performances have revealed the following views. The two paragraphs below summarize what the parents said in the FGDs.

*“The public schools had never regular classes due to various reasons (bandas, absenteeism of teachers, subject teachers not being available, etc). Again, due to household poverty, our children are used in assisting household works or family’s income-generating activities which prevent them from being regular in the school and we even cannot compensate the loss of school studies through other means, like private tuitions or coaching as other rich people do. The schools, where our children, study do not have enough furniture, lack science equipments/ other learning aids and a conducive learning environment.”*

*“The teachers (specially having affiliated with political parties) of the Government schools come late in the school and go home earlier and indirectly push students for private tuitions. Even if they teach in the classrooms, they never give attention to the weaker students for remedial help to further their academic pursuits as well as to those students who cannot afford private tuitions.”*

The FGD with low performing students revealed that their poor SLC result was not surprising to them. In this regard, they said that the major reasons for poor performance in SLC were the lack of regular classes/good learning environment in the schools, household poverty, and associated difficulties. They described their difficulties thus

*“Being poor we are compelled to study in the public schools; in our schools we never have regular classes due to the long absenteeism of the teachers, frequent closures and inability to be regular in schools during the plantation /harvesting seasons, sickness of father/mother, etc. Our parents simply cannot afford for private tuitions/ coaching to compensate the loss; so for students like us, spending on items like private coaching and buying other learning materials is an extra financial burden for our family”.*

These perceptions depict the flaws of the public school system in the country, which are the potential sources for the low SLC performances.

It is thus clear that private tuition/coaching is also one of the most influencing factors in SLC performance. Parents and students are willing to take these opportunities, though they are often not in a position to afford. In this regard, one of the research reports undertaken to study the learning environment of students at the schools of Doti and Humla districts has stated that except the Dalit households, other caste groups like Brahmans, Chhetris, and Newars provided private tutorial support to their children, that among the religious groups, Buddhists were ahead in providing extra-tutorial support, and from the language perspective, Bhotes and Nepali speaking households were at the forefront in such help to their children (Acharya et al., 2003).

Furthermore, the study (Determinants of Student Performance in the SLC Examinations: Evidence from Survey Data, 2005) has also confirmed that factors like type of school (private), school size, expenditure per student, regular home work, family’s annual expenditures have a statistically significant relationship with the aggregate SLC performance. Contrary to this, the study also showed that variables like delay in textbook delivery, school days missed, sex

(females), hours spent on household chores, and ethnicity (Janjaties) bear a negative relationship with the overall performance in SLC.

It is thus obvious that differing school and home environment place some at an advantage against others creating inequalities in outcome.

Regarding the differing gender roles at home studies have confirmed that girls in comparison to boys get less time to study at home or prepare for the exam due to their involvement in household chores. Furthermore, such differential treatments are more pronounced in the rural than in the urban areas. Thus, the age-old cultural taboos are seen to create a differential treatment in favor of boys starting from the family in both schooling and educating them in general.

For example, one study reveals that “Education was seen more as a preparation for economic empowerment for boys and for reproductive and survival roles for girls and parents view the value of educating their boys as a creation of support in old age, whereas their daughters’ education is perceived as a means of enhancing prospects of marriage in a good family” (KEF, 2000).

Thus all these differing perceptions about boys and girls starting at home place the boys at advantage and the girls at a disadvantages raising the question: Is the SLC examination a race among the unequals?

## 2.2 SLC examination and Equity concerns

In general, the overall practices/processes of public examinations of any country tend to be neutral. These examinations aim at creating and employing uniform ways and means of administration of the test, marking the answer copies, and publishing of results which indicate students’ achievements irrespective of gender, ethnicity/caste, or various levels of socio-economic conditions or situations.

Obviously, from the equity perspective, the main purpose of public examination lies in providing equal opportunity for all students to express their abilities and skills as demanded by the intents of the test papers. However, in reality, the entire system of public examinations favors some groups of students at the cost of others intentionally or unintentionally. For example, factors like requirement to pay the fees, examinations set in a language which favor some specific ethnic/caste groups students, unfamiliar examination situation, inadequate provisions for conducting examinations, use of culturally inappropriate test items in test papers, the practice and processes involved in the marking of answer copies, inadequate provision for students with special needs, malpractices in the administration of examinations, in one or another way, are often related to some forms of inequities to the students.

Such inequities either restrict some individuals' or groups' access to examination or place them at a disadvantage inhibiting them to demonstrate their ability that the exam intends to assess. Similarly, public examinations often lack uniform standards in marking/scrutinizing the answer copies, which leads to unreliability of the results, creating unfair indication of student achievement. The lack of standard processing of results intern creates other forms of injustices.

In the context of the SLC exam of our country, the overreaching theme of this exam practices and processes should be decreasing social inequality by making the entire SLC exam operation responsive towards equity concerns. By equity concerns, we mean that the SLC practices/procedures should aim at being fair to all by providing them equal opportunity to

perform and succeed irrespective of ethnicity/caste, gender, socio-economic conditions, language, locations, and disabilities.

In this section, an attempt has been made to analyze to what extent the various practices and processes of SLC exam have been responsive from the equity perspective.

In Nepal, by virtue of her pluralistic society with diverse ethnic/caste groups, various linguistic and cultural communities compounded with a high incidence of deep-rooted poverty, there is a high probability that SLC examination practices and processes place some groups of students at an advantage or disadvantage, though not intentionally. As a corollary to this, making the SLC exam equitable to all the examinees coming from diverse socio-economic and linguistic background is a very challenging task to OCE with its limited technical and financial capabilities. For the purpose of investigation in this regard, an attempt has been made to probe the situations or the causal factors that are directly or indirectly responsible in restricting access to examination (before the examination), placing the students in an unfavorable situation to show ones own ability that the exam purports to assess (while the examination is in process), and the processes involved for introducing bias/some form of injustice in providing a fair indication of student achievement (after the administration/ of the examination).

### **Factors Restricting Access to SLC**

#### ***Fees***

As per the rules and regulations of the respective schools of the districts and OCE, all the students at various stages starting from Grade 9 to the point of being eligible for appearing in the SLC exam are required to pay a certain amount of fees. The fees raised by the individual schools may vary depending upon the type and specific directives of the school such as fees for initial registration at Grade IX, for send-up exam at the termination of Grade X, and for filling up the application form for appearing SLC exam at Grade X, etc. Due to delegation of authority to the schools and the examination coordination committees in the respective districts by OCE, the overall amount a student paying the fees for send-up exam, registration fees, etc, varies from one school to another and from one district to another. For example, in the case of the fees to be collected for filling the application for SLC exam, the Guidebook on SLC examination (2061BS) states that students have to pay the amount as fixed by the examination committee (page 6). Apparently, the committees or the schools decide the amount, which will be the same rate for all students. Obviously, this approach places some students (for whom the total amount becomes unaffordable due to low family income) at a disadvantage, thus eventually restricting their entry/ access to exam. Interview with DEOs and OCE personnel revealed that no provisions have yet been made to waive the mandatory fees in the case of those who are suffering from financial crisis. Remarkably, respondents had also added that among such sufferers, mostly are girls from the disadvantaged communities though they could not indicate the exact number.

In the case of OCE, it has set a fixed amount of fees for SLC exam (at present, it is Rs. 200 per student) and the amount is fixed by the SLC Board and deposited in the Government revenue account. Interview with the Deputy Controller and senior officials of OCE revealed that no provision has yet been thought of in consideration of the students who are placed at disadvantage or could be placed at a disadvantage due to a mandatory fees and one-shot policy of OCE. Thus, the state policy to achieve equity and social inclusion by mainstreaming the poor and marginalized groups into the development process is yet to be operationalised in the area of SLC exam.

### ***Send-up Examination***

Another factor associated to access to SLC examination is the send-up examination result taken at the termination of Grade X. Traditionally, there is a common practice of the secondary schools to administer the send-up exam for screening the students appearing at SLC exam. The unsuccessful students in the send-up examinations are deprived from the opportunity to appear in the exam, wasting ten or more years of schooling time, expenses incurred, and valuable efforts to reach up to Grade X. Screening students on the basis of send-up exam results (many of which lack the qualities of a good test) and constraining them from the opportunity to participate in the exam restricts access to SLC exam and puts students not only in a disadvantage but also does injustice to the parents.

No research evidence has yet proved that the results of send-up examination correlate with the results of SLC. The general practice of the secondary schools to stop students from appearing in the SLC examination, based upon the results of send-up examination, is clearly unjustified. Debarred students might succeed in the SLC examination.

The policy of the Government in deducting the budget of the schools based upon the pass rate of the students also an impact upon the screening practices of schools in send-up examinations.

### **Test Development/ Moderation Modalities**

It has been normal for OCE to ask experienced and qualified senior teachers of secondary schools to construct and moderate the test papers of all subjects used in the SLC examination, particularly to the teachers working in the secondary schools of Kathmandu valley only. Obviously, such a practice deprives a majority of secondary school teachers from the opportunity of getting involved in constructing test papers and moderating them irrespective at a disadvantage.

### **Test Administration**

The common practice of administering the SLC examinations has been inside the secondary or primary schools located within specific examination centers. It is also true that the classrooms of these schools have not been constructed for conducting the public examinations such as the SLC examination. In practice, SLC examination is administered within the available physical conditions of the schools, which are normally of poor quality.

In most of the schools the desks and benches are joint. Classrooms are clumsy with very little space to move or stretch with legs while writing for three hours. In this regard, another study (Analysis of the Processes Involved in the Preparation and Execution of SLC Examinations 2005) has reported that, on an average, the space available to the examinees sitting on a bench was less than one square meter. In such a case, the students have to climb over the bench if they have to go out.

Observation of the exam sites in various areas of Kavre District like Dhulikhel and Panauti revealed that the sitting arrangements were far from satisfactory. The sittings arrangements are more inconvenient in exam centers are located in primary schools. The site observation at Indreswar Primary School (at Panauti) has also revealed that the SLC level students (15-16 years of age) had to sit on benches meant for the primary level students which posed inconvenience moving, stretching legs, and writing for hours.

Another testing condition in one of the schools of Kavre also revealed that there were two students seated in one long bench in the classroom of Grades IX and X and the exam

environment was relatively better. Such varying testing conditions naturally place some students at ease and others at disadvantage.

Thus, the lack of uniform exam conditions has obviously placed some group of students at an advantage and others at a disadvantage.

The on-going conflict of the country has further aggravated the problem of administering SLC exam in its own ways. In this regard, interview with some of the DEOs (Dolakha, Kapilbastu, Dang) revealed that due to worsening situation of the conflict (specially in the remote parts of the country), all the SLC exam centers (950) in this current year (2062 BS) have been concentrated in the district headquarters or at the periphery of the headquarters. Consequently, all the examinees have to be accommodated within the schools located in the district headquarters. The telling effect of this situation, as expressed by the DEOs was that they had to conduct the exam by keeping four or five students in one bench with military personnel patrolling inside the exam halls. The physical conditions of exam administration for all these students are thus far from being conducive and comfortable compared to the previous years (when the exam centers more scattered or located wide apart).

The presence of security personnel within the compound of exam centers, checks on students before entering the center, patrolling inside the classroom all makes the situation difficult for students, in general, and for girls in particular. Focus Group Discussion with students revealed that the heavy presence of security personnel inside and outside the exam halls made them panicky affecting their writing. The girl students said that, in the initial days of examinations, they were very much terrified and nervous which could damage their performance.

Clustering of the exam centers within the schools of the headquarters and in its periphery also affected the performance of students.

Administration of SLC examination for some groups of students at their home towns or familiar locations gives an advantage to them over other students who have to find their lodging and fooding locations in unfamiliar areas.

The focus group discussion with groups of students (girls only, boys only, and a mixed one) coming from Dapcha, Bhakundebesi, Fulbari, Patalekhel, etc, at Dhulikhel (headquarters of Kavre) who sat in the current year exam spoke about the gravity of the problem.

In this regard, the girl students said that they had to struggle to find a secure place to stay and struggle for collecting fuel (kerosene) to cook food. On an average, this incurred them to expenditure for fooding and lodging amounting, Rs. 3500-4000. They would be spared such amounts if they had centers near home. Another disturbing problem was that, most of the time they have to stay together in groups due to unfamiliarity of the locations and feeling of insecurity.

Similarly, they also complained discriminatory about and unfair behaviors inside the classrooms (helping some students or being liberal even in case of cheating and copying).

Site observation in some of the exam centers also revealed a big gap among the invigilators in dealing with the examinees: were some of them stern even in responding to questions asked. Similarly, discriminatory behaviors could be observed even among the security guards.

In one center visited (Kavre), the security guards did not allow supply of medicine to a girl student who was sick. Another instance was a live scene of the security personnel abusing a

student (boy) with dirty words and thrashing him; his fault was picking up the chit thrown in from outside the examination compound. The invigilators just watched the scene in silence.

It is evident that administration of SLC exam is far from fair and just to the students and the mission of administration of the public examination to provide equal opportunity to all students to show their abilities has yet to come into practice.

### **Marking and Scrutiny**

The reliability of test results depends upon objectivity and uniformity in marking the answer copies. If one intention of the SLC exam is to provide equitable justice to all the examinees in marking/scoring their answerbooks, it should also ensure that all the copies are marked and scrutinized objectively employing an uniform standard. In this context, OCE used to provide brief orientation training to the markers on the processes of answerbook marking and using the marking schemes before the actual marking gets started.

In this regard, one study (Analysis of the Processes Involved in Preparation and Execution of SLC examinations, 2005) has reported that out of the total contacted persons, 65 percent of the markers were found to have participated in the orientation/ training program and that those who did not marked the answerbooks using the marking schemes and general instructions provided to them.

Furthermore, the study (based upon site observations of the researcher at the marking centers) reported that there was lack of conducive physical facilities to do marking conveniently at the marking center, less seriousness among the markers in using the marking scheme and following the instructions. A majority were even found marking in haste.

In this regard, the issue of having a favorable environment for marking (in the DDC of Siraha) could be cited as an example: adequate space available for marking and storing the answer copies of the different subjects and use of conference marking practiced there.

Nevertheless, site observations on marking in some centers (Kathmandu), revealed lack of uniformity amongst the markers. For instance, some were found doing the job seriously and others carelessly without following the instructions properly, some even working in haste to mark as many copies as possible. The marking of answer copies does not thus seem to be done equitably

It is clear that some of the markers have received orientation training and are at an advantage.

Secondly, due to the lack of consistency in marking there are chances that inter-scorer reliability will be low, contributing to unreliability of the test results.

Thirdly, the persisting unfavorable physical situations like groups of markers working in clumsy and dirty rooms with packets of answerbooks of varied subjects, inadequate space are potential sources for inconsistencies in marking.

### **Test Papers**

Attempts were made to see if the test papers of SLC examinations (2003 and 2004) in the six core subjects were guided by the idea of providing equal opportunity for all students, male and females, representing various ethnic/caste groups, Nepali and non-Nepali speakers in terms of language used, and children with disabilities.

***Gender Inequalities***

Analysis in terms of gender shows, a common trend in all the test papers: a representation of males and females in naming, portraying, and projecting the various aspects of the intents/contents to be examined. It is also true that in most cases a higher proportion of representation of males. In many cases where female figures are represented, they are projected either in stereotypical/traditional roles or relatively in a lower profile. For example, in the case of the question sets of Compulsory English used in the five regions (2003 and 2004)), a considerably higher proportion of the items represent males figures depicted as more knowledgeable persons, engaged in earning activity/ public works and intellectual exercises whereas females are depicted in the traditional roles or as weak students. Some of those items are cited below:

- Sumit studied hard.... he could get success (as/because/ so that)
- He earns Rs. 10,000.... month (a, an ,the)
- He is now reading a book.....(isn't he, hasn't he, wasn't he)
- He is.....MP (a/ an/the)
- She failed the exam.....her stupidity (because, because of, in spite of)
- She seldom does the homework.....? (doesn't she/don't she/dos she)

The question sets for Compulsory Nepali of 2003 and 2004 for the five Development Regions also reveal that though attempts have been made to include the male and female personalities, in reality the male proportions overshadow the female figures. For example, biography writing questions contained only male personalities despite the fact that the textbooks of this level had the examples of female personalities who have contributed to Nepali literature. Similarly, the story writing questions (from the given outlines) have also focused only upon male personalities, except in one case. Additionally, letter writing questions also deal upon only male figures. Thus from the gender perspective, a balance is missing in the use of male and female names and pronouns, in projecting the examples.

Analysis of the test papers in terms of the responsiveness of ethnic diversities, Janjati and children living in various regions reveals both positive and negative features, discussed below. In this regard, analysis of the question sets of the core subjects of the years 2003 and 2004 are presented here as examples.

Some of the questions e.g., questions 2,7,8 of Compulsory English of the Far-Western Region (E1 and question 2 of the same region E2) of 2003 seemed to be appropriate as they included a common topic, i.e., a simple poem about the weather which everybody talks about irrespective of gender, caste, ethnicity, disability, and diverse topography. Similarly, items, 1, 2, and 3 in the supplementary exam (SRE-501) of 2003 also appeared ok, as these items deal with the situations (games, physical health, discipline) occurring in both rural and urban settings.

Some of the items such as test item 5 of the Central Development Region (B2) and test item 6 of Western Development region (C) of 2004 included local situations in which the students are required to write essay on the rivers of Nepal and a city of Nepal. So is the case of test item 1 of Reading and Writing of the Mid-Western Development Region (D1) and 5 on Reading and writing for the Central Development Region (B2) of 2004 deal with tea production and forest in Nepal.

However, the lack of urban-rural balance creates bias. For example, question 3 of Far-Western Development Region (E1) of 2003 favors urban students: there people talk about the airline industry. Many vocabulary items used in the passage have a narrow range, found in very specific situations known only to those who fly in airplanes. Students who have no experience of flying on planes will find it difficult to visualize the situation contained in the item. Similarly, the test item 4 of the same set favors urban dwellers. The items in the writing section dealing with vacancy announcements also favor urban students. There are plenty of opportunities in the rural parts as well and at least one of the advertisements could have been given from the rural situation.

The lack of representation of persons/events from indigenous peoples, ethnic minorities, language groups and children from poor households/difficult circumstances pose another flaw in the test papers. Many of the names mentioned in the questions represent a particular community, i.e., high caste Brahmins with Nepali mother tongue. For example, the names of persons included in the test items were Shyam, Hari Kanta Sharma, Bharati Sharma, Laxmi Giri, etc. No diversity has been considered in selecting the names of persons in the test items.

Similar examples can be cited from the question sets of Compulsory Nepali of the same years (2003). There are many items that reflect excessive influence of one ethnic group, e.g., a Brahmin/Chhetri. For example, the biography writing items of Compulsory Nepali (in all five sets for the five Development Regions) highlight personalities belonging to the Brahmin and Chhetri groups, despite the fact that the textbook contained the representation of personalities from diverse ethnic groups and even from Janajatis who have contributed to Nepali literature.

Similar is the case with Compulsory Mathematics in representing the stereotypical names of one ethnic group (Brahmin/ Chhetri) like Shyam, Shankar, Damodar, Hari, Sita, etc.

The lack of maintaining political neutrality in the test papers is another source of injustice; for example,

- Give any three works done by Man Mohan Adhikari for the country (Compulsory Social Studies 2003).
- The leaders of the Nepali Congress Party and the Communist Party were united to bring the multi-party democracy in the country. Are they now united to develop the country? What drawbacks do you think they have? Give three suggestions to these leaders so that they can be more efficient in carrying out their duties and responsibilities (Compulsory Social Studies 2003).

Lack of items encouraging students with disabilities/ learning difficulties in the test papers is still another source of inequality. For example, question 1 of 2003, Reading and Writing Test for Far-Western Region (E1), which is a reading passage about a mentally retarded child and description of the difficulties faced by the child in the text is presented in a humorous mode and the child has been presented as a burden of the family.

Again from the positive side, it is worthwhile to note that there are new attempts at using pictures, figures, graphs in the question sets, which help comprehend the questions. The students' ability to associate the text with pictorial presentations can also be assessed. However, some instances of absurdities in this context in the Social Studies test papers can be noticed. For example,

- Write the names of the races given in the picture A, B and C.

- What is Lama and where it is found?
- What do you see in the picture?

From the perspective of responsiveness of the test items to the needs of children with disabilities (eye blindness), the use of graphs and pictorial items obviously places them at a disadvantage. Nevertheless, OCE has the system of allowing them to take the help of another person who has passed up to Grade VIII. Again, the question arises, what do these students do with the graphic or pictorial items or is there any choice to avoid them?

### ***Test Papers and Language***

The existing practice of OCE has been to use test items written in both Nepali and English except in the language papers (Nepali and English). Producing and presenting each item of the test papers in two languages certainly helps the students to comprehend the questions and write the answer. Nepali language, being the state language of the country, has been the main language of instruction in almost all the secondary schools of Nepal. Hence, it has been the normal practice in the country to be educated and examined in Nepali though it is the mother tongue for only about 48.61% of the population. Obviously, the second language for a majority of those students and English language becomes either the second or third language for the students. Thus, the usual practice of presenting questions in Nepali language naturally favors students with Nepali as their mother tongue and disfavors others.

Based on this reality, an attempt to undertake a semantic analysis of the test items was made that revealed serious problems. For instance, there are problems related to the heavy use of Sanskritized Nepali words in translating the technical terms from one language to another. Problems also exist related to Nepali and English versions of the same test item conveying different meanings and containing grammatical errors, use of unfamiliar words for students residing in the rural areas, use of the language favoring specific ethnic groups, etc. these are analyzed and briefly cited below.

### ***Use of Sanskrit Words***

The use of complex words like Samyujyata, Samtripta, Asamtripta, Avartan, Manibhikarniya, Bikrtijanaya Karya remains a common problem. These words disfavor students whose mother tongue is not Nepali.

### ***Weaknesses of Test Items***

Question (Physics 2001)

Show the difference between nuclear fusion and nuclear fission with an example of each. What is deuterium?

Problem with the question:

- The Nepali version does not include the second part of the item.

Question (Physics 2003)

At what height does one object reach after 5 sec. when it is thrown up from the surface of earth with the velocity 10m/sec. ( $g=10\text{m/s}^2$ )?

Problem:

- The question itself is wrong.

Question (Chemistry 2003)

State the octate rule. Explain Atoms are neutral

Problem:

- Incorrect spelling (octate)
- Use of irrelevant word (neutral)

Question (Biology 2003)

Which virus cause common cold and aids?

Why do you mean by complex tissue?

Problem:

- Ambiguous question (Q.1)
- Incorrectly stated (Q.2)

Questions (Compulsory Health, Population and Environment 2003)

Those who protect religion are protected by religion. Explain in brief.

How does pull and push factors affect migration? Write in brief.

Entamoeba Histolytica is the virus of which disease? (2004)

Problem:

- Ambiguous questions (Qs.1 and 2)
- Incorrect question (Q. 3)

Examples of urban-biased questions:

In what way do newspapers help to conserve the cultural heritages? (Compulsory Health, Population and Environment 2003)

Why is the shopkeeper benefited by mixing cheap colors in sweets? (Compulsory Health, Population and Environment 2003)

Problem:

- Student residing in the rural and remote parts of the country have little knowledge of the newspapers and mixing of colors in sweets.

### 3. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section presents the findings, conclusions, and recommendations under two main headings: Structural Inequalities and Responsiveness of SLC Examination and Equity Concerns.

#### 3.1. Structural Inequalities

##### Findings and Conclusions

- The correlations of HDI values with SLC pass percentages were found positive. An analysis of this measure by eco-development region shows that the ranking of the 16 regions with the total pass rates and HDI values indicated a strong relationship. The rank

correlation between these two variables was 64. Similarly, a strong correlation between HDI and SLC pass percentage rate was found at the district level as well.

- Analysis of the correlations between students' SLC performance and HDI and literacy at the district level showed a positive relationship. Humla and Mugu districts having the lowest total pass percentage in SLC (0.8 and 4.8%, respectively) had the lowest literacy (27.1 and 28.0% respectively). Also, these districts have similar HDI values (0.367 and 0.304, respectively).
- Kathmandu district has the highest pass rate (76.3 %) in SLC and the highest literacy (77.2%). Female literacy (66.65%) has the highest HDI value (0.652).
- Some of the ethnic groups such as Tharu, Tamang, and Yadav with literacy below the national average had similar pass percentages in SLC examination.
- The gender gaps (males ahead of females) in literacy rates, NERs at all school levels and overall pass rates and the achievement level in SLC have been remarkable. The gender gap in the performance of SLC candidates by eco-zone ranged from 8.1 percentage points (Kathmandu) to 17.1 points (Western Tarai and Central Mountains). Also, the reference taken from other study findings (mentioned in the previous chapter) on disparities in performance by ethnic hierarchy and gender also reflect similar inequities.
- Based upon these findings, one can conclude that the low performing and failure students should not be blamed for their levels of performance. The presence of structural inequities among the regions/districts/locations in terms of deeply-rooted disparities in socio-economic conditions, literacy status of the district, disparities manifested between the genders and among the hierarchies of ethnicities, consequently help some groups of students and disfavor other groups in their examination performance.
- Education in a private school gives higher chances of success in SLC and with higher marks. On the contrary, education in a public school often leads to failure or low marks. Thus, the relatively weak public schooling system, economic inability of students to study in private schools or afford private coaching has again placed a great majority of students at disadvantage.

## Recommendations

The recommendations made here are based on the idea that the SLC examination should not be a race/competition between unequal groups and individuals in an environment of structural inequities.

Obviously, failure in SLC has prevented students from entering higher education and the world of work. This eventually makes it difficult for them to make a way into the society as good and responsible adults. The huge mass of failure in SLC also obstructs economic development and social progress. Efforts therefore should be made at the national level to minimize/reduce the structural inequities.

- The locations (districts/regions) on the nation's lowest socio-economic and literacy profile should receive priority of the Government intervention programs. Particularly, the strategy should be to boost up the economy of the marginalized/ backward population groups with renewed emphasis on delivery of basic services/ economic

infrastructure. On the other side, literacy programs launched by non-government agencies should be concentrated in the locations of the country with the lowest literacy rates and lowest performance in SLC.

- To reduce the gender bias and caste/ethnicity disparities in SLC participation and performance, MOES/OCE should take measures to minimize the persisting inequities in NER (at all levels of school education) and in the learning achievements of the primary and lower secondary Grades.
- Since the public school system in the country is not doing justice to a great majority of students (especially the economically disadvantaged students and the girls students weak in studies) specific programs/strategies should be planned and operationalized. With a view to provide social justice to these students, schools and DEOs should either regularize school classes and improve the quality of education or provide remedial classes to the weak students. Special packages could be designed and implemented for this purpose.

### 3.2 Responsiveness of SLC Examination and Equity

#### Findings and Conclusions

- Though OCE has delegated authority to fix the amount of fees for registration, send-up exam, etc, to the respective examination committees of districts, the need to issue mandatory directives to waive the fees for the very poor students has been felt at the local level. One single policy approach on the requirement of paying a fixed amount of fees for applying for appearing in SLC exam is also seen as an insensitive approach towards the student groups afflicted by severe poverty.
- The existing practice of screening students on the basis of send-up examination results and restricting access to SLC exam (for those who fail the send-up exam) can be taken as an element of inequity. It signals a wastage of efforts of ten years or more and of resources.
- The practice of OCE to assign the construction and moderation of test papers to secondary teachers of Kathmandu Valley reflects non-inclusivity. This practice potentially renders most of the test items urban-biased.
- Lack of uniform and satisfactory testing conditions in exam centers, location of exam centers far for the students residing in the rural and remote parts of the country and the inconvenience posed for girl students, especially in the conflict areas all reflect the non-responsiveness of the SLC exam administration practices towards equity concerns.
- Likewise, concentrating all the exam centers in the schools located within the periphery of the district headquarters for security reasons has further worsened the environment of exam conditions. Heavy presence of military personnel inside the exam halls and their involvement in invigilating exam administration are potential sources for creating panic amongst students in general and girl students in particular. As most of the superintendents, invigilators, and security guards are males, the overall environment of SLC examination administration for the girl students is found to be intimidating.
- On the basis of above findings it can be concluded that the overall exam administration processes and exam situations are far from satisfactory and fair. As such, the chief

mission of a public exam administration like SLC exam, which should be to provide equal opportunity to all students, seems to be defeated in many ways.

- Poor physical facilities in the marking centers, lack of uniformity in marking answer copies among the markers, reluctance in following the marking schemes, inavailability of the orientation trainings for all markers, markings done in haste by some markers etc, constitute a stark reality of the day. The realities leading to the conclusion that there are higher chances of the test results of both the high and low performing students being unreliable or less reliable. It can also be concluded that it is not the students but the systemic flaws within the practices and processes of SLC exam that should be blamed for the outcome.
- From the perspective of gender balance, a common trend found in all the test papers of six compulsory subjects was that there was a relatively higher proportion of representation of male figures than the female figures (in naming, portraying, projecting, etc). The male figures are also found depicted in a high profile compared to the traditional /stereotypical or low profile roles ascribed to the female characters. Thus lack of vision in maintaining gender balance in preparing the test papers is vividly clear.
- No evidence was found in including the aspect of ethnic diversities of the country within the contents of the test items. Also, the entire test sets did not contain items to represent students from the indigenous groups, ethnic minorities, disadvantaged/ marginalized families and the students with disabilities.
- A lack of rural-urban balance within the test items was also obvious. Urban-biased items overshadow the entire test papers.
- The test papers favor the Nepali-speaking children and frequent use of Sanskritized words in the items further add to the semantic problem in the items.
- Problems associated with incorrectness and ambiguity were another flaw in some of the test items. It can thus be concluded that the test papers/items were not responsive towards the equity concerns.

## Recommendations

The recommendations forwarded in this section are based on the vision that the entire SLC examination practices/ processes like the public examinations in other countries should be neutral or equitable to all, irrespective of gender, ethnicities, language groups, locations, etc. Surprisingly, the findings have revealed that the entire operations of SLC exam have been the potential sources of causing inequity in more than one way. Therefore the following recommendations have been forwarded:

- The manuals, directives, or guidelines on the entire SLC exam preparations and operations should be revised to make them more responsive towards equity concerns.
- The mandatory requirements of paying fixed amount of fees for registration and or applying for appearing in the SLC exam should be revised or waived for the groups of students representing very poor households or conflict-affected areas.
- The practice of assigning the task of setting up questions to the teachers of Kathmandu valley should be revised giving opportunity also to capable teachers working in the various parts of the country. The OCE should widen the groups of test makers and

scrutinizers by widening the representation of the concerned subject teachers. In doing so, the policy should be as inclusive as possible to ensure a balance of gender, location, ethnicity, type of school, etc.

- To minimize the inequities caused by the administration of examinations at the district headquarters or urban/ suburban areas of the country, the need to create home centers for students residing in the rural and remote areas has been suggested. At the same time, the practice of taking examinations in the primary schools/Grades should be abolished: it causes inconvenience to students participating in SLC exam and the environment makes copying easier.
- There remains a great need to improve the physical conditions of exam centers. For instance, in order to have satisfactory testing situations and make it equitable to all, MOES/OCE has to make concerted efforts to make provision for the adequacy of rooms, furniture, safe drinking water, first aid equipments, separate toilets for boys and girls, etc.
- To make the exam situations less intimidating to the students in general and the girl students in particular, unnecessary involvement or presence of security personnel inside the exam halls should be avoided.
- The need to make test papers responsive and encouraging to girl students, students from ethnic minorities and poor households, students with disabilities, etc, has been seriously felt. Therefore, necessary steps to urgently translate these things into action should be taken.
- An urban-rural balance in the test papers is strongly recommended.
- Portraying of the stereo-typical/low profile gender roles in the test items also should be avoided. For this to happen, all the concerned officials of OCE and all the test makers and scrutinizers should be oriented in making the test papers gender-friendly.
- Finally, efforts have to be directed toward making the test papers responsive in terms of the representation of high and low ethnic groups, Janjaties, etc.

## CHAPTER V: PUBLIC PERCEPTIONS OF SLC EXAMINATIONS\*

### 1. INTRODUCTION

The SLC examinations are important for the overall secondary school system in Nepal. As has been often noted, the form of the SLC examinations deeply influences what is taught to students in school. Not only does the substance of what is taught get determined by the SLC examinations but how that is taught is also influenced by the exam format of the SLC. In other words, the SLC examinations influence both the pedagogical exercise of the secondary schools and notions of what counts as knowledge for students in their mid-teens. As an all-Nepal phenomenon, SLC examinations also provide an important indicator to measure the comparative competence of secondary schools of various types located in different parts of the country. It is also an important measure of the investments made in the school education sector in Nepal.

The SLC examinations are an important life-cycle event for secondary school students as well. Without passing the current system of the SLC, students can not enter the world of higher education. This means success in the SLC examinations is crucial for students who intend to pursue higher studies to qualify for professions that depend on such qualifications. For all these reasons, the SLC examinations assume an importance in Nepali society that perhaps no other examinations do. As one researcher has put it, there “are few annual events in Nepal that generate as much public interest and media attention as the publication of the School Leaving Certificate (SLC) examination results” (Bhatta 2004: 3).

As one can expect, the publication of the SLC results is followed by various types of analytical and cultural rituals every year. On the analytical side, education pundits, school administrators, journalists, and commentators in the media discuss many facets of the SLC results to highlight the performance of individual students and schools and make comparisons between the results of schools of various types and locations or the results of a single school over time. On the cultural front, public felicitations of SLC toppers are held in the form of media rituals and functions in different institutional, geographical, and cultural spaces. Individual schools hold functions to congratulate their students who have passed the SLC. Boys and girls who secure the highest marks in SLC examinations in the country are often interviewed by journalists about the secret of their success and their future plans. Toppers from individual schools and specific types of schools (Government-run public schools, private or boarding schools) are identified and more often than not felicitated in public functions. Such functions are also held for those who do well in the SLC amongst students in various geographic units (e.g., tols, wards, districts, zones, etc.) or ethnic groups (Gurungs, Tamangs, etc.) or caste groups (e.g., dalits). It is usual to see messages of congratulations for successful students being published as paid advertisements in newspapers.

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\* This chapter is based on the report ‘Public Perceptions of the School Leaving Certificate Examinations in Nepal: A study based on print media coverage’ prepared by Dr. Pratyoush Onta for the SLC Study team.

Success, however, is not all that is in the news every year when the SLC results get published. Unfortunately, a majority of SLC candidates fail in the examination. In the past decade (2050 BS – 2061 BS), the pass rate has varied between as little as about 31 percent to as high as about 49 percent (in 2055 BS). As revealed by the data in Table 1, while there has been a steady increase in the number of regular students who have appeared in the SLC examinations in the last five years (2057 BS – 2061 BS), there is no significant pattern in the pass rate percentage.<sup>12</sup> It stayed around 31 – 32 percent for three years (2057 BS - 2059 BS), jumped to over 46 percent in 2060 BS and decreased to about 39 percent in 2061 BS. Putting it another way, more than half of the regular students fail the SLC each year. This data of poor pass rate contains within itself alarming disparities across the subjects examined, school types (public or private), sex of candidates (boys and girls), districts, and regions. These disparities in the results of the SLC batch of 2060 BS have been analyzed extensively by Bhatta (2004).

**Table 1. SLC Results of Regular Students**

Year (B.S.)	Total Candidates	Pass Rate (%)
2056	205,539	45.72
2057	132,210	31.62
2058	152,334	31.22
2059	170,389	32.05
2060	175,418	46.18
2061	216,303	38.72

Source: Bhatta (2004: Table 4.1) and various newspapers whose

Since, on an average, more than fifty percent of the regular students who take the SLC have failed each year during the past decade, this data has been often used to highlight the colossal waste and failure of the secondary school system in Nepal. Educationists and policymakers are beginning to recognize that the impact of such high failure rates has been devastating not only in terms of educational investment but also in

large social and political terms. Indeed, some analysts have hinted that the large numbers of students who have attended secondary school but have failed the SLC might have swelled the ranks of the Maoist guerrillas in the ongoing conflict in Nepal (Thapa with Sijapati 2003: Ch 3).

Given the importance of the SLC examinations in Nepali society as discussed above, any reform effort that stands a chance for success will have to have the backing of a wide array of stakeholders. These would include educational policymakers, Government bureaucrats, school managers, teachers, students, and their families. To garner such support, it is important to find out how these various members of Nepali society perceive and interpret student performance in SLC, in particular, the high failure rates and the disparities amongst those who pass. That is the agenda of this study done as a part of the broader study on student performance in SLC examinations. It describes and analyzes the existing perceptions regarding the SLC examinations amongst the Nepali public based on evidence from the print media.

An understanding of the existing public perceptions regarding the SLC examinations will allow educational planners to suitably justify their reform agenda when the actual full-scale SLC examinations reform process gets underway. In other words, it will help them to see what aspects of the reform agenda will find easy support on the part of the public because they correspond with the public's perception of what is wrong and hence in need of reform in the

<sup>12</sup> The total number of SLC candidates for the year 2056 BS appears high because all repeat students from the two old SLC curricula with full marks 900 and 700 respectively were allowed to take that year's examinations as 'regular' students. This was done to facilitate the transition toward the new SLC curriculum with full marks 800.

SLC exam system. In addition, such a study will also help educational planners to identify those aspects of the reform agenda that will have to be ‘sold’ to the public through a social marketing exercise because they are not so commonsensical or obvious in the current set of perceptions held by the public with respect to the SLC examinations. Thus the study ‘Public Perceptions of SLC Examinations’ on which this chapter is based, both document and analyze the current state of perceptions and form the basis for a part of a properly executed reform process of the SLC examinations.

For details on the methodology, please refer to ‘Public Perceptions of the School Leaving Certificate Examinations in Nepal: A study based on print media coverage’

### Sampling newspaper coverage

Newspapers in Nepal have been covering SLC examinations for a long time. However, for purposes of this study, it was decided that newspaper coverage of the last five years only would be studied for this research. Some reports and writings that appeared more than five years ago have been read to get a feel for what the print media had to say then, but that was done only for the benefit of the researcher and hence they are not part of the analysis presented here. Additionally, it was decided that newspapers published from Kathmandu (and hence assuming a claim for ‘national’ status) and those published from Pokhara would be included in this study. The selection of Pokhara-produced newspapers was done to allow us an opportunity to surpass whatever limitations the Kathmandu-newspapers might have regarding their ability to represent concerns from other parts of Nepal despite their reliance on their own reporters located in various parts of the country. In other words, Pokhara-based publications were selected to see if they would give us a different ‘feel’ or ‘texture’ of public perceptions regarding the SLC, one that was regionally grounded.

It was decided that since the print media’s coverage of the SLC is concentrated just before, during, and immediately after the annual execution of the SLC examinations, and similarly around the time of the publication of the results, it would make sense to restrict the search for appropriate texts around these two occasions. Hence first the dates of the SLC examinations were figured out. Then those newspapers covered in this study were read for a period of about two weeks prior to the examinations, during the examinations (which usually last for about 10 days), and a week after the examinations are over. This meant that about a month’s newspaper texts were read around the time of examinations. Similarly, about a month’s daily newspapers were read around the time of the publication of the results. The dates of the newspapers studied for this research are given in Box 1.

For budgetary and managerial reasons, not all newspapers could be read to prepare the archive for this research. Hence it was decided that only daily newspapers would be studied for the five year period. This decision was influenced by the fact that in the recent past, daily newspapers have come to have the largest reach amongst print media products in Nepal.<sup>13</sup> Seven Nepali language newspapers were selected amongst those published from Kathmandu (*Kantipur*, *Gorkhapatra*, *Nepal Samacharpatra*, *Spacetime Dainik*, *Rajdhani*, *Annapurna Post*, and *Himalayan Times*). Three amongst those published from Pokhara (*Janamat*, *Hotline*, *Pokharapatra*) were included in the research archive. A fourth Pokhara daily, *Adarsha Samaj*, was also researched. However, only three reports related to SLC were found and hence this newspaper has been dropped for the

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<sup>13</sup> For more on the daily newspapers, see Adhikari (2000).

purpose of this study. Articles from some weekly newspapers and from some magazines have been looked at but they have not been studied systematically for this research. English language newspapers were not studied as they have a limited reach in Nepal.

### Box 1. Names and Dates of Newspapers Studied for this Research

#### Kathmandu-published

1. Spacetime Dainik
2. Annapurna Post
3. Himalayan Times
4. Rajdhani
5. Nepal Samacharpatra
6. Kantipur
7. Gorkhapatra

#### Dates covered in the research archive for Kathmandu newspapers

1. 1 to 31 Asar 2057 BS
2. 15 Chait 2057 BS to 15 Baisakh 2058 BS
3. 15 Asar to 15 Saun 2058 BS
4. 5 Chait 2058 BS to 5 Baisakh 2059 BS
5. 20 Jeth to 20 Asar 2059 BS
6. 1 to 30 Chait 2059 BS
7. 15 Jeth to 15 Asar 2060 BS
8. 1 to 30 Chait 2060 BS
9. 15 Jeth to 15 Asar 2061 BS
10. 1 to 31 Chait 2061 BS

#### Exceptional notes on dates covered for Kathmandu newspapers

1. For Spacetime Dainik, the archive started from 15 Chait 2057 BS and does not include Chait 2061 BS by which time the paper had ceased publication.
2. For Rajdhani, the archive started from 15 Asar 2058 BS as the paper was not in existence before Jeth 2058 BS
3. For Annapurna Post, the archive started from 1 Chait 2059 BS as the paper was not in existence during the prior period covered by this research
4. For Himalaya Times, the archive did not include Chait 2061 BS as copies of the newspaper for that month were not available at the CSRD library.

#### Pokhara-published

1. Janamat
2. Hotline
3. Pokharapatra

## 2. COVERAGE IN KATHMANDU-BASED NEWSPAPERS

This section is organized according to the three genres of contents: editorial, op-ed article, and reporting. A reading of the research archive prepared from the newspapers published from Kathmandu suggested that analyzing its contents in this order of genres was most useful in terms of the extraction of perceptions, arguments, analysis, and suggestions. This order of analysis would also obviate the need for useless reproduction here of repetitions in the views, arguments, etc. In the sub-section dealing with reports, the items are discussed thematically whereas the other two sections are organized by paper and in a chronological manner.

## Editorial

Each of the newspapers studied has published editorials on the SLC (see Table 2 for details). They are discussed by paper in a chronological order.

**Table 2. Number of Editorials in the Research Archive**

No.	Name of newspaper	No. of editorials
1	Spacetime Dainik	3
2	Annapurna Post	6
3	Himalayan Times	5
4	Rajdhani	3
5	Nepal Samacharpatra	10
6	Kantipur	5
7	Gorkhapatra	9

*Spacetime Dainik*: Three editorials from this paper are to be found in the research archive. The first two, published on 11/12/2058 (24 March 2002) and 19/12/2058 (1 April 2002,) dealt with the *bandh* call by the Maoists that coincided with the beginning of the SLC exam from 20/12/2058 (2 April 2002). In both editorials (especially in the first one), the Maoists were taken to task for adding

pressure on examinees were preparing to take the SLC. In the first of these SLC is said to influence the lives of students in a significant manner. It not only measures the ten to twelve years of study of students, the editorial added, it also marks the entrance to college education. If the examinations are derailed, the editorial warned, the entire educational environment in the country would face a series blow adding that if the intention of the Maoists in calling for the *bandh* is to attract the students to their cause, it is unlikely to happen. The editorial finally argued that if the Maoists feel any responsibility toward the nation, they should immediately revoke their call and provide mental relief to the students and their guardians.

On the second editorial published a day before the examinations were scheduled to begin, *Spacetime Dainik* lamented that by continuing the situation whereby students and guardians could not be sure that the examinations could be conducted in a routine manner, an environment of extreme callousness had been created. The editorial blamed the Maoists for this and called upon them to revoke the *bandh* to prove that they were still sensitive to the concerns of the people. However, it also held the Government responsible for making the situation worse by failing to determine the exam centers on time and make concomitant arrangements. It then highlighted how important the SLC was in the lives of the examinees and stressed that the last minute transferal of exam centers from previously announced locations for security reasons had brought great hardship on the examinees in terms of finding accommodation.

The third editorial published on 3/3/2060 (17 June 2003), after the SLC results were announced and entitled "Total Change in Education Necessary" began by noting that since less than a third of the students had passed the SLC, the results had once again been disappointing. For those who fail these examinations, the editorial added, it was a waste of more than ten years of their hard work and the investment made on them and is a matter of serious concern to the entire nation. It then noted that the Education System adopted by the country in 2028 BS, under state control, had failed to produce results and should have been reformed immediately. Instead, for more than three decades, it had been continued with some patchy reforms here and there. This unacknowledged mistake of the state had resulted in destroying the lives of hundreds of thousands of students and in the wastage of state investments in the billions, argued the editorial, which also emphasized that the pass result of public schools (about 20%) was even more disappointing. There were many such schools in which not a single student had passed the SLC whereas many others had a poor pass percentages, it added, stating further it was already late for the civil society to ask the Government why public schools supported by the state with investments in the billions (for teacher training, salary and pensions) were in such dismal state.

Reminding that even in the case of those who pass the SLC, apart from going for higher education, there aren't too many other options as the student would not have learnt any livelihood skills or knowledge, it argued that the state needed to change the present education system in its entirety.

*Annapurna Post*: In the research archive, there are six editorials from this newspaper, two each for the years 2003, 2004, and 2005. The first editorial was published on 07/12/2059 (21 March 2003) which fell during the period of declared 'truce' in the war between the state and Maoist forces. Despite the truce, the exam centers had been concentrated in district headquarters as in the previous year. This editorial criticized the continuation of this arrangement given the fact that it necessitated extra travel and expense burden on the examinees and their families arguing that expansion in the number of exam centers would make them more accessible to students and asked if the state didn't have the capacity to provide security. It also made the suggestion that as long as students were being forced to come to the district headquarters to take the examinations, social institutions and civil society organizations could do a lot to look after the logistical needs of the students at minimum costs.

The second editorial was published on 19/12/2059 (2 April 2003). The SLC examinations for that year were ongoing and the news regarding irregularities in Bara district provided the context for this editorial. Stating that three bundles of 'chits' were found in an exam centre in Bara district and two headmasters of schools were expelled from an exam centre trying to help for students with 'chits' it goes on to argue that such cheating goes on in many exam centres each year. Given that the SLC is the culmination of the students' first phase of education in life, the editorial continued, those who succeed in SLC by cheating can not be expected to be honest during the rest of their lives. It then went on to speculate why there is so much cheating. If failures mean end of Government subsidy to schools, for families it implies additional mental pressure and economic burden and for girls the inability to get married reasons that contribute toward an environment of cheating, the editorial suggested stressing that the examinations need to be conducted with a stringent level of invigilation and those caught cheating needed to be penalized. However, it also argued that it was important to monitor and control both the teaching and learning process in schools and the exam system. Pointing towards the stark disparity in pass rates of the private and rural public schools, it emphasized that an end to irregularities in the SLC was only possible through social action and educational discipline.

The third editorial published in the *Annapurna Post* (13/12/2060; 26 March 2004) backed the call to make that year's SLC exam period violence free. It called for a truce in fighting between the Maoists and the Government forces during the exam period. It reiterated the saying that the SLC is an 'iron gate' for completing school education and for entry into higher education. Failure in the SLC represents one kind of wastage but the wastage that would result if the examinations can not be held would be something different, argued the editorial. The mental disappointment of the examinees, should this happen, can not be compensated, it added.

The fourth editorial published in the *Annapurna Post* (32/2/2061; 14 June 2004) was written in the wake of the publication of SLC results for that year. While noting that the regular pass rate of 46.18% is better than in the past, the editorial mentioned that more than two hundred thousand students failed in total (regular plus repeat students), noting that such a huge figure was connected to the deteriorated educational environment and political stalemate. The editorial also noted the wide gulf between the pass record of private and public schools that the Government had failed to fill in emphasizing that the problem SLC failures has become a social problem with the Government bereft of any thought regarding how they could be provided with

an opportunity for work or learn alternate skills. It called on the Government to work on reforms in the education system.

The fifth editorial published in the *Annapurna Post* (12/12/2061; 25 March 2005) again highlighted the difficulties of the students during the course of the exam period brought up by the ongoing conflict. When the OCE decided to locate the exam centers in district headquarters for security reasons, students from elsewhere faced logistical problems, the decision of plight worsened by the hoteliers and restaurants in district headquarters to like up the service cost. The editorial condemned such tendency calling on everyone ensure that the examinees get to take their examinations in a peaceful and secure manner and reminding that it was the right of the students.

In its sixth (and the last in the research archive) editorial, the *Annapurna Post* (17/12/2061 or 30 March 2005) drew the readers' attention to the growing scam businesses that charged large amounts from students by promising them a pass result in the SLC. It noted that some schools and coaching centres were found to engage in such activity and criticized the Government for its inability to monitor such institutions. It also commented on the lack of alacrity on the part of the guardians who parted with large sums on false promises made to their wards by fake institutions. The editorial called for stringent punishment to those who were engaged in such scams.

*Himalayan Times*: Five editorials published in this newspaper are included in the research archive. They were published, respectively, after the SLC results were made public for the five batches between 2056 BS and 2060 BS. The first editorial (19/3/2057; 3 July 2000) makes the observation that SLC is considered to be an important milestone in the lives of those seeking education and that it is only after passing it that students get a chance to specialize on subjects of their interests. It notes that only 45.72 percent of the regular students passed the SLC that year before going on to criticize the decision of the OCE not to publish the names of the top ten students. The logic given by the OCE for this decision – that it would generate healthy competition between schools, that teaching would be focused on the intellectual development of students and not be exam-oriented, and that graders would have the incentive to mark copies in a healthy manner – was found wanting, claimed the editorial. Since the present age is one of competition, naming the top ten students produces an intense competitive spirit amongst students which is positive, said the editorial. The OCE's decision to publish only the names of the top male and female student is an effort to keep itself out of controversy, added the editorial.

The second editorial was published on 2/4/2058 (17 July 2001). The low pass rate of regular students, 31.62 percent, was over 14 percentage points less than in the previous year was an indication of the measures adopted by the OCE to reduce irregularities in the examinations and some of the other measures it had exercised (such as development-region-specific exam papers, parallel test papers, etc.). However, the editorial stressed that these praiseworthy efforts to reform examinations are not the only reasons behind the dismal pass rate. All related parties are equally responsible claim the editorial. The lack of stable and permanent educational policy, extreme politicization (of the field of education), unqualified and incompetent teaching force, lack of physical infrastructure, the unequal status between private and public schools, etc, were the reasons identified in the editorial for the deteriorating educational status. It added that, as a result of an unclear educational policy, two types of educated workforce were being produced by the two types of schools, leading to the potential crisis of class inequality.

Published on 4/3/2059 (18 June 2002), the third editorial noted that a little over 31 percent of the regular students passed the SLC that year emphasizing that the massive failure rate is a

blotch in our school educational system and deserves scrutiny. It stated that all the aspects of our school education responsible should be investigated. School textbooks, exam questions, and teaching and learning should be analyzed and discussion should be started on who is responsible – students or their teachers? Despite the Government spending large amounts of money on them, the results of the public schools are mostly disappointing, stated the editorial, where quality teaching and learning are absent. Politicization of schools and teachers being made victims of Maoist violence have also contributed to the disarray in our educational sector, added the editorial an environment, where the dismal result could be expected. In calling for an end to this state of affairs in the educational sector, the editorial called for the appointment of qualified and capable teachers in schools adding that schools are not locations for doing politics and should not be targets of destruction and violence.

Published on 2/3/2060 (16 June 2003), the fourth editorial reiterates the image of SLC as an ‘iron gate’, lamented the fact that only 32 percent of the students passed SLC and noted that only about 25 percent of those who passed came from public schools, a clear indication that proper teaching was not happening at the public schools. The editorial added that those who have become school teachers by using ‘source force’ and only sign in their presence but spend their time in school talking about politics contributed toward the bad pass statistics and that in addition to the disparities noticed between public and private schools, the results also showed the differences between urban and rural areas in their pass rates. The rate for schools in the rural areas is very disappointing, it added and said that the situation in which the poor and the disenfranchised constituted a larger part of those failing the SLC was a matter of worry adding that the lack of qualified, competent, and experienced teachers in schools was responsible for the poor results.

The fifth editorial (32/2/2061; 14 June 2004) noted that 46.18 percent of the students passed the SLC that year. Since this rate is higher than in the immediate past years, it wondered if the higher pass rate was due to a Government policy to pass as many students as possible. If this is so, the editorial argued that it could be a suicidal policy to the educational sector.

*Rajdhani:* There are only three editorials from this newspaper in the research archive. The first one was published on 18/12/2058 (31 March 2002), two days before the SLC and the Maoist-called *bandh* were to start. Like other editorials discussed above, this one too condemned the Maoists for calling the *bandh* that coincided with the execution of the SLC examinations and argued that since the examinations should be conducted in a secure manner and the examinees and their guardians should not be burdened with insecurity, uncertainty, and mental pressure, the Government should even consider postponing the examinations. The second editorial (1/3/2060; 15 June 2003) discussed the SLC results for that year. Like other editorials published in newspapers discussed above, this one used the large number of students who failed the SLC that year to talk about the dark educational future of the country. Using the low pass rate of students from public schools as its evidence, it stated that the educational status of such schools where almost 80 percent of the students studied was in bad shape. Most of these students, it added, came from the poor class. This two-class producing educational disparity between private and public schools was leading to a Nepal where the country was led by graduates from the private schools and public school attendees were filling the ranks of the insurgents, argued the editorial, adding that this disparity has to be abolished which calls from a total reform of the educational and physical environment of the public schools.

The third editorial, published on 6/12/2060 (19 March 2004), about a week before the SLC examinations for that year were to start, took up the difficulties faced by students as its main

subject and given that the test centres had been fixed in district headquarters for security reasons, discussed the news that Maoists were barring the examinees from one particular school from traveling to the district headquarters in Rukum and called on the Government to provide security cover to bring students from elsewhere to district headquarters. Discussing how delay in fixing exam centres in the eastern district of Udaypur had produced an environment of confusion and uncertainty to examinees who had congregated with their guardians in the district headquarters Gaighat, it cautioned about the consequent impact on students' performance, adding that in Dhanusa district in southeastern Nepal, centering most of the examination sites in private school raised serious doubts about the integrity of examinations, it added. Given the already poor educational standard of public schools, it speculated that the disparity between the two types of schools might increase and called for an investigation of the exam selection process in Dhanusa.

*Nepal Samacharpatra*: There are ten editorials from this paper in the research archive. The first uses the context of publication of SLC results to make a mixed commentary on the loss of confidence in the education sector (23/3/2057). The second, published on 9/12/2058 (22 March 2002), commented about the difficulties faced by students who were about to take the SLC that year. The reduction in the number of exam centres due to security reasons and the Maoist call for a *bandh* to coincide with the SLC examinations (both discussed in earlier editorials) formed the basis of the main commentary which ended by calling for a retraction of the *bandh* call. The third editorial was published on 3/3/2059 (17 June 2002) after the SLC results were made public. Noting that only 31.22 percent of the students passed SLC that year, the editorial argued that the colossal failure rate of nearly 70 percent reflected the poor quality of our teaching and educational system. This warranted a serious re-evaluation of the entire educational system and its quality on the part of the Government, argued the editorial. Published on 19/12/2059 (2 April 2003) while the SLC examinations for that year were ongoing, the fourth editorial noted that despite the efforts of the OCE to manage SLC examinations in a proper manner, news about irregularities from various parts of the country has suggested that its capabilities needs further enhancement and recommended punishment for those found responsible for irregularities during the course of the examinations.

The fifth editorial was published on 2/3/2060 (16 June 2003) after the SLC results were published. Citing that a total of over 172,000 regular and repeat students failed the exam and among those who passed, only 35 percent were from public schools, the editorial lamented both the waste of investments on education and the poor state of public education. The editorial stated that since most of the students have failed in math, science, and English, the teaching of those subjects was clearly not effective. In addition, it stated that in public schools, there is not only a lack of physical facilities and resources, but also of subject teachers and that students have been affected by the inability of the Government to provide the necessary teachers in public schools, the frequent calls for strikes and *bandhs* by the political parties, and the Maoist insurgency. Calling upon the Government to reform the defects in school education as pointed out by education experts, it added that these have to do with issues related to the curriculum and the exam system and asked the Government to find the inadequacies in school education and revise the educational policy accordingly. The massive failure rate in public schools is an indication of the gap between the teaching level in such schools and the level assumed by the exam questions, the editorial went on to say and suggested that considering the large number of students who fail the SLC every year, the state should provide training and special education for them.

The sixth editorial was published on 12/12/2060 (25 March 2004), a day before the SLC examinations were to start that year. Since the Maoists had made a major attack on Beni, the district headquarters of Myangdi only a few days earlier, the editorial noted that the countdown to the examinations was marred by worries regarding security of the examinees and rumors that the examinations might be postponed in districts most affected by the conflict. It called upon all the warring parties in the country to facilitate the execution of the SLC examinations. The seventh editorial, which was published on 31/2/2061 (13 June 2004), commented on how the SLC results publication process (with the OCE giving the responsibility to *Gorkhapatra* for printed publication with other arrangements for viewing in the Internet) was not student-friendly and argued that given the efficiency demonstrated by daily newspapers published by the private sector, the results should also be published in them.

The eighth editorial, published on the following day (32/2/2061; 14 June 2004), noted that despite a 14 percent increase, the 46.18 percent pass rate meant that almost 54 percent of the examinees failed and that only 24 percent of the examinees from public schools had passed that year. The editorial identified the conflict and conditions generated by it as being responsible. In addition, the lack of qualified teachers, physical facilities, and a learning environment, were also identified as factors. Given the strikes in institutions of higher education, the editorial noted that some parents were thinking of sending their children (who had passed the SLC) abroad for higher education. Since that would mean the transfer of national wealth to foreign countries, the editorial stressed that the concerned authorities should pay attention to this to present the outflow.

The ninth editorial published on 12/12/2061 (25 March 2005), two days before the beginning of the SLC examinations, argued that it was the right of the students to appear in the SLC in an environment without fear and without having to endure mental and physical stress. It cited the call by the UNDP office in Kathmandu to both the warring parties not to obstruct the exam and examinees in any way. The tenth and last editorial, published three days later (15/12/2061; 28 March 2005) while the SLC examinations were ongoing, focused on the scams that had prevented some 500 plus students from appearing in the examinations, called upon the Government to punish the various tuition centers and institutes involved and upon students and their guardians to be more alert about registering for the examinations properly.

*Kantipur*. There are only five editorials from this paper in the research archive. The first was a special editorial published on the front page on 17/12/2058 (30/3/2002) denouncing the Maoist call for a *bandh* that coincided with the SLC that was to start three days later. Entitled “Playing with the future of the students or ‘revolutionary entertainment?’” the editorial described the Maoist call as a “forward step in the Taliban-like highway against education, stating it was the main responsibility of the state to tame Maoist violence and terror and make citizens feel secure. Under no condition should the students be made victims of the Maoists, added the editorial, suggesting that the Government consider postponing the exam by a week to guarantee the safety of the students.

The second editorial published on 3/3/2059 (17 June 2002) commented on the SLC results for the batch of 2058 BS. Noting that pass rate of 31.22 percent means that more than 104,000 regular students had failed the SLC that year, the editorial stressed that although the direct impact of this failure is on the students, the indirect impact is on the future of the whole nation. The failure is not only that of the students who could not succeed in the SLC but also that of their teachers and the whole educational system, added the editorial, suggesting the entire educational system needed reforms. Commenting on the disparities in the results between

students from rural and urban areas and between private and public schools, it called for an end to the situation where the financial status of the parents determines the kind of education that their children can afford, arguing that the investments made by the state on education must become visible in the good educational performance of the students.

In the third editorial published on 2/3/2060 (16 June 2003), SLC results for that year were analyzed. Not surprisingly, the nearly 70 percent students who failed became the basis for a series of serious questions: Who are these students and where are they from? Were they students in private or public schools? What is the economic and social status of their guardians? While acknowledging that answering to these questions was not that easy, the editorial stresses that unless there is improvement in the level of educational performance, the disparity in quality between private and public schools is reduced, and the issue regarding access to quality education for children of parents of low economic and social status is tackled at the policy level education will continue to be the dividing line between two classes of Nepalese.

The editorial asked some additional questions. When almost 70 percent of the students fail the SLC, whose failure is it? It suggested that in addition to the students, it is also the failure of their teachers, guardians, and the educational policy of the country and that the young who are deprived of education and opportunity might consider violence as the means through which the foundations of social equality can be laid. The SLC results throw up two challenges to the Government, society and planners, argued the editorial. For those who have passed, the challenge is to ensure the opportunities for higher education that meets their qualification and aptitude. For those who have failed, the challenge is to provide capable teachers and create an environment for learning. It is a priority for the Government to make such a decision at the policy level and create the institutional framework to realize it. Educational administrative offices and the guardians should make the schools responsible in some way for the large number of failed students. The editorial suggested that the OCE and the Education Department should commission a team of experts to study the determinants of the SLC results and ask the team to come up with policy level suggestions for reform of the system.

The fourth editorial, published on 31/2/2061 (13 June 2004) after the SLC results for that year were made public took note of the 14% increase in the pass rate over the previous year mentioning that the OCE had cited gap days in the exam schedule, training in copy marking, and the system of 'grace' marks as being responsible for this positive change. However, the editorial in a skeptical vein asked if the higher pass rate indicated an improvement in the learning and teaching process or some procedural improvements. It cited reasons to doubt that there has been an improvement in the pedagogical process suggesting that if the higher pass rate is the result of a mindset bent on doing 'reforms for reforms sake', it would not be long-lasting.

The fifth and last editorial was published on 12/2/2061 (25 March 2005), two days before the SLC examinations were to begin. It argued that students have the right to appear in the examinations without having to worry about the additional tensions imposed upon them by the condition of conflict in Nepal. The editorial stated that the confinement of the exam centers to the district headquarters for security reasons had imposed additional logistic and economic burden on students who have to travel to the district headquarters from elsewhere. To ease their logistical burden, the editorial argues that local hotels, social workers, non-governmental organizations, and citizens in district headquarters can play an active role. These entities can facilitate the lodging and food needs of the students while they prepare for and take the examinations, added the editorial.

*Gorkhapatra*: In the research archive, there are nine editorials from this newspaper. The first two dealt with the Maoist *bandh* that coincided with the SLC in April 2002. The first (published on 14/12/2058; 27 March 2002) came down strongly on the Maoists and urged them to revoke the call for a *bandh* and the state to do everything to ensure that each examinee could take the examinations without fear. The second editorial, published two days before the SLC examinations started (on 18/12/2058; 31 March 2002), the Maoists again criticized severely. However, the editorial also listed various types of mobilization initiated by the state, political parties, civil society, transporters, and parents to make sure that SLC examinations are conducted without obstruction.

The third editorial, published after the results of the SLC were out in mid-June 2002 (3/3/2059; 17 June 2002) noted that despite the threats from the Maoists, the SLC examinations had been conducted and results published as also that the pass rate of about 31 percent is ‘welcome’ given the extenuating circumstances in which the examinations were held. It congratulated the OCE for bringing out the results within 65 days. However, the editorial reminded that due to the lack of qualified teachers serving in remote parts of the country and due to the poverty of those areas, there is regional disparity in the SLC results. It is necessary to execute a plan to reduce this disparity, added the editorial. In addition, the reasons for the large number of failures (apart from the Maoist terror) needed to be investigated and analyzed and an appropriate and effective plan needed to be implemented, stressed the editorial.

The fourth editorial, published on the first day of the SLC examinations for the next batch of students (16/12/2059; 30 March 2003), hoped that given that the SLC examinations are defined as an ‘iron gate’ for the students, the examinations could be conducted in a peaceful manner and then discussed the OCE’s plans to standardize the marking of the exam answer copies hoping that the mistakes made by it in the past would not be repeated. Published after the SLC results were made public in mid-June 2003 (1/3/2060; 15 June 2003), the fifth editorial given that the pass rate was only about 32 percent, the reasons for the large numbers of students who failed the SLC needed to be identified and appropriate action needed to be taken. All aspects of the SLC including its curriculum, textbooks, and pedagogical system needed to be analyzed and discussed, the editorial added. It recognized that most failing students could not pass the English and Math examinations adding that although there have been some efforts to enhance the capacities of teachers in these subjects; these efforts had not made much of a difference. It added that there is hardly a debate regarding the need to reform the SLC exam system mentioning that devolution of the SLC exam system to the district or regional level is one idea doing the rounds.

The sixth editorial, published on 13/12/2060 (26 March 2004), the first day of the SLC examinations of that year, hoped for a peaceful and routine conduct of the examinations given that they were being held days after the Maoist attack on Beni which had necessitated a replacement of the exam question set for the entire Western development region. The editorial called for severe punishment of those found engaged in irregularities during the examinations. It praised the OCE’s decision to grant ‘distinction’ status to those students who secured over 80 percent marks in average adding that this would further inspire the good students. The seventh editorial was published after the results were out (on 31/2/2061; 13 June 2004). In trying to explain why over 46 percent students had passed the SLC that year (as opposed to about 32 percent in the previous two years), the editorial cited gap days in the exam schedule as one reason mentioned by others. Nevertheless it added that talk about the need to reform SLC curriculum, textbooks, exam system, and teaching process was to be expected. It further added

that the efforts to reform school level education and the examination system must be continuous.

The eighth editorial highlighted one Governmental effort to reduce the disparity in SLC results between public and private schools (10/3/2061; 24 June 2004). It discussed a Government initiative to grant 400,000 rupees to secondary schools in rural areas (with at least 50 examinees) which achieve over a 50 percent pass rate in SLC. The editorial added that this initiative is contributing positively to increase the educational quality of public schools in rural areas via mutual competition. The ninth and final editorial was published on the day when the SLC examinations started for the year 2005 (14/12/2061 or 27 March 2005). It reminded the readers why the SLC is an important exam in our society. SLC is the gate that opens up higher education; it is the exam that needs to be passed by those seeking employment in the Government sector, and it is an item of social prestige for those who have passed it. The editorial added that given the investments families make on the students, the examinations are also important from an economic point of view. Given that those who are appearing for the examinations this year would be the future leaders of the country, the editorial argued that they should be allowed to take the examinations without any obstacles. It reassured readers that the Government has taken care of the security needs and the OCE has done its job to properly manage the examinations.

## Conclusion

In section two of this report it was mentioned that editorials are the only texts where the concerned newspapers give their readers their views, analysis, and bear on the theme of SLC. In other words, editorials are textual windows through which we can understand the perceptions of professional journalists about SLC. Since professional journalists constitute an important sub-set of the public, the significance of studying these editorials for this report is obvious. To conclude this sub-section, we can say that based on a reading of the editorials published in the big dailies of Kathmandu, the following themes about the SLC seem important in the views of the journalists.

Journalists writing the editorials agree that the SLC is an important event in the lives of students. Hence they portray SLC as an 'iron gate' to higher education and further opportunities in the job market. They agree that passing SLC provides social prestige to students. However, they also emphasize the need to reorient the SLC curriculum to make it more oriented toward livelihood skills. They have also commented at length about the exam execution process. In particular, they have criticized the irregularities in the form of cheating and violations of exam ethics by students and invigilators. They have also come down forcefully against scam businesses that promise to 'pass' the students in SLC examinations against a fat fee. These irregularities violate the integrity of the SLC exam and hence the journalists suggest that those caught doing wrong should be penalized. They have also argued that the ongoing conflict has created additional pressure on students in the last five years. The *bandhs* called by the Maoists have created an atmosphere of uncertainty for all involved in the exam process. The OCE's decision to limit exam centers in district headquarters for security reasons has added new burdens on students regarding travel to the centers and the finding of temporary housing, food, logistics, etc. The journalists have guessed that these worries have had some impact on the performance of the students.

The journalists have commented aplenty on the high failure rate of SLC and have portrayed this failure as a massive waste of both state and private investments in education. The failure in the SLC has been held responsible for destroying the lives of hundreds of thousands of Nepali

students. They have listed and commented upon some of the factors behind the high failure rate including poor educational environment in many public schools, unstable educational policy, extreme politicization of teachers and management, and conflict-induced closures of schools. They have pointed at the lack of physical resources and competent teachers, especially in subjects such as math, science, and English. They have also hinted at inadequacies in school textbooks, exam questions, and the pedagogical system as being responsible for the dismal results.

While analyzing SLC results, journalists have expressed their worries about many disparities contained therein. In particular, the huge difference in the pass rate of public and private schools and between schools in the rural and urban areas has been emphasized. They have also pointed out the absolutely poor results of many public schools where all SLC candidates have tended to fail. They are worried that since students from the relatively poor families are studying in public schools in rural Nepal and these schools in general tend to have a poor pass rate, the current SLC set up is contributing toward the creation of a education-based two-class Nepali society. This fact, they worry, potentially fuels the current conflict and could be the source of yet another conflict in Nepali society in the future.

The journalists writing the editorials agree that the SLC exam system has to be drastically reformed. One outcome of the reform has to be reflected in a much better pass rate whereas another would be reflected in the ability of the SLC curriculum to provide livelihood earning skills to both those who pass and fail the examinations. They recognize the many reform efforts being executed by the OCE, especially in the exam management aspects, but suggest that these are inadequate. Some have suggested the devolution of the management of the SLC exam to the district or regional level.

## Op-Ed Article

Each of the newspapers studied have published op-ed articles related to SLC (see Table 3). They are discussed by paper in a chronological order.

**Table 3. Number of Op-Ed Articles in the Research Archive**

No.	Name of newspaper	No. of op-ed articles
1	Spacetime Dainik	6
2	Annapurna Post	3
3	Himalaya Times	4
4	Rajdhani	4
5	Nepal Samacharpatra	2
6	Kantipur	15
7	Gorkhapatra	18

*Spacetime Dainik*: There were six opinion pieces from this newspaper in the research archive. One of them was a polemical piece asking Maoist leaders if they had themselves given their SLC examinations within the security cordon of the army. This article was published to challenge the Maoist call for a *bandh* that coincided with the SLC in April 2002. A second piece was an advisory column on how to prepare for SLC examinations and how to

stay calm while the exam was in progress. Since these two pieces are not very relevant to this analysis, they are not discussed. The four pieces discussed here include Khanal (2002), KC (2002), P. Gautam (2003), and Rai (2003).

All the four authors discuss a host of variables that influence student performance in the SLC. While reading them, one gets the feeling that the authors hardly feel the need to distinguish specific aspects of the issue for analysis. Instead, they are more likely to mention many factors that, in their minds, account for the poor performance of most students in the SLC. Khanal

(2002) states that there is inconsistency between the objectives of the SLC curriculum and the SLC examination. A majority of those who fail the SLC study in schools in rural Nepal. In such schools, he adds, there is a lack of qualified teachers and physical infrastructure. He also mentions that the incidence of irregularities during the examinations is on the rise and the conflict in the country has meant that the students have taken the examinations in an atmosphere of fear. The SLC question papers have contained errors. The selection of answer copy markers is done on the basis of personal connections and political loyalties instead of being based on the educational qualification, capability, and experience of the examiners. In terms of suggestions to reform the system, he proposes that the management of SLC must be decentralized at the regional level. Students who fail should not have to give the examinations of the subjects they have passed. The technical processing of the transcripts must be made flawless, adds Khanal.

Analyzing the SLC results for 2058 BS (pass rate 31.22%), K.C. (2002) suggests that the state of emergency, reduction in exam centers and the conduct of the examinations under tight security arrangements might have psychologically influenced the examinees. He argues that frequent strikes, absence of teachers from schools, and extreme politicization of education have damaged the quality of education imparted in schools resulting in poor student performance in SLC. According to K.C., to improve the quality of education, teachers will have to be given appropriate training and their professional appointment and promotions will have to be done based on qualification and capability. In addition, he adds that politicization of teachers must be curtailed by the creation of a single union interested in professional issues only.

Basing his analysis on the results of the SLC of 2059 BS, Pradeep Chandra Gautam (2003) states that the big failure rate and disparity between public and private schools are matters of concern. Most who fail are students from rural and remote areas and come from low economic class. This disparity is a serious case of injustice that generates inequality and a mass of unhappy young who want to revolt. Gautam argues that this kind of result has not been the concern of our politicians who might be internally happy for the fact that it generates hordes their followers. Gautam argues that the concerned offices and educationists should get together and identify the determinants and take concrete steps to improve the results. Thinking about the factors that have influenced the disappointing SLC results, he lists the following: yearly change in curriculum and the format of question papers, the adoption of the same evaluation criteria for students from schools with very difference resources, and a tough evaluation procedure at the SLC level only (compared to previous Grades in school). Other reasons he adds include the mechanism to test students just on the basis of a three-hour written exam, absence of a continuous evaluation scheme, and emphasis on rote memorization of theoretical things.

With respect to public schools in the rural and remote areas, Gautam mentions that classes are not held full time in such schools. Teachers of math, science, and English are hard to come by and when they are found, it is hard to retain them. The textbooks are not available on time. According to Gautam, the low investment of the state on public schools, temporary licences to operate them, politics interference, absence of a system of rewards and punishment, incompetent management committees, and the absence of a continuous and effective monitoring and supervision system are also responsible for the poor results as is the deteriorating security condition in rural Nepal. Gautam adds that given this condition, the transfer of public schools to local communities might be a ploy for the Government to abdicate its own responsibility. To improve the situation, Gautam says that in addition to the examination

system, HMG's educational policy and educational system along with the curriculum, textbooks and teaching system needs a reevaluation.

In his article, Purna Rai (2003) bases his analysis on the results of the 2059 BS SLC (pass rate 32.5 %). Apart from this low pass rate, Rai is also concerned about the fact that most of the failures come from among the students who attend the public schools. He puts the blame for this situation on the rampant commercialization of school education in the form of private/boarding schools and the Government's implicit support for this process. He charges that public schools have been neglected and hence they do not have adequate teachers and physical resources. He adds that textbooks do not reach students on time and there is no regular teaching. The students being graduated by the private schools are mostly going to go abroad and hence are not likely to be available 'manpower' for the country. To improve the situation, Rai argues that the investment state on education must increase with the Government in full control of the education sector. He suggests that if the children of high ranking Government officials were made to study compulsorily in public schools, the attention of these officials would go to such schools. Unless the situation improves, Rai suggests, the fees in private schools will increase and education will go beyond the reach of children from low income families.

*Annapurna Post:* There are three opinion pieces from this newspaper in the research archive. The first by Rajendra Bikram K.C. (2003) begins by discussing the SLC results for the 2059 B.S batch. The usual negative characteristics of the results are discussed: low pass percentage, disparity between results of private and public schools and more than 200 schools from which not a single student passed the SLC. When students from low and middle economic classes have limited access to higher education, K.C. argues, a revolution can be born in the society. The success of private schools is due to the commitment of the teachers toward their work, argues K.C. On the other hand, public schools suffer from politicization of teachers, overcrowded classrooms, and the present conflict, argues K.C. He states that Maoists have killed and maimed many teachers and more than 30,000 teacher posts are vacant in the public schools of the country. The changed curriculum is also a reason for the deteriorating educational quality, K.C. notes.

In the second opinion piece, Govinda Adhikari (2004) delineates the extra mental and physical burdens borne by the SLC examinees of 2004 due to the ongoing conflict. Since the students had to travel to the district headquarters to take the examinations, they were susceptible to harassment by armed forces of both of the warring sides. Once in the district headquarters, they faced many logistical problems. Adhikari argues that during the exam period, the state, society, and the families of students should try to create an appropriate environment for students. Moreover, he argues that Nepal's current educational system in which the examination retains maximum importance needs to be changed. An evaluation system based exclusively on the end-of-the-year examinations such as the SLC has many defects and alternatives to such a system need to be sought seriously, hints Adhikari.

The article by Bikas Kumar Tiwari (2004) deals with how the conflict has impacted the education sector in Nepal in very general terms. Tiwari repeats much of what others have said. Talking about SLC in particular, the only new argument he offers is related to the arrangement regarding grace marks and supplementary tests. He argues that no matter how poor SLC pass performance might be, to give grace marks to students so that they can pass SLC or give them the opportunity to reappear in tests of subjects they had failed, is to hatch a conspiracy against the weak students. This kind of arrangement, he suggests, will make such students even weaker and cannot be an alternative to educational development.

*Himalayn Times:* There are four articles from this newspaper in the research archive. The first by Yuvaraj Pandey (2002a) makes some interesting points regarding the massive failure rate of students in SLC. Pandey wonders if the SLC curriculum is more vast and comprehensive than what students of that age are able to grasp and understand. He wonders if the question papers are set in such a way that most students are unable to answer all the questions in the allotted time. Pandey also wonders how the difficulty level of different question sets given in the various regions of the country is equated. Given that such a thing can only be done through practical tests and research, he wonders if the SLC students from different parts of Nepal are being unfairly asked to answer questions of various difficulty levels. To get rid of this doubt, he advocates the use of a single question set throughout the country. Pandey also wonders if the SLC answer copies are being marked by teachers used to teaching at a higher level and hence would have expectations that would be different than those of teachers who only teach at the SLC level. He argues that these points regarding the curriculum, exam, and marking process need to be discussed because they influence student performance in the SLC.

Prakash Silwal (2003) discusses the recommendations made by the Secondary Education Action Plan regarding the SLC. It was this Plan that recommended organizational reform of the OCE, decentralization of exam management, and reform in the quality of SLC examinations. The use of region-specific question sets, use of alternate question sets in math and English even in a single exam centers, use of a special coding mechanism in answer copies, and reform in the marking process were some of the outcomes of this Plan. Silwal argues that the effect of these measures need to be discussed widely. He also asks if reforming from the top end (namely, the SLC) and not doing much in lower classes will give us the desired results.

In the third article, Giridhara Dahal (2003) begins with an analysis of SLC results for the 2059 BS batch (when the pass rate was 32.05%). He makes the usual points regarding the high failure rate and the disparity between private and public schools. However, he notes that teachers in the public schools are experienced and trained even as these schools lack physical resources. He remarks that the ‘consciousness’ of the guardians of students who study in rural and remote area schools is ‘low’. The students have to spend more time in domestic and farming-related work than in school education. The management of these schools is not good which is in sharp contrast with the case of private schools which tend to have good management, argues Dahal. According to him, the fault for the high failure rates lies with everyone in the system. He argues that Nepal needs a good educational policy, one which teaches students practical and technical skills. He ends with a general recommendation to improve the SLC results. This can be done, according to Dahal, by making the education system scientific, public-oriented, and easily accessible to all.

In another article Yuvaraj Pandey (2003) argues that SLC examinations should not contain questions based on the curriculum of class nine and ten but should only be based on the textbooks of class ten. Secondly, he again argues against the use of multiple question sets in a single SLC exam without a priori practical testing of these questions adding that with respect to the results, there is no proof that the arrangement of multiple question sets has made any significant difference.

*Rajdhani:* There are four articles from this newspaper in the research archive. The first of them is by Rajendra Maharjan (2001a) who starts by discussing the results of 2057 BS SLC examinations. Given the colossal number of failed students, Maharjan asks if the steps taken then to reform the exam process in terms of alternate question papers in math and English, the arrangement of marking answer copies in centers identified by the OCE, coding and decoding of answer copies,

etc. actually contribute toward a crisis of confidence between the stakeholders rather than enhancing the quality of the SLC examinations. Maharjan states that SLC has functioned more as an 'ambush' to fail students and hence our thinking about reforms has to go beyond its procedural aspects. He asks how the SLC examinations are to be located with respect to the main objective of teaching and learning in our secondary schools: Are the examinations assisting the teaching-learning process or obstructing or are they sidelining the poor, disenfranchised, and rural students from the mainstream of society? Maharjan stresses that the time has come to examine our entire examination system to find out how student-friendly, impartial, and scientific it is.

In another article, Yuvaraj Pandey (2002 b) reiterates many themes related to the massive failure rate discussed by him and others giving ideas for discussion to raise the pass rate. Among the ones not discussed earlier, one is to reduce the number of subjects that SLC students have to study. He thinks the students should only be asked to study Nepali, English, math, and social studies as compulsory subjects and a fifth optional subject. Another idea he proposes is to reduce the pass mark from 32 to 30 or less. Alternatively, he suggests that a routine granting of grace marks of 5, 7, 10 could be adopted and says that there can be other ideas if Nepali society is really concerned about raising the pass rate of SLC students.

Paudel's article (2003) was published after the SLC results for the 2059 B.S batch were made public. Although that was the context for his writing, most of it is concerned with school education in general. Details of some initiatives and data are provided but not directly related to SLC. Paudel adds little to our previous discussions about the SLC and among the suggestions he makes to improve the results, the only new one is his emphasis on how students should be made to practice answer writing to model SLC questions.

Ekaraj Bhattarai's article (2004) was published after the SLC results for the batch of 2060 BS was made public. Since 46.18 percent of the regular students had passed, there had been a need to explain increase of about 14 percent in the pass rate. Official sources had attributed it to SLC exam schedule with gaps between certain examinations, reforms in answer marking process, training given to graders, and so forth. Despite the increase of the pass percentage, Bhattarai reminds the readers that huge number of students still failed the SLC. He stresses that the result of the public schools are still disappointing and gives many examples of districts with several schools where not a single student passed. To find out the reasons why so many fail SLC, Bhattarai argues that we have to find answers to many other related questions. One link he makes is to the practice in schools whereby low performing students are routinely promoted to higher Grades. Other links he suggests are related to issues regarding school management, teacher appointment process, commitment of school teachers, teacher-student ratio in schools, physical resources available in schools, etc. In order to provide quality education to all students, he suggests that the state should invest more in public schools and after making sure that such schools are properly managed by communities, private sector involvement in school education must be curtailed. This would also force the country's leaders to pay attention to public schools which they do not have to do at the moment as their wards study in private schools, adds Bhattarai.

*Nepal Samacharpatra*: There are only two opinion articles published in this newspaper in the research archive, both by Suman Kattel. In the first one, Kattel (2003) argues that in the successful execution of any educational policy, management, teachers, students, and guardians have an equal role, suggesting that non-inclusion of all four of these parties in policy formation and reform programs related to secondary education in Nepal is responsible for the massive

failure of students. He adds that wrong selection of subjects, faulty question papers, and teaching methods are also responsible for lack of success. Providing further details, Kattel argues that making English and math – two subjects in which many students fail the SLC – compulsory in SLC is unnecessary. He also adds that the direct politicization of school education has contributed to a less than healthy educational environment and that many teachers in public schools lack self-confidence, knowledge of specific subjects, application in their work in comparison with their peers in private schools. To improve SLC results, he suggests that a result monitoring committee must be set up in the Ministry of Education which can analyze the SLC results each year and set specific targets for progress.

In the second article, Kattel (2004) argues that the fact that nearly three out of four students fail SLC each year is a clear indication of the full failure of our educational policy, that the main reason is the exam-oriented educational system, that teaching process is not effective and the curriculum is faulty in its theoretical emphasis. Hence, he says even though many subjects are included in the SLC, there is a dearth of experimental and practical teaching. Kattel argues that SLC exam has to be simplified by making all subjects optional. So that it will not be the big stumbling block it has become for many students. Just making English a non-compulsory subject would increase the pass rate by a significant margin, writes Kattel, stressing that the current effort to represent SLC as the ‘iron gate’ of our education system must be discontinued and should be rendered into just another school exam. It shouldn’t be the gate that stops many students from realizing their potential in life, he adds.

*Kantipur*: There are 15 articles from this newspaper in the research archive. While each of them mentions SLC, not all make it their main subject of discussion. Hence only the relevant ones are discussed here. Geeta Rana (2000) argues that since the tradition of making public the first 10 ranked students in the SLC has led to unhealthy competition between schools, the practice should be scrapped. Instead, she argues that the attention of the OCE should be focused on ensuring quality in each of the steps required for successful execution of the exam. Lamichhane (2001) makes various comments on the different initiatives taken by the OCE to improve SLC. These are related to the use of different sets of questions papers in the different regions of the country, alternate sets for math and English in the same exam center, coding and decoding of answer copies, etc. Since most of what he has to say has been discussed by others mentioned above, they will not be repeated here. However, he also makes other observations that are worthy of note. Lamichhane argues that although the full marks of the SLC were increased from 700 to 800 by adding a paper on health, population and environment, not enough time was given to train teachers on this new subject. In addition, the 20-mark oral exam included as part of the English test proved to be difficult for students studying in schools with teachers who were not trained to adequately prepare the students for this part of the test.

Maharjan (2001b) argues that our education system is organized around an examination procedure that promotes rote memorization adding that since examinations including SLC are result-oriented, they have become opportunities to regurgitate texts learnt by heart. Maharjan adds that these tests do not promote the critical and creative faculties of students and their present format suits the interests of those who run our very unequal society. Those who ask critical questions, those who can argue, and those who can analyze new problems are dangerous to the managers of the status quo who will only permit the OCE to do small reforms in the exam system that do not challenge their interests. If we want to have an equal, just and fully, democratic society, Maharjan argues, the present exam system needs to be changed entirely. In an interesting article, Gopilal Neupane (2002) asks if those responsible for managing the SLC

should consider the extenuating circumstances in which the students were taking the SLC examinations in April 2002 and think of ways to compensate them in terms of Grades. In particular, he points out that during the course of the Maoist insurgency, students have had to endure much trauma that have negatively impacted them and their performance in the SLC. Ways to compensate those students who have been exposed to such trauma and also those who, for reasons associated with the conflict, have been deprived of routine preparation and 'practice' time, should be discussed, argues Neupane.

Citing the SLC results of 2058 BS, educationist Mana Prasad Wagley (2002) offers his views on why so many students fail. First of all, he argues that the Ministry of Education is not clear about what knowledge and skills it expects in students who pass SLC. Secondly, addition of new subjects in the curriculum does not mean that students are learning more. Wagley holds the view that they should be asked to study only a language, math, science, and social studies. The current mechanism whereby students are expected to study eight subjects and appear in the SLC of 800 full marks is the main source of the negative results. Like Yuvaraj Pandey, Wagley sees no reason why SLC students should be asked to answer questions based on materials they had studied in class nine. Wagley also discusses other aspects of our education system that need to be reformed to improve the results. In terms of educational administration in the districts, he suggests that education officers should not transfer teachers based on their political loyalties. While acknowledging the lack of adequate number of teachers in remote areas in general and especially subject-specialist teachers, Wagley holds the view that if only the existing teachers were honest, not much else would be necessary to raise the pass percentage to about 50. The unions of the teachers should pay attention to this, states Wagley, concluding that the quality of education will only go up through the coordinated action of the Government, district administration, teachers' unions, and teachers themselves.

Durga Pokharel (2002) suggests that the way to improve our SLC pass rate is to completely restructure our school system and that class one through six should be declared primary education and no one should be failed in these Grades as also at the end of class six, those who do not or can not pursue further education should be given the opportunity to pursue trade school. She adds that the same should also be available to those who want to drop out of school after Grade eight, Grades nine through twelve should be declared high school and no one should be failed in these Grades. Combined with other changes related to the infrastructural needs of public schools, the division of the curriculum into core and optional subjects and an appropriate management model for schools, Pokharel argues that the restructuring of the school system she has proposed will relieve the country of the accumulated burden of those declared 'failed' in SLC each year. That burden is also rhetorically described by Jyoti Devkota (2003).

Mahakanta Jha (2003) looks into the sources of irregularities in SLC examinations. Above all, he identifies two reasons: one is the linkage between Government subsidies to public schools who manage to pass more than fifteen percent of their students in the SLC, adding that schools which fall below this rate for three consecutive years do not get Government help giving rise to a 'no matter what students have to pass' mentality inducing irregularities. Secondly, he argues that there is less than enough budget allocation to cover the costs of those who are asked to manage examinations at the district level. Prashrit (2003) argues that the only way to stop the avalanche of failures in SLC in the short run is to open a trade-school like tract for students after Grade five. Students from Grade six and above, he says, can opt for this tract and learn many 'livelihood' skills that could be certified through another mechanism. Such an arrangement would generate the low-skilled work force needed by Nepal, he adds. On the other hand,

Badri Prasad Dahal (2003) focuses on the exam execution process of the OCE and points out lapses that need correction or attention, including issues related to the setting of exam papers and their level of difficulty, exam time limitations, exam environment related to test centers, copy marking procedures, etc. Ramesh Prasad Gautam (2004), the principal of a public school in Kathmandu, wonders why pass rate had increased to 46.18 in 2060 BS. Although the increase by more than 14 percent over the previous year was welcome, he says, the sources of this increase remain a mystery. Given that interference in school education due to political instability has increased and not decreased, Gautam suspects the generous adding of grace marks to students' Grades, previous target setting for pass rate, or self-learning by the students in their homes (when school classes were interrupted) had something to do with the increase. Despite being satisfied with the overall pass rate, Gautam remains unhappy with the pass rate (below 25 %) of most of the public schools. The exceptions in the latter category include schools like Padmodaya in Kathmandu which Gautam heads and which has passed more than 90 percent of its students in most years.

Joshi (2004) argues that one way to increase the pass rate is to adopt a 'subject pass' system whereby students are offered the option to appear for tests in only subjects of their choosing and offers some measures to improve the record of the public schools. Most of what he has to say is related to a better execution of the commitments of teachers and management committees, issues that others have touched upon. However, he proposes that given the poor results of students in schools in the Himalayan region, a separate curriculum based on their social, economic, and geographical 'needs' should be prepared and a corresponding SLC examinations should be arranged for them.

*Gorkhapatra*: There are 18 articles from this newspaper in the research archive. Although all mention SLC, some do so only in passing with not much to say about it. Others repeat much of what has already been discussed in this report. Hence only those articles with a substantial focus on SLC (and in which some new points are made) are discussed. Devi Prasad Ojha (2000), a former minister, argues that given the vast difference between schools in different parts of Nepal with respect to physical and other facilities, the tradition of evaluating students from these schools based on a single format (namely, SLC) has to be abandoned. Ojha does not say what should replace the current system. Shiv Prasad Bhattarai (2000) makes an interesting observation given that most students who take SLC sent-up examinations pass and hence become eligible to appear in SLC examinations, the fact that more than half such students then fail the SLC each year raises questions regarding the credibility of both the sent-up and SLC examinations. Even though Bhattarai does not put it this way, this fact points to several possibilities: the sent-up exam is not of the same difficulty level or its answer copies are marked more generously than those of the SLC, etc.

After discussing many of the usual themes associated with the management of SLC examinations, Acharya (2001a) states that we as a society are not clear about whether the SLC should be made simpler or more complex in the name of reforming it. He suggests that giving the responsibility of managing SLC to schools themselves is a good idea. If that is unlikely, he suggests district-wise decentralization of SLC. Much of the same is repeated in Acharya's second (2001b) article published three months later. Oli (2002) suggests that punishing those schools which fail to maintain at least a pass percentage of 15 or above for three years in a row does nothing to improve the quality of education in those schools. If those responsible for such poor results should be punished, then that punishment should also be meted out to district education offices and the OCE itself, adds Oli. Pradip Gyawali (2002) blames post-Panchayat

Governments for failing to come up with robust educational policies under which the SLC could be reformed. The current system does not train students in livelihood earning skills. Instead, it prepares an army of SLC failures who are unemployed, adds Gyawali. He also faults HMG/N's inadequate investment in public education and its inability to provide and support teachers to public schools and notes that given the ongoing conflict, teachers are under pressure from both warring sides and hence have not been able to do their duties. Much of this discussion is repeated in Gyawali's second article (2003).

Deuja (2003) looks at the SLC results for the batch of 2059 BS (pass rate about 32%) and laments the waste of our society's investment in secondary education as represented in those results. Most of what he has to say is not original and has been discussed previously. However, he mentions in passing that among those who are enrolled in high school, girl students have a tougher time to attend classes regularly because they have to help in domestic work. Although he does not say it, the implication is that because they have less time to study, girl students do less well than boys in SLC.<sup>14</sup> Umakanta Acharya (2005) lists many of the initiatives taken in recent years – most of which have been discussed previously – to improve the management aspects of SLC exam. Stating that these are not enough, Acharya lists some suggestions including an increase in the exam fees and an increase in the remuneration paid to those involved in the exam execution and copy marking. It is suggested that those involved in irregularities during the SLC exam should be charged under corruption laws. Acharya argues that the grace mark system should be scrapped or, if it needs to exist, pre-announced grace marks should only be given to girl students. In his third article of SLC published in *Gorkhapatra*, Nirmal Kumar Acharya (2005) discusses irregularities reported during the SLC examinations of 2005 and mentions recent efforts at improving SLC exam process and repeats his recommendations from his 2001 articles. In particular, he suggests that the management of SLC examinations should be devolved to the regional and district levels.<sup>15</sup>

## Letters to the editor

As mentioned earlier, no systematic attempt was made to collect all letters to the editors about SLC published in newspapers researched for this study for the time period covered. However, about a dozen such letters are included in the research archive from some of the newspapers. They were published last year (namely 2061 BS) covered by this study. Since letters express the views and opinions of the letter writers, they have been treated as cameo op-ed articles and hence discussed here.

Several of the letters are related to irregularities in exam registration and execution process. For instance, in a letter to the editor of *Gorkhapatra* published a few days before the 2061 BS SLC examinations (5/12/2061; 18 March 2005), Dhan Bahadur Shrestha of Okhaldhunga hopes that the examinations will be held without students and invigilators indulging in cheating. Shrestha argues that examinations are meant to test the examinees; they are not homework sessions. A letter expressing similar sentiments written by Gopal Bhandari of Biratnagar was published in *Kantipur* a week later (12/12/2061; 25 March 2005). Around the same time (13/12/2061; 26

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<sup>14</sup> This gender disparity is further discussed in Bhatta (2004).

<sup>15</sup> In passing, Acharya (2005) also notes that since the reasons why many students fail the SLC are known, it is interesting to note that a study with financial assistance from the Danish government is being carried out to find why so few students pass the SLC. He is obviously referring to the ongoing study on student performance in SLC of which this report constitutes a small part.

March 2005), the *Gorkhapatra* published a letter from the principal of a high school in Kathmandu denying that his school had tried to register more examinees for the upcoming SLC beyond the declared deadline. The name of that school had been included in an earlier report in the same newspaper which described the unsuccessful activity of a gang that supposedly tried to register new students for SLC by taking various sums of money from them.

In the following week, several letters were published commenting on the institutional scams that had resulted in several hundred potential SLC candidates being denied the opportunity to appear in the SLC examinations. Those who ran such institutions had taken money from these students promising both proper registration and passing Grades in SLC but it turned out that these institutions never really registered the students for SLC with the proper authorities. This was discovered just before the examinations when the students were unable to get their admission cards for SLC examinations from these institutions. Not only that, those to whom the students had given their money were no where to be found. In a letter to the editor of *Annapurna Post* published on 16/12/2061 (29 March 2005) Pradip Pokharel of Kathmandu says that those who operated such institutions should be punished immediately. In a letter published in *Rajdhani* on 21/12/2061 (3 April 2005) Krishna Pathak exhorts future SLC candidates, journalists, and the Ministry of Education to be on the look out for advertisements by similar con artists and institutions. Madhav Giri, in a letter to the editor of *Kantipur* (17/12/2061; 30 March 2005) argues that students conned by such institutions should not be punished. As a teacher he states that such institutional scams were on the rise with the complicity of officers from the district educational offices. On the same day, *Kantipur* published a letter by Sushil Rajthala from Bhaktapur who stated that there were institutions which could arrange SLC pass certificates for interested individuals for a sum. The cases being reported in 2005 must be those in which such institutions failed to arrange the “proper channels”, adds the letter writer. Since the whole system is rotten, what can we expect from anyone, asks Rajthala rhetorically.

After the examinations were over, Jagan Niraula from Biratnagar sent a letter to the editor of *Kantipur* (28/12/2061; 10 April 2005) stating that as a teacher he had hoped that the SLC of 2061 BS, held under the State of Emergency (declared by King Gyanendra), would not be marred by the kinds of irregularities he had seen in previous years. Instead, he said that there was no difference in the way in which cheating by students took place with the complicity of exam invigilators. There were other letters too. In a letter to the editor of *Annapurna Post* published on 1/12/2061 (14 March 2005), Jyoti Khatiwada of Dhading praised the work of FM Radio Shreenagar of Tansen for providing SLC lessons on air as had been reported by the same newspaper the previous week. Khatiwada suggested that other FM radio stations should also broadcast similar programs. In a letter to the editor of *Kantipur* published on 9/12/2061 (22 March 2005), Bijaya Shrestha of Morang suggests that the decision of the Government to locate the SLC exam centers only in the district headquarters adds extra financial and other burdens on the students. He suggests that this decision indicates that the Government is afraid of the insurgents. Instead, he says that the Government should have shown the courage to hold the examinations in centers beyond the district headquarters in relatively safe districts such as Morang, Jhapa, and Sunsari.

There was only one letter to the editorial in the research archive which was concerned with the overall reform agenda of SLC. Written by Kiran Lohani from Kathmandu and published in *Kantipur* on 12/12/2061 (25 March 2005), it begins by stating that despite many commentaries on the mistakes and inadequacies of the past SLC examinations, there was no evidence of reform in the exam system of the SLC. Lohani states that it is unlikely that the students will get

satisfactory marks just based on the teaching in schools. Strikes, uncomfortable logistical situation in the district headquarters during the examinations, and the heavy security arrangements (including a curfew during the evening and night hours) are likely to negatively influence student results, adds Lohani. He proposes several ideas to reform SLC. First he says that there must be broad reforms in the teaching methods in schools. Second, he states that the threat to cut off educational subsidy to schools with poor results induces teachers to put a lot of pressure on their students. If they can not realize expected results, the teachers and the students will immerse themselves in self-guilt, adds Lohani. Instead, he says the education imparted throughout the year should be more practical-oriented. He adds that the exam system and the question papers must be scientific and practical in nature.

## Conclusion

In section two of this report, it was mentioned that op-ed articles are textual windows through which we get access to the views of a small set of experts, commentators, and writers on issues related to various aspects of the SLC exam system. After briefly reproducing the views expressed by several dozen commentators and writers (including those who sent letters to the editors) in this section, we can reach the following conclusions.

The dismal results of SLC are related to our lack of clarity regarding the objectives of the SLC curriculum and the examinations. The disappointing results are also the fruit of an exam dominated evaluation system in which there is no continuous evaluation of students but rather a three-hour end-of-the-year exam determines their fate. The poor results are also tied to defects in the curricula and its vast scope distributed in eight subjects of 100 marks each. They are also related to the framing of question papers on the textbooks read in both Grades nine and ten and on defects regarding levels of difficulties in alternate and parallel sets of question papers that are currently in use.

Irregularities in the exam and marking process contribute to the defects of the exam system. Some initiatives to violate the code of conduct of examinations are linked to provisions of subsidies provided to public schools. Others are related to the lack of adequate budget for exam management and the lack of a strong punitive system for violators. The conflict has made the exam process more expensive and less comfortable for examinees due in part to the relocation of exam centers in district headquarters. The conflict has also contributed to deterioration of the educational environment in schools all over the country and induced a situation of fear in both teachers and students. These conditions obviously have some influence on student performance in SLC examinations.

There is widespread disparity in the SLC results of private and public schools and between urban and rural schools, a reflection of social injustice in our educational system and fueled by and feeding the ongoing conflict. The poor result of most rural public schools is tied to the poverty of schools and students, many of whom have to do plenty of domestic and farm-related work. As a result, they and especially girl students can not devote their time to school studies. The low SLC performance of rural schools is tied to the lack of qualified teachers, especially in subjects such as math, science, and English, lack of application on the part of teachers, and absence of physical resources and sometimes textbooks which are not available on time. The poor SLC performance of rural schools is also related to the frequent closure of schools due to strikes plus extreme politicization of the teachers and management system and absence of a credible system of rewards and punishment for those found wanting in executing their responsibilities. Some commentators feel that the widespread commercialization of secondary education in post-

Panchayat Nepal has resulted in the official neglect of public schools and students who study in such schools. The commentators have also expressed their views on what needs to be done to reform the SLC exam system. They are given in Section five of this report where the overall recommendations of the public to improve SLC are discussed.

## Reporting

Most of the reports are what can be described as factual simple reports based on press handouts or routine journalistic inquiries. Comparatively few long and in-depth analytical reports exist in the research archive. Reading the reports from various newspapers during the time period covered by this study reveals a lot of repetitions in both the themes pursued and the manner in which they are represented to readers. Many of the themes of these reports are subjects that have already been discussed in the previous two sections on editorials and op-ed articles.<sup>16</sup> Hence it would be tedious to summarize each and every simple report here. Instead, a brief composite characterization is provided for most of the simple reports. For ease of reading, they are organized around certain familiar themes.

*Policy:* Some reports have highlighted that our school educational policy is wrong in the sense that our school education does not provide practical or vocational skills to the students. Within the existing policy, the exam system is the dominant modality of evaluating students. The examinations are used to pass or fail students but not to provide effective feedback in their education. The exam system in SLC is also collective subject-oriented (students have to pass all subjects) and does not provide single subject certification. Our secondary education system allows for the existence of Government-supported public schools where students study for nominal fees and privately owned and operated schools where students are charged significant fees. This existence of two types of schools promotes disparity between students who study in them and also allows the economic status of families to determine student's access to the type of school she can attend.

*Public school environment:* In the post-Panchayat period, newspaper reports have emphasized that public school environment has become highly politicized. The loyalty of teachers to political parties has surpassed their loyalties to the management committee of schools for which they work. They have ultimately been found wanting in fulfilling their responsibilities toward students. The political economy of rural public schools is such that they can not recruit and retain qualified teachers in specific subjects such as English, math, and science, the three subjects in which most of the students who fail SLC do not get a passing Grade. These schools also lack physical facilities such as labs.

*Irregularities/mistakes during the exam process:* Many reports are dedicated to discussions about irregularities during examinations. They discuss the discovery of massive amounts of chits in exam centers. They also report cheating by students and the illegal activities of invigilators and exam center supervisors. We get to read about fake examinees and fake invigilators. In terms of mistakes, we get to hear about exam centers without adequate infrastructure to conduct the examinations. Such centers are often selected, according to newspaper reports, under political

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<sup>16</sup> There are quite a few human interest stories in these reports that need not be discussed here. They pertain to things like certain kinds of physically challenged individuals doing well in the SLC, unexpected happenings during the exam time such as examinees giving birth to a child, future plans of highly successful students, social felicitations of SLC toppers, SLC tutorials over FM radio, etc.

pressure to 'help' students from certain schools. There are reports about exam centers not having the question papers for optional subject examinations where examinees had to wait until photocopies of such questions were secured from other exam centers. In recent years, there have also been reports about mistakes and irregularities in the registration of students. Fake tuition centers and institutes have deprived groups of students from appearing in the SLC examinations. There have also been mistakes in the processing of application forms resulting in the allocation of wrong symbol numbers.

*Conflict-induced difficulties:* Many reports have discussed the difficulties faced by students and teachers because of the ongoing conflict in Nepal. They have highlighted how the conflict has resulted in periodic closure of schools and generation of fear during exam times. They have also discussed the logistical problems faced by students who have had to travel to district headquarters to appear in the SLC examinations in the last few years. In addition to difficulties related to finding temporary housing and other logistics, students have had to face unnecessary hassles from Maoist insurgents and the state security forces. Both armed forces have often stopped students from traveling to district headquarters or subjected them to demoralizing security enquiries and searches.

*Results:* Many reports have discussed the unpredictability of SLC results release process criticizing the Government's decision to only make the results public in print in the state-owned newspaper *Gorkhapatra*. Newspapers produced by the private sector have also reported how the *Gorkhapatra* with the results is not made easily available in locations outside of the Kathmandu Valley. After the results are made public each year, many newspapers publish reports discussing them. Results are often first presented at the national level and in subsequent days, discussions at the regional or district levels are often published. Reports based on interviews with SLC toppers and post-mortems of the poor pass rates are often published simultaneously. The latter reports tend to include quotes from officials from the OCE and other experts including school managers, educationists, and education researchers. They tend to focus mostly on the pass rate differential between private and public schools and include quotes from various experts on the social significance of this disparity.

Subsequently news about the felicitations of successful students is simultaneously published with reports about schools with very poor results over the consecutive years. After a week or so from the day of release of results, newspapers also tend to report about mistakes in transcripts of the examinations. These include mistakes related to the personal details of students, mistake in the identification of toppers in various categories, mistakes in the copying of the marks, etc.<sup>17</sup>

### 3. COVERAGE IN POKHARA-BASED NEWSPAPERS

As mentioned earlier, three daily newspapers (*Janamat*, *Hotline*, and *Pokharapatra*) published from Pokhara were researched to find out what they had published about the SLC.<sup>18</sup> The relevant reports, articles, and editorials were photocopied and a research archive was prepared. In this archive, there were 41 items from *Janamat*, mostly published between Baisakh 2057 BS and Chait

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<sup>17</sup> A separate conclusion for this sub-section is not provided here to avoid the repetition of what has already been said in the previous two sub-sections.

<sup>18</sup> See Parajulee (2002) for a detailed discussion about the media scene in Pokhara. Some of what he predicted as the future of print media in Pokhara has come through (personal communication, April 2005).

2058 BS. There were 22 items from *Hotline*, mostly published between 2057 BS and 2059 BS. There were 19 items from *Pokharapatra* all published in 2060 BS. In this archive, most of the pieces are reports and there are only a few editorials (four in total) and op-ed articles (two in total). This section is organized according to the three genres of contents: editorial, op-ed article, and reporting.

## Editorial

There were only four editorials, three in *Janamat* and one in *Hotline*.

*Janamat*: The first of the three editorials published in *Janamat* (8/1/2057) discusses problems in the education section in broad terms. It uses the occasion of the near completion of SLC examinations to ruminate loudly about these problems. It argues that education above the SLC level – higher education – is not meant for all. Hence for many SLC is the last educational degree they will get. Such students should be taught livelihood-earning skills. The editorial adds that thought has been given to such skills; it was only the case that real programs based on those thought had not come into fruition and hence investments made in education were being wasted.

The editorial then recounts the history of educational institutions in Nepal in terms of ownership before going on to discuss the disparities in SLC results between Government and private schools. To explain this disparity, the editorial takes recourse to the repeated selection procedures of the private schools whereby weak students are not allowed to appear in the SLC examinations. The class size is also said to be small in such schools. Instead, in the Government schools, no such selection takes place. The crowded classrooms of such schools are filled by students who can not afford the fees but also do not have the money to buy necessary stationary. The students who by necessity have to devote some part of their time to other activities are taught by teachers who carry the flags of various parties and repeat their slogans to save their jobs. Hence the editorial argues that the class division in our society was being exacerbated by these two types of schools and a large part of the investments made in school education was being wasted every year. Given the talk about handing over the schools to their communities for management, the editorial warns that if this kind of management is left in the hands of party-politicized people, it will not make much difference. The need of the hour to solve the multi-faceted problems of education, the editorial concludes, is to free education from the control of the Government and party politics and make its administration and management fully responsible.

The second editorial published in *Janamat* (20/12/2058) makes a strong argument as to why the *bandh* called by the Maoists to coincide with SLC examinations that were to start on 20 Chait 2058 BS should be revoked. It argues that given the importance of SLC examinations in the lives of students, the Maoist call had induced a great mental impact on students and their parents. The editorial argues that it is everyone's responsibility to see that the SLC examinations are conducted without any hassles in a peaceful manner.

The third editorial published in *Janamat* (2060 BS, date not mentioned) begins by stating that only 32.05 percent of the students who appeared in the SLC examinations passed the SLC of 2059 BS. It also states that among those who passed the examinations, two-thirds come from private schools and only one-third from public schools. This is a reflection of the dismal state of education in Government schools, adds the editorial. Given the colossal number of failures, the results are a reflection of the failure of our investment in education which is contributing to

social imbalance, claims the editorial. The results also force us to think about the exam system and the fact that students from the two different types of schools can not compete with each other. To upgrade the educational status of public schools and to provide trained teachers in them, it now looks like the responsibility should fall upon the shoulders of communities. Without improving the condition of Government schools, the editorial adds, it is useless to hope for better SLC results. Political parties and student organizations should draw the Government's attention to the problems of Government schools so that their condition may be bettered and efforts made by the private schools to secure good SLC performance might be emulated in public schools.

*Hotline:* The one and the only editorial in *Hotline* (12/1/2058) in the research archive argued for reforms in the exam system. Given that SLC is considered the 'iron gate' for the future of students, it was high time that we became serious about the standard of SLC and about conducting the examinations without irregularities, stated the editorial. The irregularities reported in the past several years have reduced the standards of SLC examinations. Weaknesses in educational policies and related laws and politicization of the education sector have also contributed to this state of affairs, added the editorial. The indifference of HMG/N and importing of fake certificates from India have contributed to low morale amongst teachers. The editorial added that the politicization of the process through the chiefs of exam centers, invigilators, teachers and the process of copy marking were the main causes behind lack of quality in SLC examinations. This process has resulted in the appointment of people based on their political affiliation and in the marginalization of capable people. To stop this process, the politicization rampant in the appointment of teachers has to be stopped. HMG/N should also implement transparent policies and laws in this regard. The editorial further added that the exam system must be reformed and the import of fake certificates from India must be stopped. It also mentioned that irregularities in the exam centers must be dealt with immediately. The Education Ministry should implement rules that it had designed so that the present problems could be reduced gradually, concluded the editorial.

## Op-Ed Article

There were only two op-Ed articles, one in *Janamat* and the other in *Hotline* in the research archive.

*Janamat:* The piece in *Janamat* was written by a certain Shreekanta Paudel (2058 BS) under the title "Questions raised by the SLC examinations in Kaski". In the beginning of his article, Paudel lists six public schools in Kaski which failed to pass any of their students in the SLC held in Baisakh 2057 BS and mentions the names of three other schools in which a small percentage of students passed. In the second half of his article Paudel presents several factors that seem to him to explain this status quo. First he blames His Majesty's Government of Nepal (HMG/N) for not being able to do anything to mend this situation. The concerned educational offices seem to be doing nothing, he charges. In addition, he says that the frequent changes in educational policy have contributed to confusion regarding the goals of the education system. The delegation of school management to the community or management committee, he adds, has contributed to the further politicization of the education sector. The management committee is constituted in the recommendation of a specific political party, adds Paudel, and this process marginalizes education specialists as well as qualified and diligent teachers.

Paudel also argues that the changes in school academic calendar have hampered the planning process of teachers in schools. However, he reserves most of his ire to the non-functioning of

the management committee of the schools. In particular, he says that such committees have to be able to mobilize human and other resources, both within the school institution and the larger community in which the school is located. Continuous monitoring of the work of the committee by parents and intermittent initiatives taken by the headmasters of schools should go a long way in solving the problem, argues Paudel. Finally he argues that schools with poor results need to be investigated and punished by the relevant authorities.

*Hotline.* The op-ed piece published in *Hotline* was written by Yuvaraj Khanal and published just after the conclusion of the SLC examinations in Baisakh 2058 BS (April 2001). In it Khanal (2058 BS) recounts many irregularities during the execution of SLC examinations, says that the alternate questions papers set for English and Math were not of the same difficulty level and laments about the abundant availability of guess papers and how those who relied on such study aids seem to feel as though they would get first division marks whereas those who had genuinely prepared for examinations were frustrated. He guesses that given the demands of teaching in their respective schools, it was more than likely that the answer copies would be checked by lazy headmasters and HMG/N workers who had never taught in schools than experienced teachers. Given this environment, Khanal argues that passing SLC has become too much a matter of chance or luck.

## Reporting

There is a preponderance of simple reporting in the form of news reports. No long-length in-depth or investigative reports were located. Amongst the simple reports, the following subjects were mentioned.

*Janamat.* When the SLC examinations started on 2 Baisakh 2057 BS (April 2000), a report stated that the total number of students taking the examinations in Kaski district that year exceeded 5,000. The same report mentioned that there were 20 test centers with some students absent on the first day (3/1/2057). When the results of those SLC examinations came out almost two months later, *Janamat* covered it as its main report on 18/3/2057. “SLC Exam results published: The results of most of the private schools in Kaski good” was the headline. In the report, it was stated that although the *Gorkhapatra* with the SLC results had not arrived in Pokhara, schools in Pokhara had managed to check the results of their students via phone with Kathmandu. That report went on to list several private schools all of whose students had passed SLC in first division. It also listed the results of several other private schools. In an accompanying first page report, the same newspaper featured a report with the headline “Those who had come to check the SLC results have gone back disappointed,” that highlighted the fact that many students who had come to Pokhara from its surrounding areas waited the whole day for the *Gorkhapatra* with SLC results to arrive. Since it did not come until late in the evening, they either returned disappointed or had to lodge themselves in the local hotels that evening, adding to their costs. The report stressed that it was not the first occasion when such a thing had happened and that the students were seen to be calling Kathmandu from telephone centers in downtown Pokhara, to check with their relatives and acquaintances their results. On the following day, the same newspaper reported that 47 percent students from Kaski had passed SLC examinations. Results from other locations in the Western region (for instance, Lamjung) were still being reported in *Janamat* almost a month and half later (10/5/2057).

This newspaper also published some reports during the SLC of 2058 BS (April 2001). The report published on 2/1/2058 contained data on the numbers and names of test centers as well as the numbers of students who appeared for the examinations that year. During the course of

the examinations in the next few days, the newspaper reported several cases of irregularities: students being rusticated from various test centers for violating the examinations codes, fake invigilators arrested, etc. When the results were out, several reports discussed results and performance of various schools and students. On 6/4/2058, *Janamat* carried a report from the national news agency, RSS, of a discussion organized in Kathmandu by the Education Journalist Group. In the report it is mentioned that the low national pass rate for that year (31.62 %) had raised questions about the credibility of the SLC curriculum and the exam system. On that occasion, it is mentioned that the speakers highlighted the following factors behind the dismal pass rate: lack of diligence (compared to previous years) on the part of the students, bad influence of politics on students and teachers alike, influence of *bandhs* and strikes, deterioration of the teaching-cum-learning environment, lack of subject-specific and competent teachers. Others also pointed out that the changes made in curriculum, increase in the total full marks for the exam system and in copy marking could have also influenced the SLC pass rates for that year.

When the results were out, news about the felicitation of students from various schools and ethnic groups were published on many occasions. Also a report saying grants provided to schools with pass rates less than 15 percent in the past three years would be reduced was published (32/4/2058). This report focused on the schools in the district of Tanahu in the Western region.

During the following test cycle, some reports linked the examinations with the prevailing conflict. While the Maoist insurgents had called for a *bandh* to coincide with the SLC examinations, the authorities claimed that the examinations would go ahead nevertheless (6/12/2058). Another report mentioned that due to the security situation, all the test centers for the district of Parbat had been moved to its headquarters in Kusma and that students who had come to Kusma were being asked to not roam around after 7:30 pm in the evening. The local administration had announced this apparently to reduce the threat from terrorists who might have come to the town in the disguise of students (6/12/2058). Reports published during the examinations discussed irregularities.

*Hotline*: Reports published in the second Pokhara daily *Hotline* were qualitatively not too different from those published in *Janamat*. Reports published during the course of the examinations in Baisakh 2058 BS (April 2001) highlight various irregularities. One such report mentions the arrest of a fake invigilator and other irregularities in a test center in Parbat (3/1/2058). A follow-up report mentions that the exam center chief who was complicit in making it possible for the fake invigilator to be present in the exam room had absconded (7/1/2058).

Reports published during the course of the examinations in Chait 2058 BS (April 2002) highlight the numbers of exam centers in Kaski district and the numbers of students appearing for the examinations. Given the *bandh* called by Maoists to coincide with the examinations, the reports also highlighted the fact that the army had been mobilized to provide security to exam centers (e.g., 21/12/2058). Some reports highlighted the routine aspects of exam operation (number of absentee examinees, etc.) while others mentioned instances of individuals appearing for examinations under specific circumstances (e.g., a suspected Maoist who was allowed to take the examinations in prison, a male student mourning the death of one of his parents, etc.). When the results were published some months later, a student from Pokhara, Suyog Bhandari, secured the highest marks in the entire country. News about the planned felicitation of him by the Pokhara Sub-Metropolitan City was published (14/3/2059) along with other reports highlighting the success of other students (27/3/2059) and their felicitations (23/3/2059).

*Pokharapatra*: Reports from another Pokhara newspaper *Pokharapatra* were available for the year 2060 BS only. They too are not qualitatively different from those published in the two other newspapers discussed above. The results for the 2059 BS batch of SLC students came out on 31 Jeth 2060 BS. Routine analyses of results were published. In one such piece, it was mentioned that 48.56 percent of students from Kaski had passed the examinations. Information on schools where all students had passed the SLC were also provided in the same report (1/3/2060). On the same day, another report discussed the happiness of a blind student in Baglung who had passed the examinations and wanted to go on to college to become a teacher. Reports on subsequent days discussed the results in more detail in Kaski and neighbouring district (e.g., 2/3/2060, 3/3/2060). There were other stories published as well. For example, one was published on the suicide of a woman who had failed the SLC (2/3/2060); others on felicitation program organized by Ward no 8 of Pokhara (22/3/2060) and a school (25/4/2060).

About a week before the SLC examinations were to commence on 13 Chait 2060 BS (end March 2004), the Maoists attacked the district headquarters of Myagdi district, Beni. During the attack, many Government buildings were destroyed. The SLC exam questions were stored at the district police office which was also destroyed. Following this incident, it was reported that copies of the questions had been destroyed and some were circulating in the neighbouring district of Baglung (11/12/2060). The students in Myagdi feared that they might not be able to give the examinations as per the announced schedule (12/12/2060). This fear was genuine because given that a set of questions was prepared for the entire Western development region, any replacement set had to be distributed to all 16 districts of the region. In another report published on the same day, this fear was allayed by the district education officer who said that the replacement set had already arrived in the district (12/12/2060). Reports also mentioned the fact that since the examinees had come to the district headquarters of Parbat, Kusma, to appear for the examinations, there was a housing crunch resulting in 10-15 students living in a room. (12/12/2060).

## Conclusion

Reportings in Pokhara newspapers largely focus on various types of irregularities in the execution of SLC examinations. There are some reports which have a 'human interest' angle to them and some are related to the ongoing conflict-induced difficulties for the examinees. SLC exam results at the national, district, city, and school levels have been reported and some comparisons made. When local students have done well, their success has been highlighted whereas bad results have rarely been examined beyond the fact stating so. There are very few editorials in the Pokhara papers about the SLC. The ones that exist discuss the disparities in results between the private and Government schools. They also point to the politicization of the education process (policies, appointments of teachers and exam center chiefs, etc.) to account for the dismal state of affairs. They exhort for reforms in the Government schools and the SLC exam process so that the SLC results could be improved. Op-ed articles locate SLC results within the larger dismal environment of educational policy, politics of school management, and changes in educational calendar, and provide some recommendations.

All in all, contents analysis of the Pokhara papers reveals that with respect to public perceptions of SLC exam performance, broad-type analysis is dominant. While describing SLC as an 'iron gate' to be passed by students, Pokhara papers analyzes SLC exam performance in terms of the inadequacies of the examination system and irregularities in it. The dismal performance has been tied to bad educational policies, pessimism in teachers, the fact of schools being converted to

political battlefields, and the sorry state of public schools, particularly their management aspects. This state of affairs has meant that there has been wastage of state's investment in school education and social inequality is growing, write-ups in Pokhara papers conclude. Although the Pokhara papers add some regional details to the national scene, they do not provide substantially new insights into the public perceptions regarding SLC after one has read the coverage by Kathmandu-based newspapers.

#### **4. CONCLUSIONS: PUBLIC PERCEPTIONS OF SLC PERFORMANCE DETERMINANTS**

In the public perception in Nepal, SLC is an important event in the lives of students. Hence it is portrayed as an 'iron gate' to higher education and further opportunities in the job market. The public has commented repeatedly on the high failure rate of SLC. It considers this failure as a waste of both state and private investments in education at a massive level. In particular, the public has expressed concern about the many disparities in the SLC exam system. The many differences in the performance of public and private schools and schools in the rural and urban areas have been highlighted. The Nepali public has pointed out the absolutely poor results of many public schools from which many if not all SLC candidates have tended to fail. Nepalis are worried that since students from the relatively poor families are studying in public schools in rural Nepal and these schools in general tend to have a poor pass rate, the current SLC system is contributing toward the creation of a education-based two-class Nepali society. This fact potentially fuels the current conflict and could be the source of yet another conflict in the future.

It would not be necessary to repeat at length what has already been discussed in Sections 3 and 4 of this report. To conclude succinctly, the public has listed the following factors as mainly responsible for the high failure rate in SLC:

1. Unstable educational policy;
2. A single exam-oriented educational system;
3. A requirement for passing all subjects; too big a burden on the students;
4. Poor educational environment in many public schools;
5. Poverty of the rural schools and students, many of whom have to do plenty of domestic and farm-related work;
6. Lack of physical resources in schools;
7. Lack of competent teachers, especially in subjects such as math, science, and English in rural schools;
8. Extreme politicization of teachers and management;
9. Absence of a credible system of rewards and punishment for those who are found wanting in executing their responsibilities;
10. Inadequacies in school textbooks and pedagogical system;
11. Inefficient OCE that is occasionally also seen to be susceptible to corruption in the management and publication of results;
12. Mistakes in exam questions and lack of timely availability of exam questions for optional papers;
13. Irregularities in the exam and marking process;

14. Irregularities in the making of transcripts with the Grades;
15. Conflict-induced closure of schools.

In concluding this analysis of public perceptions regarding the failures of the SLC exam system, it would be useful to tally what this study has found with the factors identified by Bhatta (2004) in his analysis of the SLC results of 2060 BS. According to Bhatta, the potential determinants of student performance in the SLC examinations are school type, gender, location, school size, and socio-economic conditions. Very little was found in this study in terms of the public making an issue of school size. Similarly, not much was found in terms of gender apart from a few references to girl students in rural Nepal having to devote more time than their male counterparts to domestic and farm-related work. Private schools and schools located in urban areas have been identified to provide a platform for better performance in SLC. Similarly, the ability of the family to pay for private education has been identified as a determinant of relatively good student performance in the SLC.

#### *Options for action*

The Nepali public agrees that the SLC exam system has to be drastically reformed. It seems to have two objectives for the reform exercise: one outcome of the reform has to be reflected in a much better SLC pass rate; the second outcome would be reflected in the ability of SLC curriculum to provide livelihood earning skills to both those who pass and fail the examinations. The public recognizes the many reform efforts being executed by the OCE, especially in the exam management aspects, but suggests that these are inadequate. This study of public perceptions of the SLC has revealed several options for action to improve the current SLC exam system. The more important among them are listed below:

1. Clarify the location of SLC in the overall objectives of teaching and learning in the secondary schools in Nepal;
2. Plan reforms in the SLC through active participation of its managers within His Majesty's Government of Nepal, teachers, students, guardians, parents, etc.;
3. Increase investment in public sector secondary education;
4. Decentralize the management of SLC to the regional, district, and school levels;
5. Make the curricula more practical-oriented and scope out possibilities for running parallel trade schools;
6. Abandon single template system for evaluating students;
7. Find a mechanism to do continuous evaluation of students; reduce the need to rely on a single end-of-the-year three-hour exam;
8. Simplify the SLC exam; there are many options: reduce the number of subjects examined; make all subjects optional; make the examinations based on class ten textbooks only; adopt a subject pass and certification system;
9. Don't have a pass/fail system or reduce the pass marks or provide routine grace marks;
10. Reform the school system below the SLC level so that low performing students are encouraged to go to trade schools or explore some other options for learning livelihood earning skills;
11. Provide more job security to public school teachers by reducing the politicization of their appointment process;
12. Provide more specific teacher training, etc.

## CHAPTER VI: ANALYSIS OF THE TECHNICAL QUALITY OF TEST MATERIALS USED IN SLC\*

### 1. INTRODUCTION

Educational researchers, despite several decades of constant inquiry, continue to debate as to what factor contributes to school achievement. There is hardly any consensus amongst the researchers. However, there is a common understanding that school achievement is the outcome of a number of school, community, teacher, family, and student related factors. While researchers in both developing and developed countries continue their search for factors that might explain school achievement and/or school effectiveness, testing and assessment experts assert that 'the tests' and the 'marking procedures' – often believed to be neutral and objective – may, in part, explain student and school performance. Continued poor performance of students in SLC and fluctuating SLC results are often believed to be the consequences of poor teaching alone. Many believe that results will improve if classroom teaching is improved. But, if the tests and marking procedure have any link with the outcomes of assessments and examinations, as claimed by the testing and assessment experts, efforts to improve classroom teaching alone will not yield expected results. Therefore, it is imperative to understand how test materials and marking procedure might affect outcomes in examinations. Although a few studies (World Bank 1994) have examined the quality of test materials, available information is only sketchy. How the tests and marking procedures employed in the SLC examinations affect students' outcomes remains largely unknown. In this context, the study 'Analysis of the Technical Quality of Test Materials used in SLC' makes an attempt to examine the quality of test papers and marking procedures and how they might student performance in the SLC examinations.

For details on the objectives and methodology, please refer to 'Analysis of the Technical Quality of Test Materials used in SLC'

### 2. ANALYSIS OF ENGLISH TEST MATERIALS

English is one of six compulsory subjects prescribed for the SLC curriculum. The objective of teaching is to enable students to speak, read, and write in English so that this functional knowledge of an additional (international) language helps them to make their knowledge wider and deeper.

#### 2.1 Curriculum and Textbook

The general objectives of the curriculum focus on the understanding of and competence in spoken English followed by reading and writing skills which can lead the learners towards use of a wider variety of English for obtaining knowledge, information, and pleasure. Language learning and teaching activities have been broken down into four language skills. Listening and speaking are emphasized so much so that 20 percent of the total weightage is allotted towards

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\* This chapter is based on the report 'Analysis of the Technical Quality of Test Materials used in SLC' prepared by Prof. Dibya Man Karmacharya for the SLC Study team.

practical examinations. Two other skills, that is, reading and writing, constitute 80 percent of the theoretical examination in English.

The secondary English curriculum uses two separate textbooks – one for Grade IX, another one for Grade X. Teaching units are divided into functions – 20 for Grade IX and 16 for Grade X. All language skills are incorporated within every unit. The curriculum clearly elaborates the steps of teaching and the methods of assessment too. The curriculum, however, stresses more on the mechanical, reproductive, and market-oriented contents and techniques. Thus the ultimate goals of education, that is cultivation of human values and broad spectrum of human civilization, are lacking in the English curriculum.

The textbooks exactly meet the numbers of functions to be completed. However, there is no separate unit as such for knowledge and comprehension; these levels are not incorporated within the lesson. Most of the reading materials are authored by the textbook writers themselves and only a few of them are adapted. However, all these texts have one serious drawback, that is, more than ten such reading passages are written on first person language and mostly they are about personal or family themes. The poems are original unadapted and their selection is satisfactory. The themes are limited; style is invariant; and sound monotonous.

More than 80 percent of reading texts (Grade IX) have very limited, confined themes. They introduce the world through the eyes of the first person "I". This reduces the variety into stereotype monotonous themes. This "I" element naturally presents a picture of controlled theme, vocabulary, and structure. The themes are duplicated and the world narrowed. Although there are many more 'comprehension passages and texts', a serious lack of variety is a striking feature. More authentic and original passages together with abridged versions and adapted texts must be included in both these textbooks. The dialogues, conversations, and some passages are not very interesting either. Similarly, some lessons do not seem to be appropriate to the age group.

Unlike in Grade IX, the textbook writers themselves created some reading materials in Grade X. Here "I" element is less frequent but then the defects of Textbook IX are duplicated here too. The number of the reading passages in X is less, yet the variety is greater here. Also the passages inform the students about some new or recent concepts, ideas, facts, and issues. The passages appear to be 'artificial'. There is a large body of children's literature, children's classics, and abridged works available in the market today. Such texts should be included there to ensure variety and avoid monotony. They should be introduced to the world of 'fiction' through such readings because the children of this age enjoy entering into the world of imagination and their imagination could be captured by introducing them directly into a more authentic reading materials.

## 2.2 Specification Grid

Principally, the grid should reflect curriculum and test materials should reflect the grid. The final goal of curriculum is to enable candidates to appear in the national examination. The objective of English curriculum is to test candidate knowledge and application of the skills – at both **competence** and **performance** levels. Although Benjamin Bloom's taxonomy of educational objectives has six parts – these are reduced into two in case of English. The grid for English uses only two levels. These are **competence** and **performance**. The grid specifies that competence and performance levels, which mean both knowledge and understanding skills, are integrated into practical abilities and no separate examination is given in this area. On the other hand,

performance includes practical abilities, which classified into language skills such as Listening, Speaking, Reading, and Writing. The grid has perfectly reflected the spirit of the curriculum. The grid has exactly followed marks weightage allotted in the curriculum for each of these four skills, Listening, Speaking, Reading, and Writing, which are 8, 12, 45, and 35 percent.

### **Listening and Speaking**

The present classification grid is alright as it shows a strong linkage with most of the curriculum components. However, the weightage allotted to each, that is, Listening, Speaking, Reading, and Writing needs to be re-adjusted. The main objective of learning English is to be able to use it in spoken form. However, to assess their achievement, only 20 marks are allotted. Furthermore, question types listed for testing listening comprehension are appropriate, but the exercises developed for speaking ability are not sufficient. The question type 'cued situation' needs to be specified in the sense that teachers (examiners) should be instructed to use at least 3 or 4 cued situations to assess students' achievements. To conduct this test type more than one student can be included for role-playing. With these modifications the weightage given to listening and speaking skills could be increased to 30 percent out of which 10 percent should be allotted for the practical assessment to be carried out by the class teacher on a day-to-day basis and 20 percent for the final examination.

### **Reading and Writing**

In case of reading, the types and numbers of vocabulary items are not mentioned anywhere. The reading passages mostly have the contents of common everyday life. It would be better if they were also classified thematically. Besides, all the reading materials, that is, passages are authored, and a few adapted by Nepali textbook writers of English. These books lack the specimen of original writings on native English. These textbooks should include original passages of a wide range of variety as well.

In the case of writing, the curriculum includes various types of writing, but in the classification grid all these types are not listed, although the grid has divided the questions into 3 main types – controlled, guided, and free. The writing activities listed in curriculum are not mentioned under any one of the headings. So these need to be included there too.

### **Vocabulary and Grammar**

To test reading comprehension, vocabulary items are considered as a very effective tool. There are different ways of testing understanding and production of vocabulary, not clarified in the grid. However, in sample questions vocabulary items are included which require students to identify synonyms, antonyms, and definitions only. Instead, a wide range of exercises could be developed for testing vocabulary.

The grid clearly mentions that grammar is not tested separately, but it has to be integrated in the performance particularly in writing skill. Eleven different grammatical aspects are listed for testing; out of them 4 items (articles, question tags, S+V agreements, transformations) are not overtly included in the curriculum and another item, that is voice, is also only partially included.

## **2.3 Test Papers**

In two subjects, Mathematics and English there is a provision for using a parallel set of test papers for each of the five Development Regions. Therefore, English subject has ten sets of

question papers. The distribution of materials and time is exactly reflected in the test papers. While testing the four skills of listening, speaking, reading, and writing, two aspects, that is, grammar and vocabulary, are also tested. The general pattern of the SLC English question is in the specification grid. The distribution of content materials and time in the specification grid is exactly reflected in the test papers.

The grid suggests both seen and unseen materials are suggested for testing reading and writing skills. These components cover, unlike other subjects, only two and a half hours of time and the remaining half an hour is allocated for practical examination that includes listening and speaking components carrying 20 marks arranged at the end of the examination schedule. However, there are some obvious gaps found in the test papers themselves. These are factors like repetition, conceptual and typological errors, and instructional ambiguities that could be corrected with caution and care.

### **Lapses, Errors, and Ambiguities in Test Papers**

Test papers are found to have many errors and lapses, mostly linguistic and inferential, apart from many typological and mechanical ones. Each set has 2 to 4 lapses or correctable points. These errors might have affected the student performance. Analysis reveals that test papers are far from perfect and standard in terms of their internal qualities. There are cases of repetition, vagueness, lack of clarity, confusing instructions, ambiguities, and defective inferences. Such questions have direct impact upon the students and the scorer as well.

### **Repetition Cases in Test Papers**

In total, 40 sets (10 sets per year, that is 2057, 2058, 2059, and 2060) of test papers were checked. There were only eight questions asked in English and many cases of repetition were noticed longitudinally as well as within the same year. In 4 years 40 sets of questions were asked, out of which about one-third of the sets have some proof of repetition. Maximum marks for repeated question is 3.5 and minimum 0.5. This kind of repetition can be ignored as it may justify the need for parallel sets. Regarding the controlled, guided, and free composition questions, three points are worth mentioning.

For some items, clues are supplied, whereas for others no clues are given. Uniformity should be maintained regarding this.

For some items, the number of words is fixed, for others, they are open. The number of words should be limited or fixed for such questions.

Some questions favor more/only a particular group of children who are familiar with these. These have strong bias and pose great problems to especially rural children who are never exposed to such environment.

Topics like Supermarket (2060 Q.5, set A1), Plane Crash at Thankot (2057, Q.5, set D1), Educational Tour (2058 Q.5 set E1), Twin Otter Crash in Dadeldhura (2057 Q.7 A2), Train Accident (2060 Q. 7 E2), Bus Mishap (2059 Q.7 B2); Applications for the Post of Front Manager to Deluxe Hotel (2057 Q.5 E2), Office Secretary (2057 Q.5 B2), Importance of Television (2057 Q.5, A2), Application for the Post of Deputy Supervisor (2059 Q.5 A2), Assistant Lecturer (2059 Q.5 E2), Agriculture in Nepal (2058 Q.5 A1) are examples of the topics used in the questions that favor only a particular group of children familiar with these situations. Such biases should be rectified, removed and children from deprived classes/places should be kept in mind.

## 2.4 Marking Schemes

To a large extent, the Marking Scheme developed by the OCE avoids confusion and helps maintain uniformity. However, a clear examination of the Marking Scheme sheets supplied for the year 2059 (2003) (for 10 sets of test papers) reveals that there are some obvious lapses, errors, and confusions, even incorrect answers given in the schemes. The weakness indicated in the scheme proves that there is a gap between test papers and marking schemes. There are errors e.g., the marking scheme mentions only one answer as correct whereas there is/ are also other correct answer(s); wrong structure; placing correct answer of one question under another question and not clearly stated. In this sense, the Marking Schemes are far from perfect. This must have influenced the examiners and students must have suffered every year.

## 2.5 Response Patterns of the Examinees

The answer papers were analyzed using eight parameters suggested for analyzing student performance. In most of the cases, judgments were made with the help of facts or evidence available. However, in some cases, such as expression difficulties, originality in writing subjective judgment is inevitable and thus results of analysis may vary from person to person.

### Expression difficulties

Students from all regions have shown expression difficulty – mainly in questions that require the students to write a composition – a letter, application, dialogue, etc. Students seem to have difficulties in questions that cannot be solved simply by filling in the blanks, matching items together, guessing the answers or by rote learning. Such questions require concrete words or sentences and imagination plus accuracy. These skills cannot be developed without a long and rigorous practice. Besides, students' actual competency cannot be tested without eliciting from them answers to such questions. Therefore, those students that lack sufficient practice in developing their vocabulary repertoire and structures find questions which require their own creative or original expressions, naturally difficult. Most of the candidates except from those from the valley of Kathmandu have left these questions unanswered. They usually choose and attempt objective types of questions and those that demand the close ended answers first because these involve a lesser degree of risk of being incorrect in terms of spelling, punctuation, grammar, etc. and even guessing can help them sometimes.

### Originality in writing

Almost all students have the problem of clear, grammatical expression. Lack of adequate vocabulary and correct sentence patterns have posed problems. This is linked with the questions related to comprehension, too. Many of them have shown copying. Overall, originality is lacking in the students' responses.

### Repeated questions

There are only a few cases of questions being repeated. Out of the total the students, only 7 have repeated questions.

### Questions not attempted

This is closely connected with expression difficulty and originality in writing. Only really difficult questions are not attempted.

## Copying

Many of the answers seem copied versions, or reproduced after rote learning. The Mid-Western Region has the highest number of copying and cheating. Thirty-nine out of 40 answerbooks are marked for this. The picture for the remaining regions is like this. Out of the total, 32 percent students from the Eastern Region, 28 percent from Central, 25 percent from Western, and 2 percent each from Mid-Western and Far Western Regions show proof of copying. This observation is based on the experts' judgment.

## Correctness

Copying and correctness are closely related problems. Correctness for the Markers refers to the use of punctuation, correct spelling, proper word order, coherence and appropriate grammar in terms of S-V agreement, tense, including legible handwriting, etc. by the students. Only 7 (9%) candidates wrote correctly in the Eastern Development Region; about half or 50 percent (44) students from Central Development Region districts, Kathamndu, Chitawan, and Bhaktapur have written correctly; and a majority of the students from other regions did not write correctly and accurately to the expected level. In the Far Western Development region, all students lacked correctness in English writing.

## Questions not mentioned or wrongly mentioned

Out of the total, only 18 candidates have failed to mention or have wrongly mentioned questions. This is not a negligible figure as this contributes to about 6 percent. This may cause confusion in the examiners, irritate them and sometimes the candidates may loose marks too, and very often posting error result due to this. This may happen also because of nervousness, hesitation forgetfulness or other unavoidable psychological factors.

## 2.6 Consistency in Markings

The total number of the answer scripts re-examined is 288. Variations are observed in markings. For instance, the percentage of students obtaining pass marks of 26 (out of 80) in the case of the first Marker is 57.6%, but, interestingly, this percentage decreases to 46.8% in the case of Marker 2 and 47.6 in the case of Marker 3. Although the Marker 2 and 3 do not differ much, they do differ from Marker 1. In total, the three Markers vary by 10 percent. This variation is further justified when the range of difference in marking by three markers is calculated. This has been presented in Table 1.

**Table 1. Range of Difference among the Markers in English**

Range of marks	Markers 1, 2, and 3		Markers 2 and 3	
1-5 marks	188	(65%)	256	(89%)
6-10 marks	79	(27%)	30	(10%)
11-15 marks	22	(8%)	2	(1%)
16-20 marks	4	(1%)	No cases	
21	1		No cases	
Total		(100%)		(100%)

Analysis of the marking of 288 answer papers by 3 different markers shows that there is a considerable range of difference among them. Almost two-thirds (65%) of the candidates fall within 1-5 range of difference for Markers 1, 2, and 3. Unlike this, for Markers 2 and 3, the gap further narrows as 89 percent fall within the 1-5 range which proves a high degree of consistency and is also acceptable, if we consider marking a purely

subjective business. Subjectivity may only be a point justifiable for creating such differences. Lack of rigorous training on marking, faulty Marking Scheme, non-use of Marking Scheme, or even negligence may result into cases like ranges of 21 and 35 above.

## 2.7 Scoring Theoretical Versus Practical Examinations

The practical portion in English carries 20 full marks out of 100, the remaining 80 is allocated for written (Reading and Writing) part. The practical portion in English stands for oral test of listening and speaking skills. There is no clear-cut definition of how candidates with speech and hearing impairment can appear such a test. Practical examination is also externally conducted. However, there is no correlation between 'pass' 'fail' in theory and practical examination. For instance, 44 percent of the total candidates (out of 288) have failed the written examination for M1, whereas only 2 percent have failed in the oral or practical. Not only this, practical scoring is quite irrational. One earned 66 percent in written, against 45 percent in oral; another candidate earned 69 and 100 percents in written and oral examinations, respectively; whereas a fourth one got 82 percent in written and 65 percent in oral. This is quite illogical and unjustifiable. An illustration of incomparability between theory and practical modes of examination could be drawn from the available data presented in Table 2.

**Table 2. Average Scores Awarded in Theory and Practical Examinations in English**

Region	Number	Theory %	Practical %
Eastern	135	31	58
Central	121	39	71
Western	48	43	74
Mid Western	31	28	58
Far Western	18	29	72
Total	358	36	65

The data show that there is a great disparity between these two modes of examination and markings. The average marks awarded in practical examination are almost double compared to that of theory (65 vs 36). Among the five regions, the Western region shows the highest performance

both in theory and practical examinations, i.e., 43 and 74 percent. Likewise, the Far Western Region has the lowest rank in both theory and practical examinations. This might be due to that the oral test depends to a large extent on how the examiner perceives, since the answers are orally produced and also on how the students perceive.

## 2.8 Recommendations

First the reading materials in the textbook should include a great variety in terms of theme and content. Originally authored texts carrying contemporary language with literary touch should replace the present ones that are stereotype, monotonous, and have too common themes.

Reading materials should be compiled according to the interest of thematic variety and more advanced texts from authentic, contemporary writing should be included. Also a few of them should focus on the special needs/underprivileged situations / special needs of Nepal too.

Specifications grid should be made elaborate and explicit and the OCE should ensure that test paper setters strictly follow the specification grid.

The use of multiple sets and parallel sets should be dropped because this practice has no meaning. This has no specific, intended purpose, (e.g. remote areas, disadvantaged children, Dalits, etc). Instead, it leads to disparity and variation (since one set contains dialogue, another

contains essay or letter; one set has simple passage and another contains more difficult or longer one. These depend upon subjective judgment.

Expressive skill (semi-guided and free writing) of the students requires more practice. As this depends upon receptive capacity, that is, Reading, students need to be exposed to a wider variety of reading texts and practices. Extra reading materials can enhance this and for writing, special writing practice is required. This suggestion is made based on the answers to questions 5 and 6 which demand creative and original writing from the students. Open-ended answers and free writing exercises require much more practice. So writing practices should be a major focus of teaching English. Students really face expression difficulty, write answers incorrectly, or leave questions unattempted whenever they have to express originality or creatively. Because of poor vocabulary repertoire, they cannot understand the unseen passages and often write wrong answers. So reading, comprehension, and vocabulary practices should be focused. Extra reading materials can help improve this to a large extent.

Students are weak in vocabulary repertoire and grammatical structure. So extra reading, writing, and grammar practices are essential for improving students' expressive skills. They need to be exposed to a variety of texts and frequent writing followed by correction. This can help them develop originality. Also rote learning, and memorization technique should be discouraged and their self-confidence should be built up. More practice is required in the intensive reading of different texts and passages followed by writing practices so that comprehending unseen passages becomes easier because comprehension power requires development in vocabulary repertoire and structural accuracy too.

Effective measures should be adopted to discourage copying. Copying is a serious problem that should be completely discouraged punishing those that practice this.

Greatest attention should be given to ensure the quality of the Marking Schemes. They should be made elaborate, explicit, and unambiguous and it should be ensured that the examiners strictly follow the same.

Markers need special training on the use of marking scheme, marking techniques, and evaluation process. Every year training or workshops should be organized to recruit trained markers and ensure a greater degree of consistency in marking.

Special measures should be applied in case the SLC wants to continue the practical portion; otherwise, if the present practice persists, there is no point in giving practical, however useful might it be.

### **3. ANALYSIS OF NEPALI TEST MATERIALS**

Nepali is one of the six core subjects prescribed in the SLC curriculum. This section provides the results of assessment of test materials used in the SLC examinations for compulsory Nepali subject.

#### **3.1 Curriculum and Textbooks**

The curriculum consists of six major components, namely: introduction, general objectives, objectives related to language skills, scope of literary forms, teaching techniques, and evaluation. The introduction section is concerned with the purpose and content of the curriculum. Objectives are divided into two categories: general objectives and objectives related to language

skills. Again language skill section of the 'Objectives' is divided into aural-oral, reading, and writing sub- sections. The language aspects are included within the relevant skills concerned; for example, pronunciation within listening and speaking, vocabulary within reading, grammar, and spelling within writing. Thematic contents have been selected from the literary forms like essays, stories, biographies, letters, plays, diaries, and poems and linguistic contents from grammar and vocabulary. These contents have been presented under the section of 'Widhaako krama ra kshetra'. In another section, the curriculum has briefly indicated the 'Teaching technique' for each possible teaching point within the contents mentioned above. Similarly, the 'Evaluation' section of the curriculum includes general guidelines for formative as well as summative evaluation. It has mainly emphasized the nature of questions, area-wise mark distribution, and evaluating lesson-based contents to be presented in literary forms in the textbook. Besides, it also includes free composition, grammar, and vocabulary. However, the provision for oral skill assessment is limited to classroom activities only.

There are two volumes of Nepali textbooks prepared separately for Grades 9 and 10 each. The content is presented in various forms of literature. The scope and sources of such forms are either adapted from the original writings or are prepared by the writers / editors themselves. The literary forms included in the lessons are stories, essays, poetry, plays, biographies, etc. as guided by the curriculum. It has been expected that these forms will be sufficient in achieving curriculum objectives related to various language skills. Each lesson is followed by varieties of language exercises suitable to the literary forms concerned (e.g., reading comprehension from prose lessons, free and guided writing from essays and plays, inferring meaning from poetry, etc.). However, such exercises are centered mainly around reading and writing skills giving the least priority to aural-oral skills. Our contents analysis of curriculum materials shows that there is a proper alignment between curriculum objectives and textbook contents.

### 3.2 Specification Grid

The specification grid has adopted the modified form of usual Bloom's taxonomy. It includes four levels of cognitive domain different from six levels in Bloom's original classification, i.e., knowledge, comprehension, application, analysis, synthesis, and evaluation. This modified classification includes knowledge, comprehension, behavioral skills, and higher levels (application, analysis, synthesis, and evaluation). Each level has been explained in the grid. Thus questions related to memorization of information come under the knowledge level and questions related to explanation and description of the learnt facts come under the comprehension level. Grid further clarifies that questions related to behavior skills will be of rule 'use' and 'adapt' type whereas questions related to higher level performance will include analysis, synthesis, and evaluation. Although this classification represents all the levels specified in Bloom's taxonomy to some extent, the grid does not explain anything about this new classification for being a comfortable option to old classification.

The above levels have been distributed among the questions to be included in the test paper in an ascending order in the grid. According to this distribution, 3 questions fall under knowledge level, 4 questions under comprehension, 8 questions under behavior skills, and 16 questions under the higher-level category (sub-questions are also included in counts). This distribution looks quite logical from the point of view of expected level of language performance on the part of students, but the grid is not found well aware of the level and variety of questions to be included under the comprehension passage in the test paper. Observation of some previous

question sets (e.g., 2058 C, 2058 S, 2059 B, 2059 C, 2060 E etc.) suggests that most of such questions fall under recall types that do not require reasoning as their answers.

### Content coverage in the grid

Generally, a language curriculum consists of language skills (listening, speaking, reading, and writing) and aspects (pronunciation, comprehension, grammar, vocabulary, etc.). These skills and aspects are presented through appropriate thematic contents. Thus, the language skills and aspects are the things to be mastered in language curriculum. In the present discussion as well, the contents have been considered as skills and aspects of Nepali language. The grid is also prepared in the same direction. However, it has totally excluded the part of oral skills. This exclusion might be keeping in view the practicality of administering oral tests, for which it is silent as the curriculum itself. The grid has strictly followed the Evaluation Technique component of the curriculum. As a result the grid is limited to specifying measures of evaluating reading-writing skills and vocabulary-grammar aspects only. The evaluation scheme outlined in the curriculum and the specification grid generally cover all major objectives related to reading, writing, grammar, and vocabulary. But objectives related to listening and speaking have been limited to classroom activities only.

## 3.3 Test Papers

### Clarity in Questions

Some questions are quite long and even seek two or more different tasks to be done on the part of students. For example; questions like (a) 'शिशिरवसन्तको कथा' का प्रतापी राजाकी पहिली रानीको मनमा कस्तो चिन्ता कसरी जाग्यो ? (2060 E 2घ) and (b) 'शहिद' कथाको मुख्य पात्र वीरबहादुर किन र कसरी सहिद भयो ? (2060 B 2ङ) demand two different tasks in their answers. Similarly, problems are ambiguous to the students due for lengthy sentences and their complex formation. Some sentences are even internally deficient in construction. Questions such as (c) जिल्लास्तरीय वक्तृत्व कला प्रतियोगितामा प्रथम भएकी आफ्नी बहिनीको ज्ञान र अभिव्यक्ति कलाको प्रशंसा गर्दै उनको हौसला वृद्धि हुने गरी दाजुले लेख्ने चिठी लेख्नुहोस् (2060 E 6क) and (d) सहरमा पढ्न बसेको भाइलाई विदेशी संस्कृतिको अन्धानुकरण नगर्न र आफ्नो संस्कृतिको संरक्षण गर्ने सल्लाह दिँदै चिठी लेख्नुहोस् (2060 A 6क) are quite long, complex, and loaded with several messages and so they seem quite ambiguous for the average student. In addition to it, in the question (d) above, the two phrases 'विदेशी संस्कृतिको अन्धानुकरण नगर्न' and 'आफ्नो संस्कृतिको संरक्षण गर्ने' are not consistent and belong to two different word class groups (adverbial phrase and adjectival phrase respectively), making the formation of whole sentence internally incorrect from the Nepali common usage point of view. In this case, use of either adverbial or adjectival phrase alone should have been chosen. Questions such as the one in (c) above could have been made more simple and straight if it was framed like 'जिल्लास्तरीय वक्तृत्व कला प्रतियोगितामा प्रथम भएकी आफ्नी बहिनीलाई हौसला मिल्ने गरी दाजुका तर्फबाट चिठी लेख्नुहोस्'।

Many questions do not have verbs that specify the answer to be measured objectively. Moreover, there is no difference between the statement and intention of the questions related to critical answer and short answer. For example, between the two question (e) 'नेल्सन मन्डेलाका स्वभावगत विशेषताहरू के के हुन् ?' (2060 E 2ग) and (f) 'भीमसेन थापाको व्यक्तित्वका प्रमुख विशेषता के के हुन् ?' (2060 D 1क), the former belongs to 'short answer group' carrying 5 marks

whereas the latter belongs to 'critical answer group' carrying 10 marks. From the taxonomy point of view also, the latter type, as the grid suggests, must belong to the higher level category while the former need not. But both of these questions lack a clear-cut indication of how much detail each question should go into in the course of being answered. Besides, they are similar in the performance level of tasks. Moreover, the use of long qualifying phrases has created ambiguity in meaning and such long sentences can be more difficult for L2 learners in identifying the correct response the question demands. Thus the possible reasons for ambiguities in the test papers are mainly language-related, construction-related, and task-related. Language ambiguities include complex sentences; as in (a)-(d) above use of typical Nepali or less frequent tatsam words, as in (e) and (f) above like बखान, छेउ, प्रतिहिंसा, विसङ्गति, राष्ट्रिय अखण्डता, बहुआयामिक; construction ambiguities include similarity in nature and type of questions for various levels, as in (e) and (f) above; whereas the task ambiguities include the lack of limit and specificity of tasks, as in (e) and (f) above as well as in (g) 'भविष्यनिर्माण कथामा कस्तो मनोविज्ञान प्रस्तुत गरिएको छ ? (2058 E 1ख Critical answer).'

Some teachers involved as examiners and head-examiners in the SLC examination have experience that many students are confused in identifying what the question actually intends. For example: विपक्षीका तर्कहरूको खण्डन गर्दै 'समाजमा बाबुको भन्दा गुरुको महत्व ठूलो छ' भन्ने विषयका पक्षमा आफ्ना तर्कहरू प्रस्तुत गर्नुहोस् । (2060 E 7ख). Due to the complex formation of the sentence, the words विपक्षी (wipakshi) and पक्ष (paksha) together might have created confusion in such questions. As a result, the students may answer both in favor of against the topic concerned. The above question would have been clearer if the initial part of the question 'विपक्षीका तर्कहरूको खण्डन गर्दै ' had been replaced by the phrase 'वादविवादका लागि...'

### **Repetition of Questions**

There are quite a few examples of questions with exact word repetition. Examples of such repetitions can be noticed in some short answer questions, as in 2058 A 2ग(पार्वतीले नरेशको भविष्य निर्माण कसरी गरिन् ?), 2059 A 2ङ (पार्वतीले आफ्नो छोराको भविष्य निर्माण कसरी गरिन्?), 2059 D 2ग(भविष्य निर्माण कथाकी पार्वतीले नरेशमा उब्जिएको प्रतिहिंसाको भावनालाई कसरी हटाइन्?), 2059 S 2ङ (पार्वतीले आफ्नो छोरो नरेशभित्रको प्रतिहिंसाको भावनालाई कसरी हटाइन्?), 2060 A 2छ (पार्वतीले नरेशको मनमा भरिएको प्रतिहिंसाको भावनालाई कसरी हटाइन्?) and in explanation extracts (see 2059 E; 5A(kha) and 2060 D: 5A (kha)). In the same way, the repetition of essay topics can also be noticed in different years. Such topics are not exact in word but in content, as in 2058 A, 2058 S, 2059 D, 2060 B, 2060 D and 2060 E sets. Moreover, it has been observed that the repetition of some lessons and their contents was too frequent and these were not excluded in any examinations during the years 2058-2060 BS. Some of the questions were repeated with slight changes of words intending the supply of the same content as their answers. For example, the poem 'Ichchha' was repeated in the year 2058 and 2059 BS. in a critical question and in the year 2060BS. in short answer questions. Similarly, the stories 'Doshi Chasma' and 'Bhavishiya Nirman' and the play 'Gharko Maya' etc. were included in the question papers of each year in one way or the other. Thus there are lessons which are more 'important' for students from the examination preparation point of view than others in the textbooks. For example, lessons like 'Rashtriya Jhanda', 'Rashtriya Wibhooti Bhimsen Thapa', 'Jaya Bhoonli', 'Sahidharuko Samjhana' etc. were much more frequent whereas lessons like 'Wasant', 'Shishirvasantako kathaa', 'Nyayako pakshya' rarely appeared in the examinations. However,

repetition of the questions or of contents in the parallel sets of the same year should not be taken as seriously as repetition in the following and subsequent years.

### **Relevance of Test Papers in Terms of Taxonomy as Specified in the Present Grid**

Analysis shows that test papers do not deviate sharply from maintaining the taxonomy aspect as instructed in the grid. However, they do not represent exactly the intention of the grid. The question setters are yet to realize differences among levels. As a result, the characteristics of knowledge level questions can be noticed in comprehension questions and the characteristics of comprehension questions in higher level questions. In most of the comprehension passages, the knowledge level questions are in greater number than other levels for which students can just pick up or copy the relevant part of the passage as their answers.

### **Relationship of Test Papers with the Curriculum and Textbooks**

One can observe that the test papers have normally followed the curriculum evaluation guidelines, which are mainly emphatic on textbook lessons. Our analysis shows a close relationship of the test papers with the evaluation section of the Nepali curriculum. Besides, the test papers have strictly followed the specification grid. Thus it can be easily claimed that the test papers in use measure all the curriculum objectives covered by the specification grid.

Although the test papers do not show major deviation from the curriculum guidelines, the nature of questions commonly used for critical answers do not fully reflect the intention of the curriculum, as they usually demand a description of the facts they have memorized from the lessons concerned instead of higher level language performance. The curriculum has clearly guided that such questions should be posed in a way for testing students' analytical and creative level ability. Since textbooks are the main source of teaching learning in our education system, examination cannot be separated from it. As a result, the test papers have a tendency to be too closely associated with the textbook concerned instead of the curriculum objectives. Joshi (2003:101) seems right in claiming that the "test items concentrate mainly on factual recall of textbook information and sometimes encourage repetition of answers based on textbook exercises or commercial guess papers". If we analyze the test papers, we find that some 50% of the marks are allocated for textual knowledge, 25% for free language use whereas the remaining 25% marks are set aside for grammatical items. Thus, the evaluation procedure we practice in SLC level is based on the textbook lessons, not on the curriculum competencies. In such a situation, even a high score in the examination alone may not be much helpful in predicting students' better performance in actual settings.

## **3.4 Physical Quality of Test Papers**

The physical quality of the test papers can be considered in terms of instructions, printing, paper, color, size, length of questions, and the time given for answering. An analysis of the sampled test papers used in the years 2058-60 under the given criteria reveals the following facts:

### **Instructions**

Instructions for questions are given either in group for a number of questions or on an individual basis for a particular question or for a particular type of tasks. Most of these instructions look clear enough for the students concerned. However, in some cases, they seem awkward because of the repetition of the same words in the question and in instruction; for example, as in 'or part' of question no.6.

## Printing

By and large, the test papers possess clarity in printing. They are free from ink smudges, unbalanced inking, unprinted letters, and unusual shift of words and *matras* to the next line. Similarly, type sizes used for various purposes are appropriate for the age level concerned. But typefaces used for instructions, questions, and texts are not justifiable. All instructions should have been printed in bold face and the number of questions to be attempted put in italics or vice versa to attract students, paying due attention towards what they have to do within that question. Besides this, the test papers suffer also from frequent printing mistakes and a few ones, even the distort meaning of the question concerned, e.g., 'कान्छीको (ले?) भने पाँच पाथी धान दिनु' (2060 A2क). Spelling mistakes are too frequent, which may easily misguide students to repeat the same in their answer. Instances of such lapses are prevalent in each question paper here and there. Thus a serious and thorough proofreading is a felt need in the test papers to be used.

## Paper

The printing paper used in the test paper is more or less opaque, yet not exactly appropriate for both side prints. White, glazy, and sufficient thick paper would have been a better preference for the purpose than the present ordinary paper. The color of the paper is also varied from one test paper to another within the same year and year-to-year. At present, white and off-white (brownish) paper has been in use. The recommended thickness of such paper should not be less than 60-gram weight.

## Size

The test papers have maintained a standard size each year. Its consistent size is approximately 6.5 x 9.5 in inches, which is quite handy and portable to look and convenient for use. The size is fixed in a way that the paper covers complete four pages without leaving any space unused.

## Length of Questions

There are no reports as such which claim that the length of questions has a serious effect on examination performance in Nepali subject. Informal queries with the teachers and students also reveal that the length of questions for three hours duration is not that much beyond finishing attempt within the time given.

## 3.5 Marking Schemes

With the purpose of maintaining uniformity in marking the SLC answer-books as far as possible, the system of using marking schemes has been introduced since the year 2000 A.D. These schemes (2058-2060 BS) are guidelines for answerbook examiners and head examiners to help them find the possible right answers of the questions given. However, they do not pose any restrictions to award marks for alternate correct answers. But each examiner/head examiner has to follow them strictly.

The schemes are prepared in a fixed format set by the specification grid 2000. The initial part of schemes is related to general instructions to examiners/head examiners suggesting them how to evaluate correct, partially correct and alternate answers, and when to use their own discretion. But these schemes do not instruct them to consider the problems and difficulties of the students from minorities, and special needs and hardcore groups.

The schemes have fixed evaluation criteria for each subjective question assigning certain marks for each criterion. For the questions related to textbooks (questions 1, 2, and 5), the major points to be included in the answers are also indicated, whereas in the cases of comprehension and summary writing passages (questions 3 and 4), only the scoring technique is suggested. With regard to free composition questions, the aspects to be included in each answer along with the marks distribution have been suggested. But for grammatical questions (questions 8-14 and 16) correct answers have been given with the full marks for each individual item. For such questions, which might have various possible correct answers (i.e., questions 15 and 17), only scoring guidelines are given, leaving the examiners free to use their discretion in allocating marks for every correct answer. Thus effort has been made to give in the marking scheme full coverage of all questions in the test papers in contents and counts. But they do not maintain consistency, especially with regard to the guidelines related to questions 3, 4, 6, and 7. Indicating the main points to be included in answers to these questions would have helped to make marking more objective.

Marking scheme is used not only to maintain uniformity, but also to guide the inexperienced and novice examiners. Usually, it also serves as a reference tool, especially for the examiners from remote areas where library facilities are either rare or nonexistent. This shows that clarity is the first and foremost criterion that a scheme must have. Regarding the marking system so far in use, it has been observed that it needs some improvements to maintain clarity. Instances of printing mistakes can be noticed in most of the sets. Spelling errors like these are common in all of the sets (तीब्र, जमानसिंह, बाबिबाद, 2059 A, संरक्षण, राष्ट्रवादी, जन्मभूमिस्च, नेपालीहरु, देश भित्रै, अरू, रुप, श्रव्य, स्वार्थ भन्दा, सर्वोपरी, 2058 A, देहाबसान, तत्कालिन, गजूर, सुरू, शब्दहरु मध्ये, 2058 E). Some of these mistakes even distort the intended meaning, e.g., गरे र (गरेर?) 2059 A, स्तरीय (ता?) 2059 C, शीलता (शीतलता?) 2058 A, भोलाबाट (भोलाबाट) 2060 B etc. Besides, the schemes are not clear as to what to do in the case of partially correct grammatical answers.

### 3.6 Response Patterns of the Examinees

Analysis of the response patterns of students reveals the following:

#### Expression Difficulty in Nepali

It has been observed that many students cannot express themselves with ease in normal Nepali language. Study of 280 answerbooks from different districts has shown that students from Dhankuta, Saptari, Baitadi, Jumla, Ramechhap, Khotang, etc. have noticeable difficulty of expression in Nepali. The reason may be either the absence of sufficient Nepali language environment to be exposed to or inadequate language to minimize the mother tongue interference at previous Grades. Though there is no strong evidence to claim, some examples (15% of the district samples) indicate that even dialectic interference can create expression difficulty in Nepali in the case of Nepali dialects like Jumli and Baitadian.

#### Number of Questions Left Un-attempted

Students are found to leave questions that involve writing long essays, giving critical answers, or explaining certain texts. It indicates that students find themselves at ease to write answers to recapitulatory type questions than to the thought provoking ones. Normally, questions based on textbook lessons are more readily attempted than questions that need thinking and creativity.

Among such questions, questions related to summary writing and dialogue/diary writing were either quite difficult or unfamiliar to them. The un-attempted higher frequencies of these questions also suggest that students have seldom had classroom practices in such writings. In such cases, the teaching skills of such items among teachers can also be put under question. The un-attempted frequencies of questions related to 'explanation', 'comprehension', and essay/letter writing are found standing not far from the above line. However, there is no striking un-attempted figure regarding the grammar questions, although it can be observed that some grammatical questions are more difficult for students than others.

### **Repeated Answers**

Usually, students tend to write answers repeatedly. In this study, 17 (6.07%) students have been observed to attempt questions repeatedly. Although this number is quite negligible, it shows that students lack due awareness during the examination period. Besides this, students write answers repeatedly either because they have lost their confidence in the answer given earlier or are nervous due to exam anxiety. Some students repeat answers to deceive the examiner while others do it for filling answerbook page to show the bulk. However, such tendency somehow has been noticed very frequently.

### **Language Correctness**

Language correctness in writing is a significant problem among the SLC taking students. More than one-third (37.14%) of the sample students could not write Nepali correctly. This problem prevails where the local dominant language is not Nepali, even though it may belong to the same language family or to a different. Language correctness in Nepali writing can be observed even within the Mid-Western and Far Western dialect-speaking areas of the Nepali language itself. The emergence of such tendency among students is not only due to other language/dialect factors but also due to inadequate teaching. Therefore, besides frequent and continuing exposure in Nepali language, its pronunciation and rule practices at the maximum level are a must to avoid such errors in the writings of the students concerned.

### **Questions Not Mentioned or Wrongly Mentioned**

Most of the students (96.36%) have been found to have rightly mentioned the question numbers in their answerbooks. Still, in a few cases (4.64%), students have missed to do this either because of exam anxiety or the lack of proper orientation.

## **3.7 Consistency in Marking**

To test consistency in marking, a total of 280 answerbooks were re-examined. The marks assigned by the previous examiners (rater 1) and new examiners (rater 2 and rater 3) were computed district/centrewise. Those marks were thoroughly analyzed and were traced out for the range of differences among them assigned by three different examiners. Such differences are shown in Table 3. The table shows that most of the inconsistent cases fall under up to 5 range of difference. Considering the complex nature of language subject, if we ignore the range of the difference of marks up to 5 among the examiners concerned, there is still a significant number of answerbooks (49.29%) suffering from inconsistent markings. It seems quite a serious problem that such gaps are common among the various examiners involved in rating the SLC answerbooks. It has been observed that inconsistency persists even among the examiners with sufficient experience and qualification of head examiner level also. In the present case,

**Table 3. Range of Difference in Marks among Examiners in Compulsory Nepali**

Range of marks	No. of answerbooks rated by all three raters	No. of answerbooks rated by marker 2 and 3	Remarks
Up to 5	142	234	Includes 23 'pass-fail' cases including 12 between marker 2 and 3.
6 – 10	114	43	
11 - 15 <sup>+</sup>	23	3	
Total	280	280	

considering the answerbooks of 11-15<sup>+</sup> range of differences as serious, such examples are presented in Table 4.

The analysis of the above table shows that there are several examples, where the marks given by different raters are inconsistent suggesting lack of uniformity in

rating. Moreover, there are extreme individual cases, which may even affect the result at the extent of 'pass-fail', e.g., the case of one student from Dhanusha in the table above. Similarly, the highest difference was marked 19. Such variations may have occurred due to factors such as lack of specificity in test papers and marking schemes, examiners ignoring or not referring to the marking schemes, poor supervision and scrutiny by head examiners, and tendency among the examiners to value different things (e.g., some giving emphasis on grammar and spelling alone and others on subject matter).

**Table 4. 11 - 15<sup>+</sup> Inconsistent Cases**

S. No.	District	Rater 1	Rater 2	Rater 3	Range of differences	Revised marks
1	Kailali	49	39	37	12	40
2	Kanchanpur	32	45	39	13	40
3	Kanchanpur	44	33	34	11	34
4	Gulmi	45	32	40	13	35
5	Sunsari	40	53	46	13	42
6	Sunsari	42	53	48	11	45
7*	Kapilbastu	54	48	37	17	46
8	Kapilbastu	60	50	46	14	49
9	Kapilbastu	62	49	47	15	45
10*	Kapilbastu	68	62	52	16	49
11	Dhanusa	40	26	33	14	33
12	Dolakha	63	58	51	12	45
13	Dolakha	56	47	45	11	45
14	Dolakha	65	57	54	11	50
15	Sarlahi	45	35	33	12	33
16	Siraha	59	46	44	15	45
17	Siraha	53	45	38	15	40
18	Siraha	45	32	31	14	32
19	Siraha	67	54	49	18	50
20	Siraha	55	44	44	11	44
21*	Rupandehi	62	60	49	13	55
22	Rupandehi	65	51	46	19	48
*23	Tanahu	38	46	50	12	50

\*10<sup>+</sup> differences between R 2 and R 3.

### 3.8 Conclusions and Recommendations

Based on the above analysis, the following conclusions and recommendations have been drawn:

The compulsory Nepali curriculum for Grades 9-10 has not properly addressed problems of other tongue learners as well as remote area dwellers. Their needs in Nepali language are not realised. Further, it does not make any provision for accommodating gender, ethnicity, Dalits, special needs groups and groups, facing difficult circumstances. The scope of content (Widhaako

kshetra) section of the curriculum should include writings in adequate proportion to represent such realities of Nepalese society. Such inclusion is also possible in the curriculum under a new heading of elaboration of contents (Widhaako spashtikaran), if necessary.

The teaching technique (Shikshan prakriya) portion of the curriculum also lacks inclusion of various problems being faced by the children from different sections of the society. It should be improved in a way that all of them feel and find themselves dignified and well-behaved among friends and teachers.

Textbook lessons that are based mainly on literary approach does not seem much favorable to other language students. In fact, lessons should be comprehensible to common L2 learners of Nepali so that they could exploit such lessons for sufficient language practices in various ways.

Textbooks are less representative from the equity point of view. They should be sufficiently equipped with positive references, authorship, success stories, biographies of outstanding personalities belonging to females, underprivileged, ethnic groups, physically impaired groups, Dalits, and so on. One of the ways to minimise the social disharmony is to include letters written to or by members of underprivileged groups and to include references related to family occasions, condolence meetings, festive celebrations, etc. in the lessons and in exercises in adequate number (Niraula 2004; NFD 2004; RDA 2061).

The grid has exactly followed the evaluation guideline outlined in the curriculum. Thus it is more or less representative from the point of view of content coverage. But it still lacks ways of assessing oral communicative competencies. In a real sense, it should lay more emphasis on testing overall communicative competencies than on factual information, which students tend to memorize.

Some of the questions are ambiguous and their ambiguity is language, construction, and task originated. Some questions are quite long, complex, and loaded with several messages and so they seem quite ambiguous for the average students. Some are even internally deficient whereas some seek two or more different tasks to be done (e.g., kina ra kasari). In many cases, instructions are also ambiguous for identifying correct answer. Besides this, many questions are ambiguous because of their unfamiliar contents to certain groups of students. Test papers should be related to student's life situations as far as possible. Various items with unfamiliar contents, especially for students from remote area village settings and from other cultural backgrounds, should be replaced with the common ones. Moreover, the question setters as well as moderators should be aware of using simple, correct, straight and communicable sentences to minimise language ambiguities of all sorts in questions.

Although questions have reasonably followed the taxonomy aspect, the test paper setters are not yet very clear in identifying the exact nature of questions for seeking a level-wise performance of the tasks. Short- term orientation programs and workshops should be organized to make question setters and moderators more acquainted with the taxonomy aspect to be followed for constructing more improved and specific questions belonging to all cognitive levels, as suggested in the grid.

Textual questions have a dominant place in test papers. So, the test papers are not much different from what the curriculum and the textbooks have intended.

There are cases of repetition of questions in the test papers. Some lessons are more frequently asked in the examination and some are rarely. The moderation board should be made aware of avoiding such imbalances.

For the most part, the test papers do not address the problems of L2 learners, remote area dwellers, special needs groups and the socially deprived classes are yet to be considered.

The size and length of the test papers are satisfactory. However, the use of single sober color in one region and a little increment in paper quality of the test papers are preferable. Printing errors have grossly affected the quality of the test papers. So, thorough and serious proofreading is a must.

Efforts have been made to give the marking schemes full coverage of all questions in the test papers in counts. But they do not maintain consistency, especially regarding the guidelines related to some free composition type (nos.3, 4, 6, and 7) and vocabulary (nos.15 and 17) questions. An indication of the main points to be included in answers to these questions also would have helped to make the marking more objective.

The schemes have made no provision for realising the difficulties of L2 background and unprivileged groups of students. Its initial instruction should have elaborated to the extent of addressing such difficulties.

The schemes are not clear as to what to do for partially correct grammatical answers. Spelling errors are enormous even at the level of distorting meaning. Efforts should be made to make them more specific and correct.

Many students have expression difficulty in Nepali. Such difficulty is noticed in areas where non-Nepali dominant language is in use, e.g., Solu, Saptari, etc. or in areas where distinct Nepali dialect is in use, e.g., Baitadi, Jumla, etc.

The pages of answerbooks covered by the students range from 6.7 (Jumla) to 15 pages (Lalitpur) out of the 16 pages in total. The average coverage is 9.72. This is an indication that students commonly either write incomplete answers or leave questions unanswered which has an obvious effect upon their result.

Questions based on textbook lessons are more readily attempted by students than questions of the free composition type. The questions with higher un-attempted frequencies suggest that either they are difficult for students or they seldom have opportunities in classroom practices. In such cases, the teaching skills of such items among teachers can also be put under question in general. Similarly, teaching technique of some grammatical items also seems to be questionable.

Some students have a tendency to attempt questions repeatedly and some others miss mentioning the question numbers concerned. In fact, students should be made fully aware of the exam techniques in their usual situation.

More than one third of the students appearing for SLC cannot write correct standard Nepali. Mother tongue/dialect factors as well as inadequate teaching factors may be responsible behind this situation.

Inconsistency is visible in markings done by various examiners. The range of such inconsistency is 1 to 19 marks. This shows that examiners use their discretion while checking the answerbooks. Appropriate measures should be taken to improve consistency in marking.

## 4. ANALYSIS OF MATHEMATICS TEST MATERIALS

Mathematics has long been an integral part of the school curriculum. It is one of the six core subjects, carrying 100 marks each in Grade IX and X. It is considered to be one of the most

difficult subjects. Most of the failure in SLC can be attributed to failure in math. Thus it becomes imperative to look into the curriculum and test materials used in math.

## 4.1 Curriculum and Textbooks

The existing secondary Mathematics curriculum consists of objectives, curriculum structure, contents, teaching methods, evaluation, and scope and sequence. In general, the curriculum comprises computational skills in solving domestic and official arithmetical problems of all kinds; skills in measurement of objects in line, plane, and space of specific configuration; skills of solving problems analytically using algebraic methods; logical establishment of geometric properties and further generalization of the results; and collecting, organizing, represent, and concluding on statistical data for inferences and estimating on the basis of probability theory and also concept building for further study in Mathematics. To achieve these skills, mathematical contents have been presented in the curriculum. However, the teaching activities suggested in the curriculum virtually fail to address the utilitarian and practical aspects of Mathematics. Finally, the students have to memorize almost all the concepts in their effort at remembering for passing the SLC examination. Moreover, textbooks are also designed to fit the contents enumerated in the curriculum with least consideration for the objectives. Eventually, students are led to work like drilling/practicing to memorize the theorems and numerical problems without knowing their utility with the intention to bring high marks in the examination.

## 4.2 Specification Grid

The grid is directed to ensure the validity of test papers and guide the question setter to prepare tests for different cognitive abilities according to their weightage in the grid. The curriculum suggests a grid for developing test papers under the content headings and types of questions with very short, short, and long questions across each content heading. However, the grid is completely silent about the principles of taxonomy, which makes one confused about preparing test items in judging what sorts of cognitive abilities a test paper should contain.

The OCE specification grid reduced Bloom's taxonomy into four categories such as knowledge, understanding, skill, and problem solving in the order of higher ability. In this adaptation, the first two categories go alike whereas skill here means computation and verification and problem solving covers all other higher abilities of cognitive domains. However, this adaptation seems to represent to some extent the philosophy given in Bloom's taxonomy, but the grid does not explain anything about this new classification in order to provide a comfortable and workable option to an already existing classification. The OCE grid has proposed the following pattern and type of questions for the SLC examination test paper: very short, short, and long with 18, 13, and 14 questions respectively. Marks allotted for very short, short, and long questions are 18%, 26%, and 56% respectively.

The knowledge domain commands only very short answer questions. The understanding domain requires both very short and short questions and the skill domain covers very short, short, and long questions, and long type questions fall under the problem solving domain only. This distribution of test items, however, looks logical with respect to testing the ability of students.

The grid is designed according to the curriculum. However, the practical aspect of mathematics teaching is found absent. Some weightage should have been given in the grid to assess student's ability and skills in carrying out life-related problems in Maths practically. The management of

testing practically; is a challenging and cumbersome process nevertheless, it should be considered positively in future. The specification grid does not exactly follow the distribution pattern as presented in the curriculum regarding the types of questions and weightage of the various content units. Analysis suggests that there is a good coverage of the objectives and contents of curriculum in the specification grid.

### 4.3 Test Papers

The quality of test papers has been assessed using different indicators. A description follows:

#### **Relationship of test papers with the textbooks and curriculum**

For the most part, there is correspondence between test papers, textbooks, and curriculum in terms of the type and number of questions to be used. However, the curriculum does not refer to the taxonomy of educational objectives. This hampers the task of establishing relationship between the test papers, textbook, and curriculum. Test papers are designed to test the memorization of texts that exist in the textbooks instead of the higher level of mathematical competencies. As textbooks are the only source of teaching learning in our education system, examination cannot be separated from it. As a result, test papers have a tendency to be closely associated with the textbook concerned in the absence of desired competencies in terms of the levels of ability according to taxonomy in the Maths curriculum. Analysis of test papers reveals that there is almost non-existence of the test items, which demand students to demonstrate their analytical and creative ability. Thus, the evaluation procedure practiced in SLC is based on the textbook lessons not on the curriculum competencies. Thus a high score in SLC examination alone may not be very helpful in predicting students' better performance in actual settings. Therefore, practical use of Mathematics in research, planning, and decision making and solving their day-to-day problem should be further stressed in the curriculum.

#### **Clarity**

The analysis of test papers reveals that some test items are quite long and require many concepts than very short questions carrying one mark each. Test items carrying one mark under very short type mostly contain word problems, which are not merely of 'knowledge' level but require higher level ability. The above analysis shows that a number of anomalies exist in the test papers. First, the test items do not correspond to a specific ability level to the measured objectively. Second, the test items are often found with discrepancies in units of measurement. Third, the geometric figures in the test papers are not well sketched. Fourth, some sentences are even internally deficient in construction. Fifth, in the test, the items magnitudes and units of measurement are given in separate lines. And, finally, grammatical mistakes, though not common, are found in the test items.

#### **Repetition**

Questions once asked under the very short category have been asked the next year under the short category and questions once asked under the short category are asked under the long category next year. There are many examples of questions with exact word repetition. Most word problems have repeated sentence structures. In arithmetic and algebra, repeated sentence structures vary only in figures (magnitudes) whereas in geometry they vary in naming the geometric figures only. As there are five multi sets of question papers for the five development

regions, the multi sets resemble each other except in magnitudes and the naming of geometric figures.

Parallel sets, in fact, lack their reliability as some sets have a higher difficulty level compared to others of the same year. The analysis of questions of 2002, 2003, and 2004 shows that there are thirty test papers of fifteen parallel and multiple sets. In each content area there are significantly less than thirty different sub-areas, so it is very likely that questions get frequently repeated. Moreover, in geometry there are about ten theorems, which are repeatedly asked in the same year and subsequent years. In Mathematics, repetitions should not be a problem to students' achievement, but the parallel and multiple sets used in the same year sometimes lack equivalent difficulty level.

### **Balance between Grade IX and X textbooks**

Moreover, the analysis of test papers revealed that under very short type questions, 80% of the Arithmetic portion are from Grade IX, 75% of Algebra from Grade IX, and in Geometry 60% questions are from Grade IX whereas 100% questions from Trigonometry, Statistics, and Probability are from Grade IX. This shows that on an average 79% questions under the very the short category are asked from IX content. Similarly, under the short type questions, 66.6% of the Arithmetic portion, 100% of Algebra, and 33.3% of Geometry are from Grade IX. In this category, about 66.6% questions are asked from Grade IX Maths content. In the long type, about 43% weightage is given for Grade IX Maths content. Overall, an SLC test paper covers 55.5% weightage from Grade IX Maths content. The performance of students from Grade IX Maths content is alarming. It shows that the carryover load of Grade IX Maths content could be responsible for the high failure rate in SLC Examination. Despite this scenario, it is mandatory to keep abreast of quite concepts and skills learnt in Grade IX to acquire the concepts and skills of Grade X.

### **Relevance of test papers in terms of grid**

The specification grid (knowledge level, 3 questions; understanding, 9 questions; skills, 23 questions; and problem solving, 10 questions) developed by OCE demands more higher ability questions than the lower ability ones. Review of test papers reveals that the test papers of 2059 did not deviate much from what is suggested in the grid. However, the test papers do not represent exactly the intention of the grid. The question setters seem to have yet to realize the differences among the ability levels of the cognitive domain. The test items should induce the action verbs so as to correspond ability level more precisely. In the test, the number of items of ability level corresponds to some extent to the grid; however, the ability levels of different areas in the curriculum are ignored or unattended.

### **Physical Quality of Test Papers**

The physical quality of the test papers can be considered in terms of instructions, printing, paper, color, size, length of question, and the time given for answering. The analysis of test papers used in the years 2002, 2003, and 2004 under the given criteria reveals the following facts.

#### **Printing**

By and large, the test papers possess clarity in printing. They are free from ink smudges, unbalanced inking, unprinted letters, numbers, signs, and unusual shift in them. Similarly, type sizes used for various purposes are appropriate for the age level concerned. Typefaces used for

instruction and grouping of questions are justifiable. The test papers however, suffer from frequent printing mistakes, few ones even to the extent of distorting the very meaning of the question concerned, e.g., Nepali version of Q.No.9 of 2059 B2. Spelling mistakes are too frequent, which may easily misguide. Instances of such lapses are prevalent in each question paper. The geometric figures often lack proper drawing, which may trouble students to get the right result. Thus a serious and thorough proof reading by the subject expert is a need seriously felt in the test papers to be used.

### **Paper**

The paper used in the test paper is more or less opaque, yet not very appropriate for both-side prints. White, glazy, and sufficient thick paper would have been a better preference. The color of the paper also varies from one test paper to another within the same year and year-to-year. At present, white and off-white (brownish) paper has been in use. The recommended thickness of such paper should not be less than 60-gram weight.

### **Size**

Test papers have maintained a standard size every year. Its consistent size is approximately 6.5x9.5 in inches, which is quiet handy and portable to look and convenient for use. The size is fixed in a way that the paper covers complete six pages without leaving any space unused.

### **Instructions**

Instructions for questions are given in the beginning to cover the whole set of questions. These instructions look clear enough for the students concerned.

### **Length of question**

There are reports, which claim that the length of questions has a serious effect upon examination performance in Maths subject. Informal queries and sharing with teachers and students also reveal that the length of questions for three hours duration is inadequate to complete answering within the time given. For example, the marking schemes of Q5 (a), RE-509B1, B2 show eight and nine steps to get the final result; students may need more time for just two marks.

## **4.4 Marking Schemes**

With the purpose of maintaining uniformity in marking the SLC answerbooks as far as possible, the system of using marking schemes has been in use. These schemes are guidelines for answerbook examiners and head examiners to help them find the possible right answers of the questions given. They do not pose any restrictions over awarding marks for the alternate correct answers. But each examiner/head examiner has to follow them strictly. The schemes are prepared in a fixed format set by the specification grid 2000. The initial part of the schemes is related to general instructions to the examiners/head examiners suggesting them how to evaluate correct, partially correct and alternate answers and when to use their own discretion. But these schemes are silent regarding the problems and difficulties of the students from minorities, special needs, and hardcore groups.

The general instructions in the marking schemes since 2000 AD stand still and unchanged word by word each year. The instructions given in question papers are hardly realized in the marking scheme. The instructions in the question paper say that the examiner will encourage answers

written in the examinee's own words in a creative way rather than answers memorized or as a carbon copy of the text books. But the marking schemes do not instruct at all. The marking schemes have fixed evaluation criteria for each question assigning certain marks for each criterion.

There are no uniform criteria suggesting award for the marks. Some schemes enumerate each and every step of the answer and specify criteria for the award of marks, but others simply specify criteria showing the desired steps for the award of the mark. Marking schemes are not free from mistakes either. In the marking scheme (RE-509 A1) of Q 1(c) 2003,  $3/y$  is written for  $3/4$  and in Q 14, the question demands two numbers but the marking scheme stresses two natural numbers, which may confuse the examiner. Similarly, Q.1(c) of the marking scheme has a mistake (RE-509 A2). In another case, the marking schemes of RE-509 B1, B2- Q.21 contain wrong notations. Q.7 (f) requires a tree diagram but the marking scheme is silent about this. The marking schemes for the same type of questions, 5(a) and 8(c) of RE-509 A1, A2 carry different criteria.

The marking scheme exists not only for uniformity purposes but also for guiding the inexperienced and amateur examiners. Usually, it also serves as a reference tool, especially for the remote area examiners where additional logistics besides the textbook are almost non-existent. The language used for instructions in the marking scheme may not be very appropriate for the targeted examiners. The instruction at the outset in geometry that deducts marks for badly drawn figures may confuse the examiner while awarding marks of very short and short geometric problems which do not require figures in answering at all. This shows that clarity is the first and foremost criterion that a scheme must have. Therefore, the marking scheme intended for compulsory Mathematics subject needs improvements to maintain clarity.

## 4.5 Response Patterns of the Examinees

As a part of our assessment of test materials, we did examine the response of students. The results are given below for Math.

### Medium of language used

In the answerbooks sampled, about 85 percent students were found using Nepali as their medium of expression and 15 percent using English as the medium of expression. Students of public schools mostly used Nepali and those of private schools English. This trend is consistent with the overall practice of using Nepali medium in textbooks and teaching in the Government/public schools and using English medium in textbooks and teaching in the private schools. Regionally, the proportion of English medium user was as high as 39 percent in the central region, 14.3 percent in Eastern, and 10 percent in Far Western but none was found from the Western and Mid- Western regions. The average marks obtained by students using English medium was 46.1 percent, which is significantly higher than the 21.4 percent obtained by students using Nepali as their medium of writing.

### Expression Difficulty

Language proficiency, understanding of the mathematical concept, and practice in the school are accounted for creating expression difficulty. About 50 percent of the students were found to have expression difficulty, due possibly to the length of the test papers that can create induce

haste among the examiners resulting in expression difficulty. The use of difficult words in test papers with low weightage, which requires more time to comprehend the question, is also responsible for expression difficulty.

**Questions not attempted or partially attempted**

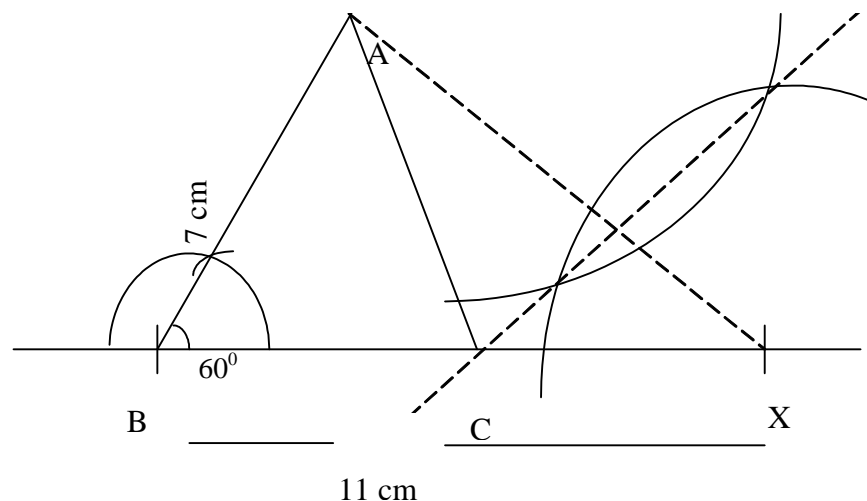
The incidence of failure to attempt questions or attempting partially is very high. Analysis of sampled answerbooks revealed discouraging results. Some 67% of the students did not attempt or attempted partially very short answer questions; and 77% did the same with the short answer questions; and 34% with the long-answer questions. Students' performance on the short and very short type questions was found to be poor. Students' performance on the long type questions was also far from satisfactory contrary to the conviction that Mathematics is high a scoring subject.

### Repeated answers of the same questions

The repeated answer means answering the same question more than once. It can happen either when the students cannot solve the problem in a single attempt or they are unable to respond to other problems. Some cases of answering more than once were found.

### Originality in writing

Originality/creativity in writing is a very important quality of a student. Such quality can be inculcated in them through proper teaching. It is only the original/creative thinking that can contribute to original/creative writing. Current classroom practices do not encourage students to be original and creative. Expert judgment of students' answers revealed that only 15 percent of the sample answerbooks have originality/creativity in writing. Ironically, examiners do punish when students demonstrate originality. A correct construction in geometry of a student was awarded zero mark by two markers. The following figure is one example of such a case.



The marking scheme instructs the student to draw  $AB = 7$  cm horizontally and then complete the construction. The student did differently and correctly for which he was punished. This shows that markers blindly try to follow the marking scheme or the textbooks contrary to the instructions given in the marking scheme. Finally originality/creativity in writing demands that

students be not confined to the textbooks and classroom only, but they should be given an opportunity to think creatively.

### Copying

Here copying means copying from other students' answerbooks or copying to cheat. To ascertain the instances of such practice, it is sometimes unfair from a simply go through the answerbooks of a single student. Such judgment can be made from one-to-one similarity of the steps, correctness, or wrongness in the steps, etc. through comparison of two or more answerbooks of the students. Such acts of copying can be assessed also from the inconsistent steps detected, e.g., in the alternation of correct and wrong answers noticeable in the answerbooks. Screening of sample answerbooks revealed as many as 31 percent of the students appearing in the examinations could have copied the answer, with the highest frequency in the Eastern and Mid-Western regions and lowest in the Far Western region.

### Mention of question number

Analysis reveals that failure to mention the question number is quite frequent among students. About 65 percent of the students were found omitting such mention or wrongly referring the number of the question they attempted.

## 4.6 Consistency in Marking

There is no consistency in the allocation of marks across the different markers (Table 5). This inconsistency, too, resulted in pass/fail cases also which cannot be ignored. There is a significant number of cases of difference of scores among the markers in the range of 1-5, which is higher in the case of M2 and M3. The score difference of six and more among the markers is nearly one-fourth of the total students, and between M2 and M3 this is nearly one-tenth. Moreover, there are extreme cases, which may even affect the result to the extent of passing and failing.

**Table 5. Marks Awarded by Different Markers in Maths**

Range of Score	Markers 1, 2, and 3		Markers 2 and 3	
1-5	190	(76.3%)	199	(91.3%)
6-10	46	(18.5%)	18	(8.3%)
11-15+	13	(5.2%)	1	(0.4%)
Total	249	(92.9%)	218	(80.7%)

Such cases account for 7.8 percent of the total students, a very serious issue that demands immediate attention. Such gaps are common among those involved in marking the SLC answerbooks. It is observed from a sample of 35 answerbooks with the difference of more than seven marks among three

examiners. That inconsistency persists among the examiners, with sufficient qualification and experience even at the head examiner's level. In all the 35 answerbooks, a lot of inconsistency is obvious, which may be due either to following the marking scheme blindly or to ascertain lack of seriousness in observing the process followed or just to verifying the result of the question which simply shows that the markers do not realize the gravity and sensitivity of the task at all. Some examples of anomalies in the marking of thirty-five answerbooks reveal that answerbooks considerably suffer from inconsistent marking. It seems quite a serious problem that examiners generally ignore the marking scheme or do not understand its intention. The analysis reveals that majority of the examiners, even head examiners use their discretion very loosely without keeping in mind the true intention of marking scheme by and large.

## 4.7 Conclusions and Recommendations.

The analysis, leads to the following conclusions and recommendations:

The curriculum should focus on the learning competencies directed towards learning practically applicable to daily life using mathematical contents. Henceforth the teaching technique should be improved in a way that children from all sections of the society feel and find mathematical learning comfortable and useful.

The curriculum should guide through its components to achieve the objectives such as 'to expose the inner ability and talent', to bring hardcore people in society in the national stream' in general, and 'to prepare healthy and capable or ideal citizens able to develop livelihood-oriented mathematical knowledge and skills, and enable them to enjoy Mathematics' in particular.

Textbooks should be made more inclusive from the point of view of equity perspective and alternate measures to cope with the disability of different group (physical or social).

The specification grid should correspond with the curriculum objective. Besides, it should lay more emphasis on testing practical and creative abilities than factual information which students need to memorize.

Test papers should relate to real life situation as far as possible. Various items with unfamiliar contents for students from remote areas and other ethnic groups should be replaced with familiar contents to them in order to realize localization in students.

For the development of originality/creativity in students, the curriculum of Mathematics subject should make the provision of theory and practical part. This provision will let students study and work beyond the confinement of the class room and textbook alone, which will eventually create a positive thinking in them about the uses and value of Mathematics as an important component of life skills. Finally, this will also help students in realizing the underpinning beauty of Mathematics creating more interest in its study.

## 5. ANALYSIS OF SCIENCE TEST MATERIALS

Science is also a compulsory subject. It is taught right from Grade one. The SLC measures both theoretical and practical understanding of science as a subject, with 75 marks for theory and 25 for practical. Students have to secure pass marks in both the theory paper and in practical examination. Science is also known to be one of the 'killer' subjects, in which a large majority of the students fail annually in the SLC examinations. The following sections provide results of analysis of curriculum and testing materials of science as a subject.

### 5.1 Curriculum and Textbooks

The main objective of teaching science is to develop the basic knowledge of scientific concepts, principles, and laws; impart the skills of observation and inquiry, and develop competence in applying knowledge and skills for the solution of problems in daily life. The science curriculum consists of four prominent areas of Science: Physics, Chemistry, Biology, and Astronomy and Geology. The curriculum has given 35 percent weightage to Physics, followed by Biology (30%), Chemistry (25%), and Astronomy and Geology (10%). Such an unequal distribution of weightage is hard to justify. Each area is further divided into a number of units. The unit contains specific objectives, showing the development of expected outcomes among students.

The given specific objectives can be classified into knowledge and comprehension type and higher ability type. The analysis of these objectives reveals that, overall, knowledge and understanding type of objectives overwhelmingly dominate: Chemistry (79.4%), Biology (94.7%), Astronomy and Geology (95.24%), and Physics (50.8%). The objectives related to higher abilities have obviously been given marginal space.

For the most part, textbooks are written according to the prescribed curriculum. Textbooks include illustrations, examples, and exercises. Each chapter contains a summary and activity-orientated problems. However, there are some shortcomings which can be removed in order to make the textbook more useful to the students. While writing school science textbooks attention should be given in coining Nepali words for scientific and technical words. Often, the lack of standardized Nepali words for scientific and technical words creates confusion among students and teachers.

Errors: There are some errors in printing which should be eliminated. For example, derived units are called **तत्जन्य एकाइ** in Nepali. But in the textbook of Grade IX it is written as **तज्जन्य एकाइ** which is wrong.

Although the textbook contains many figures and sketches, there are instances where figures and sketches are necessary but not mentioned. For example, figures should be given to illustrate terms such as **आयताकार, त्रिकोणाकार, वृत्ताकार, गोलाकार, वेलनाकार**.

For example, **displace** is denoted as **स्थानान्तर** in the science textbook. However, **displace** should be denoted by **विस्थापन** and not **स्थानान्तर**.

The content in the textbook is presented in simple Nepali language. However, the content presentation in some cases is not clear and is difficult to understand. For example, Grade X page 65 mentions:

"तत्वहरूका गुणहरू तिनीहरूका पारमाणविक सङ्ख्याका पेरियोडिक कार्यस्वरूप हुन्छन् ।" The words and language used in this sentence are not clear enough to communicate the meaning properly to the students.

The textbook of Grade IX (page 184) mentions:

"मस्तिष्कको धेरै भाग ठूलो मस्तिष्कले ओगटेको हुन्छ" This sentence does not give clear meaning.

The textbooks are well illustrated with examples. However, in some cases examples are missing. There are explanations about **asteroids**, but **examples are not given**. In many instances, textbooks do not explain the terms clearly. In the Universe chapter (Grade X, pp. 184,185) words like **plasma, hydrogen-helium** reaction in the sun are mentioned, but the terms are not explained. These terms need to be explained properly. Lack of adequate explanation leaves both the students and teachers handicapped.

## 5.2 Specification Grid

Specification grid in science published in 2058 has classified the expected abilities into three categories as knowledge, understanding, and higher abilities. The higher abilities include application, analysis, synthesis, and evaluation. The specification grid allots around 50 percent weightage to the development of higher abilities in Physics, Chemistry, Biology, and Astronomy and Geology. There are some discrepancies in the weightage given in the curriculum and the grid. The curriculum weightage in Physics is 35 percent but the weightage in specification grid is

40 percent. Similarly, in Chemistry, the curricular weightage is 25 percent, but the weightage in specification grid is 20 percent. The grid has moved 5 percent weightage from Chemistry to Physics whereas Physics has already got the highest weightage in curriculum. There is no perfect alignment between curricular weightage and marks allotted. For instance, the curricular weightage in Physics is 35%, but the number of marks allotted is 30. On the other hand, the curricular weightage given in Chemistry is 25% and the mark allotted is just 15. Such an unjustified distribution of marks is one main reason of the low content coverage in Chemistry. The distribution of curricular weightage and marks thus needs to be revised and reallocated uniformly.

### 5.3 Test Papers

In Science, different sets of question papers are administered in different regions. Each set of question paper contains ten main questions, which are again sub-divided. Again, in some cases, each sub-item is further divided into two or three small items. Thus every SLC question paper contains 37-43 items of questions, which adds a heavy burden on the students.

#### Test papers and Specification Grid

The specification grid has fixed the number of question items along with the weightage of expected abilities in each area of science test papers. However, the test papers do not seem to have followed the suggestions given in the grid. For instance, the specification grid demands 20% of the question items only from knowledge level. But in the year 2058BS/2001AD, the A, B, C, D, E sets of test papers included 60, 55, 48, 44, and 56 percent of knowledge level question items respectively. Thus there is a big gap between the specification grid and test papers as far as knowledge level question items are concerned. Moreover, the weightage of the understanding level of question items in different sets even in the same year was found to be quite different. Thus, in 2058, the E set included 29 percent of understanding level items whereas the D set of paper included 41 percent, with a variation of 13 points. A, B, and C sets had a tolerable range. Again, the discrepancy in the specification grid and test papers is very much noticeable in the question items of higher abilities. The specification grid demands 49 percent of question items from higher abilities whereas the test papers of 2058 BS gave 8 to 22 percent weightage only on the different sets. Similar variations could be noticed in different years.

#### Errors

In many instances, both the Nepali and English versions of the question items do not denote the same meaning.

For example

#### Set B-2058 Q.1. ka is

Q.1. क= निम्न संख्यालाई छोटो तरिकाले लेख्नुहोस:

Write the following numbers in **Shorthand form**:

The word "**shorthand**" denotes rapid writing in a system using signs or shorter forms for letters, words, etc. which is not applicable in this case.

The English version of this question item should be "**write the following numbers in short form**"

Similarly, set-B, 2058 BS contains an item in Biology which does not convey the same meaning in Nepali and English versions.

Q.7. ka. दिइएका चित्रहरू वीजाणुबाट प्रजनन हुने विरुवाहरू ढाड नभएका जनावरहरूको जीवन चक्रको विभिन्न अवस्थाहरू हुन् । ती विरुवा वा जनावर र अवस्थाहरूको नाम लेख्नुहोस् ।

- In English, "The given diagrams show the different stages of plants propagated with spores or invertebrate animals. **Find** the plants or animals and their stages."
- Here "Find the plants or animals and their stages" is not appropriate.
- The sentence should be like, "**Identify the plants and animals and their stages**".

### Set-B (2058 BS)

The B set of paper in 2058 BS contained the following abnormalities in the English and Nepali versions of test items.

Q.2. Ga. उर्जा संकट भनेको के हो ? उर्जा संकट दुर गर्ने एउटा उपाय लेख्नुहोस् ।

What is energy crisis? Give a measure to **push further the energy crisis**.

Now "to push further the energy crisis" denotes deepening the energy crisis. Hence the appropriate sentence would be "What is energy crisis? Give a measure to remove the energy crisis".

Q.7. ka (i) उन्त्युको प्रजनन क्रियालाई कति चरणमा विभाजन गरिएको छ र ती के के हुन् ?

- Life cycle of a fern plant is divided into how many generations and what are they called?
- Here the word generation is wrong. It should be replaced by stages.
- The English version should be "Write the different stages of the life cycle of a fern plant".

Q.8. ka कुन प्रकारको कोष विभाजनबाट तन्तुहरूको वृद्धि हुन्छ ?

Tissues grow because of which type of cell division?

- The correct sentence should be "Name the type of cell division which helps tissues to grow".

### Set-E (2058 BS)

Q.2. Ga। शक्तिको रूपान्तर भन्नाले के बुझ्नुहुन्छ?

What is law of conservation of energy?

- The English version is totally wrong.
- Law of conservation is not the same as शक्तिको रूपान्तर । शक्तिको रूपान्तर means transformation of energy.
- The correct sentence should be "What do you understand by transformation of energy?"

### Set-C (2058 BS)

Q.8. Ga। जीव भू-रासायनिक चक्र भनेको के हो, एउटा उदाहरणसहित लेख्नुहोस् ।

- What is a **bio-terrestrial-chemical cycle**? Explain with an example.
- Here, the terrestrial denotes only land. The correct sentence should be **"What is bio-geo-chemical cycle? Explain with an example."**

### Set-C (2059 BS)

Q.6.ka तलको चित्रमा प्रयोगशालामा एमोनिया ग्यास बनाउने विधि देखाइएको छ । ग्यास जार भरिए, नभरिएको कसरी पत्ता लगाउने? यो ग्यासलाई किन पानीले तलतिरको विस्थापन विधि वा हावाको माथितिरको विस्थापन विधिबाट ग्यास जारमा जम्मा गर्न सकिदैन, व्याख्या गर्नुहोस् ।

- How do you find out whether the gas jar is full or not? Also explain why is it that this gas cannot be collected in the gas jar by the downward displacement of water nor by the upward displacement of air.
- The English version item is not complete as in the Nepali version. The English version of तलको चित्रमा प्रयोगशालामा एमोनिया ग्यास बनाउने विधि देखाइएको छ is not mentioned. The item should be read as **"The figure given below shows the method of preparing ammonia gas in the laboratory. How would you find out whether or not the gas jar is full? Also explain why this gas cannot be collected by the downward displacement of water and upward displacement of air."**

Q.6 kha ब्युटेनको एउटा प्रमुख प्रयोग पनि लेख्नुहोस् ।

State a common use of butane.

- Common use does not mean " प्रमुख प्रयोग । The sentence should be **"Write one main use of Butane"**.

### Set B (2060 BS)

Q. 3 Ga. पानीको विशिष्ट तापधारणा शक्ति  $4^{\circ}$  से. मा सबैभन्दा बढी हुन्छ किन ?

Why is the **density of water** highest at  $4^{\circ}\text{C}$ ?

- Density does not mean विशिष्ट तापधारणा । विशिष्ट तापधारणा is **specific heat** and **density** is **घनत्व** The sentence should be पानीको घनत्व  $4^{\circ}$  से. मा सबैभन्दा बढी हुन्छ किन ?

Q. 6 Ga. नाइट्रोजन, फस्फोरस र पोट्यासियमको कमीले बिरुवामा के के असर पर्दछ ? तामालाई अक्सिजनसँग तताउँदा के बन्दछ ? समीकरणसहित लेख्नुहोस् ।

What effects on plant will be caused by the deficiency of nitrogen, phosphorus and potassium? Write with chemical equation.

- Here the English version of तामालाई अक्सिजनसँग तताउँदा के बन्दछ ? is not mentioned.
- **"What product is formed when copper is heated with oxygen? should be added"**.

Q.8.ka.दिइएको चित्र कुन कोष विभाजनको कुन अवस्थाको हो ? यस अवस्थाका दुइवटा लक्षणहरू लेख्नुहोस् ।

What type of cell division and what stage is shown in the diagram?

- The correct sentence should be **"Name the stage and type of cell division shown in the diagram"**.

**Set-D(2060 BS)**

Q.5.kha (i) अम्लको परिभाषा लेख्नुहोस् । किन पानीलाई अम्ल तथा क्षार दुवै मानिन्छ?

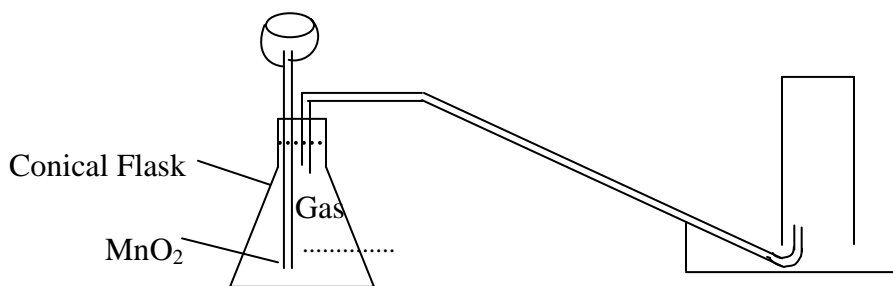
**Give the definition of acid and base.** Explain why water can be considered as an acid as well as a base.

- Here the Nepali version is incomplete. The Nepali version of base is not mentioned. It should be **अम्ल र क्षारको परिभाषा लेख्नुहोस् । पानीलाई अम्ल तथा क्षार दुवै मानिन्छ, किन ?**

**Set-E (2060 BS)**

Q.5.ka तलको चित्रको आधारमा सोधिएका प्रश्नहरूको उत्तर लेख्नुहोस् ?

Answer the following questions with the help of the given figure:



The materials mentioned in this figure are not sufficient to prepare any gas. So the questions asked in item Q.5 ka cannot be answered.

Question items repeated regularly in SLC examination. Dozens of examples of repetition have been noted. It is found that there are few question items, which appear every year.

**5.4 Marking Scheme**

The marking scheme has been developed in science to reduce the possible deviation in the scoring of answerbooks. However, there are some shortcomings in the marking scheme. There are few instances of wrong answers given in the marking scheme. For example:

**Set-A (2058 BS)**

**Q.8.Ga:** समुदाय भनेको के हो? समुदायमा च्याउ कुन प्रकारको जीव हो?

एउटै प्राकृतिक वातावरणमा मिलीजुली बाँच्ने वनस्पति र प्राणीहरूको समूहलाई समुदाय भनिन्छ ।

- Direction given in the marking scheme **च्याउ विच्छेदक हो ।**
- च्याउ विच्छेदक हो ।** is the wrong answer given in the marking scheme.

**(2059 BS)**

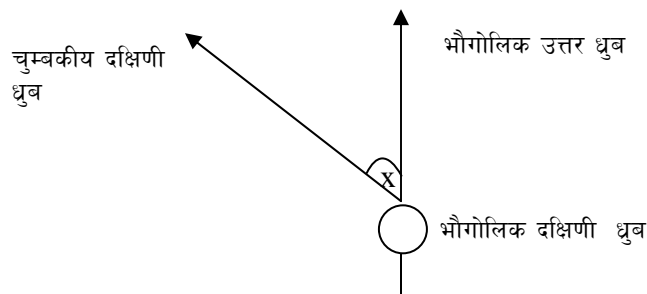
**Q.3. ka II:** कन्भेक्स लेन्सले घामलाई कागजमा केन्द्रित गर्दा बल्छ । कारण सहित व्याख्या गर्नुस् । is the question

**Direction given in the marking scheme** घाममा भएको इन्फ्रारेड पनि कागजमा केन्द्रित हुन्छ । यसले गर्दा तापक्रम बढ्ने गर्दा कागज बल्छ ।

The correct answer should be - **कन्भेक्स लेन्सले प्रकाशका किरणहरू केन्द्रित गर्ने भएकोले कागज बल्छ ।**

(2059 BS)

Q.4 kha II चित्रमा देखाइएको  $\angle$  कोणको नाम लेख्नुहोस् ।



Direction given in the marking scheme अवपात । The meaning of अवपात is **angle of dip**. The angle of dip is a wrong answer. The correct answer is **angle of inclination**. The angle of inclination is called दिक्पात in Nepali. अवपात is wrong. The right answer is दिक्पात .

(2059 BS )

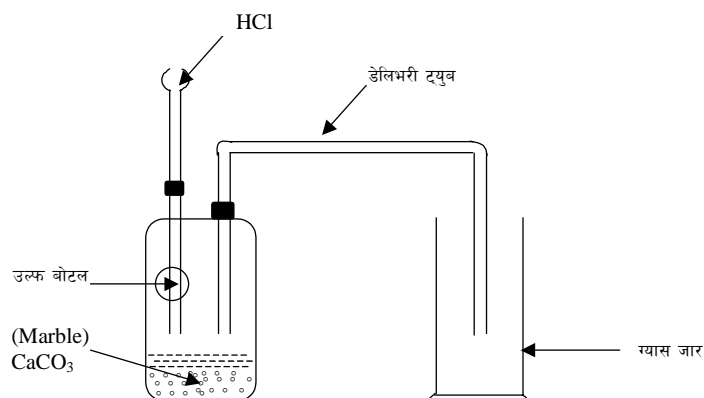
Q.8.ga खाद्य शृंखला भनेको के हो?

The answer given in the marking scheme is सजीवहरूमा खाद्य पदार्थको एक जीवबाट अर्कोमा सर्दै जाने क्रियालाई खाद्य शृंखला भनिन्छ ।

The correct answer should be - उत्पादक, उपभोक्ता र विच्छेदकको आपसी अन्तरसम्बन्धबाट निरन्तर रूपमा शक्ति आदानप्रदान प्रक्रियालाई खाद्य शृंखला भनिन्छ ।

(2058 BS)

Q.6.ka Wrong Labeling of Apparatus Parts



The labeling of Woulfe's bottle here is wrong: the **arrow** shows the **Thistle funnel** as **Woulfe's bottle**.

## 5.5 Response Pattern of the Examinees.

The results of analysis of students' answers are given below:

### Language and Expression Difficulty

In the 300 samples of answer books, almost 96 percent students have been found to use Nepali as their medium of expression. However, 20 percent of the students showed difficulty in their

expression in Nepali language. That may be due to factors such as the use of English word in scientific and technical terms.

### **Attempting Same Questions Repeatedly**

Sometimes students tend to write answers repeatedly in the answerbooks during examination to deceive the examiner. Their number was small (9.3%). Such repetition is a wastage of time and effort on the part of the students. Therefore students should be well orientated during teaching learning process that repeated writing of answers in the examination yields a negative impact on themselves because it deducts the time they can devote to thinking and attempting other questions. It also produces a negative impact upon the examiner.

### **Originality in writing**

Almost 81 percent of the students have been found to possess originality in their writing. This is a positive aspect on the part of the students. Students should be encouraged to understand the concept and then express their understanding by writing in their own language.

### **Copying**

The data above show that more than 17 percent (52) of the students tend to copy in the examination. It is a serious problem. Students should be properly oriented about the negative aspects of copying. Examination management should be made more efficient to deal with such a tendency.

### **Correctness in Writing**

The data show that 81 percent of the students have written their answers in correct language. Language is one of the main factors in writing answers. If students cannot use correct language, answers cannot be given properly even if students understand the answers to the questions. Allowing students to practice regular writing and checking by the teachers can easily improve this weakness.

### **Mentioning of the Numbers of Questions**

More than a quarter (29%) of the students either did not mention the numbers of the questions or mentioned them wrongly. Such a practice increases the chances of losing scores.

### **Questions not Attempted or Partially Attempted**

Overall, one-fourth of the total questions were either not attempted or only partially attempted. This could be one reason for the high rate of failure. Students from the Central Region performed better compared with the students from other regions. Students from the Far Western Region did poorly compared to others. Most of them could not attempt science questions of higher abilities. This may be due to many factors such as rote memorization by students, classroom teaching with emphasis on lecture, and giving notes to students and students not habituated to higher abilities questions.

## **5.6 Consistency in Marking**

Some 300 answerbooks were re-examined to find out the extent of consistency in marking by different examiners. Three markers examined the same answerbook, including the original

examiner appointed by the OCE. Thus the patterns of inconsistency found in marking are reported in Table 6.

**Table 6. Inconsistency in Markings**

Range of Scores	Answer books examined by M-1, M-2 & M-3		Answer books examined by M-2 & M-3	
1-5	184	(62.8%)	218	(72.7%)
6-10	78	(25.0%)	60	(20.0%)
11-above	38	(12.2%)	22	(7.3%)
Total	300	(100.0%)	300	(100.0%)

The table clearly shows that inconsistency persists extensively in the marking of science answerbooks. The inconsistencies among the markers were very high (63 % among the three markers and 73 % between the two markers with marking range of 1-5

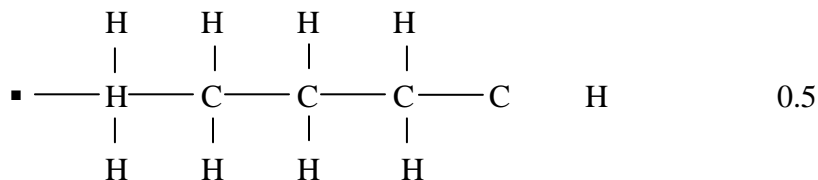
followed by the range of 6-10. However, inconsistent marking with marking range 11 - above was found to be rarest among the markers (7% and 12.7%). Inconsistency in marking was distinct even between the two selected examiners (M2 and M3) who were quite experienced and senior science teachers. Such inconsistency in marking distinctly affects the SLC results not only in its pass/fail rates but also in the percentage score of an individual student, which is detrimental to both career and scope for pursuit of the higher studies. The inconsistency it self may be due to factors such as the subjectivity of the markers, defective marking scheme, and incompetence of the examiner and head examiners. Generally, a science teacher with B.Sc. or M.Sc. degree will not be able to teach school science unless s/he studies or gets trained in all the areas of science such as Physics, Chemistry, Biology, astronomy and geology.

One main factor in inconsistency in marking is the negligence on the part of the answerbook markers who often do not follow the marking scheme. For example, question 6 kha in the C-set of year 2059 BS SLC examination for the Western region reads as:

Write the structural and molecular formula of butane. State common use of butane. (Mark 1.5)

**Direction given in marking scheme**

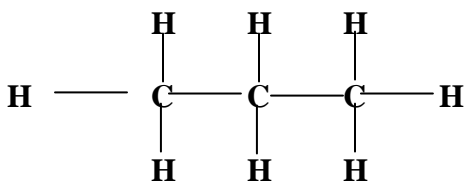
▪  $C_4H_{10}$  ..... 0.5



▪ इन्धनको रूपमा प्रयोग गरिन्छ ।..... 0.5

One of the answerbooks shows:

Q.No. 6 (ख) ब्यूटेनको संरचनात्मक सूत्र :



ब्यूटेनको अणु सूत्र :  $C_4H_{10}O$

The answerbook clearly shows a wrong answer. However, the first marker has happily given 1.0 mark to this answer out of 1.5, which shows the examiner's negligence.

**Q.No.9ka in 2059 BS (2003) set B Central Region asks:**

What is meant by asexual reproduction? Write two differences between male gamete and female gamete.  $1 + 2 = 3$

The direction given in the marking scheme is:

भाले र पोथी लैंगिक कोषहरूको समागम नभई हुने प्रजनन क्रियालाई अमैथुनिक प्रजनन भनिन्छ । ..... 1.0

**भाले ग्यामेट**  
यसलाई शुक्रकिट भनिन्छ ।  
यो सानो हुन्छ ।  
यो सक्रिय हुन्छ ।

**पोथी ग्यामेट** .....  $1+1=2$   
यसलाई ओभम वा अण्डा भनिन्छ ।  
यो भाले ग्यामेटभन्दा ठूलो हुन्छ ।  
यो निष्क्रिय हुन्छ ।

### Answerbook and marking

(क) अमैथुनिक प्रजनन भनेको भाले र थमिट र पोथी ग्यामेट समागम नभई सन्तान उत्पादन गर्नेलाई अमैथुनिक प्रजनन भनिन्छ ।

**भाले ग्यामेट**  
यसमा डिम्ब उत्पादन हुन्छ ।  
यसले डिम्बलाई जोगाउने काम गर्दछ ।

**पोथी ग्यामेट**  
यसमा शुक्रकीट उत्पादन हुन्छ ।  
यसले शुक्रकीटलाई सुरक्षित राख्दछ ।

## 5.7 Scoring Practical versus Theoretical Examinations

The average marks obtained by students in the theoretical and practical components of science do not correspond. The average marks in practical lie in the range of 79 to 83%, while the same in theory range from 21 to 36%. Apparently, there is no consistency in awarding marks in theory and practical papers. It may be due to student pressure because practical marks are awarded by schoolteacher her/himself. Many schools do not engage students in practical activities. Students do not get any lab experience. Strange enough, their marks in the practical papers are often higher than those obtained in the theory paper. Thus students remain handicapped in practical knowledge and skills in school science.

## 5.8 Conclusions and Recommendations.

On the basis of the analysis presented above, the following conclusions and recommendations are made:

- The curricular weightage and the weightage of specific objectives given in the secondary school science do not coincide. The discrepancy in curricular weightage and specific objective weightage is very sharp in Physics, Biology, and Astronomy and Geology areas. In Chemistry, such a discrepancy is nominal. Further, the discrepancy in the expected development of higher abilities in science curriculum and specification grid is very large, especially in Chemistry, Biology, Astronomy, and Geology areas. This discrepancy in the

curricular weightage and the weightage in specification of grid should be avoided. Moreover, school science teachers should be given training in conducting science classes to develop higher abilities among students. Secondary School Science Curriculum should be revised to remove the discrepancy in curricular weightage and specification grid.

- Science textbooks should be written in a simple and clear language so that students understand the concepts in science easily. Scientific and technical terms should be carefully translated in Nepali so that both words (English as well as Nepali) give the same meaning. Each science concept should be carefully explained, with clear illustrations. Figures and sketches should be given wherever possible and should be well labeled. If possible, multicolored figures and sketches should be given in the science textbooks. The presentation of the content materials needs simplification. The use of science activities in each chapter is a welcome approach. If the science lesson is taught by the simple lecture method, which is very probable in our country, one has to think about the impact of this kind of activities orientated science textbooks on the student's learning outcomes. In simple terms, this kind of science textbooks will be useful only in such schools where students' activities dominate science class. The inclusion of summary in each chapter is also a welcome approach. However, the summary parts of each chapter need to be organized well with the help of basic facts and principles. Moreover, the inclusion of exercises "Do, observe, and learn" parts in each chapter are very useful for students. While presenting text contents, the materials, and examples chosen should be simple and familiar to the students. Moreover, science textbooks should include a glossary of scientific and technical terms to enhance the quality of the book. Secondary School Science textbooks should be revised to make the topics more simple, clear, and free of errors.
- There are many mistakes in the language of question items. Both English and Nepali versions of the question items must convey the same thing with same meaning. Moreover, mistakes with technical terms must also be eliminated. In order to remove the mistakes in scientific and technical terms, the setting of and moderation of science question papers should be given to experienced and well known science educators. Repetition of questions should be avoided or minimized. Also, the SLC test papers do not cover the specification grid with expected abilities. Large variation is found between the specification grid and the test papers in the expected abilities.
- In the marking scheme many mistakes are found where mentions the expected correct answers are not indicated. For example, in the marking scheme, in the year 2058 BS, set A of eastern region, question 2 'Ga' does not mention the conditions for nuclear fissions. Similarly in that very set, question 3 'Ka' does not mention the complete ray diagram and images formed. Q.8 'Ga' mentions mushroom as **विच्छेदक** which is **wrong**. Thus while developing marking scheme, care should be taken so that all the marking schemes are correct and to the point. The points of the expected answers should be clearly mentioned. The expected definitions should be clearly written. In some cases, definitions are clearly mentioned in the marking schemes while in other cases they are not. Such discrepancy have to be avoided.
- There is expression difficulty among the SLC science students. Although a majority of the students use Nepali language, the level of difficulty of expression is significant. More

than 20% of the students suffer from such difficulty. It may be reduced with improvement in Nepali language teaching. Language of the SLC test items should be simple and clear. Generally, rote memorized answers are written correctly. But answers which need reasoning are found to be expressed with difficulty. This may be due to the nature of teaching-learning activities. Students, who are generally asked to listen to teachers' lecture, try to memorize the lecture, class notes, and textbooks.

- There is no consistency in the marking of the science answerbooks. The range of such inconsistency lies between 1 and 26 clearly showing that the examiners do not use marking scheme and use their own discretion loosely. Such inconsistency in marking can be removed by appointing experienced and trained science teachers as examiners. The marking scheme must include the expected main points in all question items. The distribution of marks must be done according to the expected answers.
- Many students either did not attempt or attempted only partially most of the questions. For instance, more than 65 percent of the students from the MWDR could not attempt Chemistry questions. From the FWDR, more than 58 percent of the students could not attempt Physics questions. More than 95 percent of the students from FWDR could not attempt questions from Astronomy & Geology. This may be due to poor teaching in schools, too many question items, and overloaded science curriculum or the inclusion of higher abilities questions to which students are not used or else, the inclusion of question items from Grade IX which they learned a year before. Overloading of science curriculum with too many concepts should be adjusted to the age level of students. Research findings also show school science teachers to be of the opinion that secondary school science curriculum is overloaded. Well trained science education graduates and science graduates should be appointed as school science teachers. Only those persons must be appointed as school science teachers who have graduated in science education. In the case of science graduates, they must be provided intensive training in science education with Physics, Chemistry, Biology, Astronomy, Geology, and Pedagogical courses. School administration in general and science teachers in particular should be held responsible and punished accordingly for not completing science courses in time. However, reward should also be given to science teachers who completed the course in time.
- The difference in the range of marks in theoretical science and practical science is wide enough, that is, 20.8% in theory and 83.2% in practical. In fact, the practical classes and examinations in science are often not done in schools. Still, full marks in science practicals are awarded to all students irrespective of their abilities. Thus, practical science has become a big joke in our school system. This must be taken seriously and improved appropriately. In order to improve the situation, schools should be compelled to run practical classes in science with examination held by external examiners. All schools should be made responsible to run practical classes and keep records and assess regularly as prescribed in the curriculum. Science educators, senior science teachers, and school science supervisors should be allowed to evaluate students' performance in practical science.
- Too many question items in science (37-43 items in 2059) should be avoided. The number of question items should be about 15 to 20. Questions must be set on the basis of the science curriculum and specification grid. All sets of science questions must

contain an equal number of question items of similar abilities. Questions in science must be included to test the organization ability of students.

## 6. ANALYSIS OF HEALTH, POPULATION, AND ENVIRONMENT EDUCATION (HPE) TEST MATERIALS

Health, Population, and Environment (HPE) education is one of the core courses of secondary education introduced since 2001. The subject carries 100 marks in SLC, where 25 marks are practically assessed by the subject teacher and 75 marks assessed theoretically in SLC Examination. The examinee must pass in both the examinations.

### 6.1 Curriculum and Textbooks.

Health Education, Population Education, and Environment Education are three separate subjects, which have been integrated to form a core course entitled Health, Population and Environment (HPE). The curriculum of Health Education is designed to bring changes in health knowledge, attitude, and behavior of the individuals. Similarly, the courses of Population Education are designed to develop awareness about and understanding of population situation as well as rational attitude and behavior of the students toward those situations by realizing their own responsibilities so that they can better deal with the population problems for the attainment of quality life. Likewise, the courses of Environment Education are designed to make students recognize the values of environment and clarify concepts to understand and appreciate the interrelatedness among man, his culture, and his biological surroundings. There are altogether 19 units in HPE at the secondary level.

Most of the contents included in the curriculum are basically focused on the development of knowledge, attitude, and behavior towards HPE education. However, some specific units are also designed to address adolescent girls and boys, elderly people, adult women, and responsible parents. Contents like sex determination, gender issues, role of mothers, sexual and reproductive rights, women empowerment can solve gender discrimination in the society. Adolescent sexual and reproductive health can specifically address the problems of adolescent boys and girls. It also, puts emphasis on the adolescents' need to develop their life skills to tackle the problems. Similarly, the contents on the composition and cultures of geographical locations and ethnicity can address the status and activities of various ethnic groups. However, they cannot specifically address the specific problems and activities of indigenous/ethnic minorities. The curriculum is silent in dealing with special needs children and the children living in difficult circumstances.

In some areas, conceptual clarity is required. For example, the purpose of including cultural heritage, environmental health, and family life education should clearly be spelt out. Similarly, some texts in population education and environmental education are overlapping. For example, waste management, cultural heritage, ecosystem, biodiversity, and management of environment are found in more than one unit. Likewise, population management and family planning contents are mentioned in two units.

This subject is basically concerned with the development of knowledge, attitude, and practice of students towards HPE. Therefore there is no question of equity raised. However, among some ethnic groups, the question may have to address the socio-cultural factors, affecting HPE. For example, occupations, dresses, and traditional values differ according to the ethnicity and geographical locations.

The curriculum and textbooks of HPE are successful in addressing the growing needs of the school children. However, they can not fully address the situation and status of poor households, ethnic minorities, and special needs students. The previous studies also pointed out that the curriculum and textbooks could not address the behavior of students in many ways (Curriculum Analysis 2004 AD).

In totality, an attempt was also made to integrate three subjects into one, but the demarcation line of each subject is clearly seen in the course except in three units. Also, the Environment Education is more focused on Environment Science, which ultimately is unable to address the nature of the subject. Moreover, the subject matter included in Environment Education is already included in Science.

Recently the curriculum and textbooks have been revised according to the demands of different teachers. The contents on reproductive health, gender issues, and common diseases are incorporated into the revised curriculum and textbooks. Attempt was also made to introduce life skills approach in presenting materials in the textbooks. However, from the perspectives of disable, and Dalit children, some contents need to be added while dealing with the composition of population.

## 6.2 Specification Grid

According to the specification grid, provision is made to assess the students internally and externally. Out of the total 100 marks, 25 marks are allotted to internal assessment, which should be based on totally practical activities. Similarly, 75 marks are allotted to external assessment or final examination using multiple choices, short answer, and long answer type questions.

The provision of internal assessment has been made in the curriculum in terms of practical activities for assessing the development of attitude and behaviors of the students. Unfortunately, most of the subject teachers award full marks in internal assessment without engaging students in the activities suggested by the curriculum. Theoretical examination emphasizes only the assessment of cognitive behavior of students.

Specification Grid is silent in addressing the levels and taxonomy of behaviors in multiple-choice items and the question setters are free to construct questions at any level and domains in this category. However, most of the questions asked in this section are of recall type.

For setting 12 short answer type questions, the question setters have been given little option. Among the twelve questions three from knowledge, four from understanding, four from application, and one from synthesis and evaluation level of the cognitive domain are asked whereas for the long answer type questions, the question setters are provided the options to construct one question each from understanding, application, and analysis level.

As far as the content coverage from the curriculum is concerned, the specification grid could not address all the given units equally though the weightage of the units was similar to each other. As a result, only one multiple choice question each was asked from the units of (i) Primary Health Care; (ii) Population, Environment, and Development; (iii) Consumer Health, and (iv) Safe Motherhood. This provision allowed the teachers to skip certain units while teaching. As a result, the learning outcomes of the subject could not meet the expectation of the curriculum.

Though long answer type questions are asked each from the three areas, the specification grid is environment-biased in the case of short answer type question. The highest number of short answer type questions (5) was asked from the Environment part, whereas only three questions

from Population and two questions from Health Education asked. Likewise, two questions were asked from the integrated units.

The discussion above clearly indicates the need for revision of the Specification Grid and the course so that questions can be asked equally from all the units according to their weightage. Also, it needs a little flexibility in constructing questions from different units. Considering the problem of content coverage, the specification grid has been revised recently to incorporate questions from all the units. According to the revised grid, very short answer type questions have replaced the multiple-choice items. Likewise, 17 short answer type questions are to be asked from different units carrying 3 marks each. The candidates have to attempt any 15 questions from this group. This provision induces the question setters to set questions from all the units. As a result, teachers are compelled to teach all the units of this subject.

### 6.3 Test Papers

Out of 100, 75 percent marks are assessed for theoretical examination in SLC with the remaining allotted for internal assessment for practical examinations within the concerned schools. The examinee is required to pass in both examinations. Altogether 15 sets of questions introduced from 2057 BS to 2059 BS are reviewed (three years x 5 sets) to analyze them. A brief description of the analysis of the questions is given below.

#### Objective Questions

There is a provision for asking 10 multiple-choice questions carrying one mark each in the objective section, which requires the candidate to complete answering within 15 minutes. The examiners are strictly instructed to construct the multiple-choice questions from particular areas; therefore, it was observed that all the questions are set according to the grid.

#### Repetition

Some questions were repeatedly asked more than others. For instance, topics of descriptive subject matter, e.g., Family Life Education, Population, Environment, and Development, were repeated more often. There is a tendency among the question setters to copy questions from the previous years. As a result, students are compelled to collect old questions to study rather than thinking critically on the subject matter. Hence, the learning outcomes will not be achieved even if the candidates score more marks in the paper. This tendency hampers the development of attitude and behaviors of the students towards HPE Education.

#### Clarity

In total, about 16 percent of the multiple-choice questions in three years were found correct in terms of their structure. Question papers lack language editing. Still, the meaning of the question is somehow communicated to the candidates. Also, question setters constructed multiple choice items comparatively better in terms of content coverage, use of terminologies, and time allotment.

#### Short Answer Type Questions

There is a provision for asking twelve questions in this category; out of them candidates have to attempt any nine. Each question carries 5 marks; therefore, the total marks allotted for this section is 45. However, the question setters are allowed to exercise flexibility in asking sub-

questions within the framework of the aforesaid number. No ambiguities were found in the questions of the above three years. Similarly, questions were obviously not so difficult because candidates had alternative questions to attempt. The pass percentages were above 97 % in all three years' examinations, suggesting that the questions were not too difficult. The reasons may also lie in the nature of the subject matter where candidates could use their own experience drawing from their day-to-day life. In long answer type questions, candidates have to attempt any two questions out of three carrying 10 marks each. It was observed that questions in this section were clearer and avoided duplication. However, some questions on population measures may be difficult for students with poor Mathematics background. Repetition of questions was observed in very few sets. However, the question setter had changed the figure and data in the questions. It is easier to set questions from the concerned units because the units have a large coverage of contents as compared to other units.

### Relevancy in Terms of the Grid

Questions were also assessed to find out whether or not they were set as per the instructions outlined in the taxonomy and the given grid. Analysis shows that most of the short answer type questions were asked from the knowledge level. According to the grid, compared to three questions required from the knowledge level, the question setters had constructed up to 10 questions and questions on analysis level were also asked in all the sets though not required. But the questions on understanding and application were rarely asked and no questions were asked on evaluation and synthesis. Clearly the question setters were not following the specification grid as prescribed. As regards the long answer type questions, 45 percent were asked from the knowledge level against 13 percent from application and analysis although the specification grid clearly prescribes the percentages as 33.33 percent from understanding, application, and analysis. The question setters were thus not following the specification grid according to the suggested levels and taxonomy. Since the schools lacked teachers with HPE background, the questions were asked randomly from different levels. The moderators also did not look properly into this anomaly, analysis of the 15 sets of question papers suggests that a region-wise question paper is not required. Moreover, the questions asked in the different regions do not address the respective regions. Instead of introducing five sets of papers in separate regions, parallel sets of papers would work better. But attention should be given to make them equal in terms of the level of difficulty.

### 6.4 Marking Schemes.

Altogether seven sets of marking schemes (2058 BS B, C and E; 2059 BS B, C and D; and 2060 BS B) were reviewed. As far as the marking schemes of the subjective questions were concerned, they were found to have developed in two ways. The first type emphasized only the distribution of marks. For example, the question asked was: **"What is meant by physical and mental health?"** (2 marks). The marking scheme instructed to give one mark for introducing physical health and another one for introducing mental health without any specific points. In this case, the marking scheme is not clear about the specific points to be written. As a result, the examiner may have to consult text materials to find the specific answer. Thus, the marking may vary in this type of scheme. Another type of marking scheme was found prepared specifically, with possible answers. This type of marking scheme is comparatively better, especially for HPE Education teachers, because most of the teachers are from another subject background. While reviewing the contents of the aforesaid schemes, almost fifty per cent schemes were developed

specifically. This clearly indicates that additional efforts are needed to prepare specific marking scheme.

## **6.5 Response Patterns of the Examinees**

The two examiners assigned by the SLC study checked the answerbooks separately and made separate reports on the checking. For preparing the report, they were given some criteria to follow. The reports prepared were specifically studied to obtain the necessary information. The findings needed and the subject specialist's views are presented below:

### **Expression Difficulty**

About 90 percent of the examinees used Nepali as their script of writing. Most of the examinees from private schools used English. The markers had different impressions about the difficulty of expression. In either case, it was found that more than 20 percent of the examinees felt difficulty in expression.

### **Number of Questions Left**

Questions from the Environmental Education portion have not been attempted by more than 40 percent of the examinees indicating that Environment Education was felt either to be a difficult subject or the teaching of this subject did not take place in the schools.

### **Repeated questions**

About 25 percent of the students attempted more questions than what was required. The examinees show a general tendency to tempt the examiner to award marks by answering more questions than asked. About 3 percent of the examinees repeated the answers reflecting the same tendency of the examinees to tempt the examiners.

### **Originality in Writing**

Originality was usually found lacking in the students' responses. They were good at reproducing texts from the textbooks.

### **Copying**

About 10 percent of the answerbooks gave evidence of copying noticed in the appearance of the mistakes of similar nature in the copies of examinees who sat next.

### **Correctness of Language**

Only about 20 percent of the examinees showed correctness in writing.

### **Question not mentioned**

About 10 percent of the examinees either did not write the numbers of the question or wrote it wrongly due possibly to the nervousness or carelessness.

## 6.6 Consistency in Marking

A review of the marks given for 280 papers by three different raters shows, more consistency in the answerbooks marked by the Markers 2 and 3. The results of the consistency analysis are displayed in Table 7.

**Table 7. Range of Difference among the Markers in HPE**

Range of Scores	Markers, 1, 2, and 3	Percent	Markers 1 & 2	Percent
0	2	0.71	9	3.21
1-5	76	27.14	119	42.50
6-10	120	42.86	129	46.07
11+	82	29.29	23	8.22
Total	280	100.00	280	100.00

The table shows that the range difference of marking was high between the Marker 1 and Marker 2/3. If the range of difference of 5 marks is ignored, more than 70 percent of the answerbooks gave evidence of inconsistent marking. This implies the examinees suffered from inconsistent marking. The grand total of the Marker1 was found to be

comparatively lower than that of the Markers 2 and 3. As noted earlier, Marker1 did not even add up the marks secured in the objective questions to the total, which increased the range.

Likewise, the range of the difference in marking between Marker 2 and 3, assigned by the study team, was found to be comparatively low. However, more than 50 percent of the answerbooks featured a range of 6 or more marks. The possible reason for this difference was that Marker 3 was more lenient. Inconsistency in marking could raise questions on the validity and reliability of the test papers. Therefore, the subject specialist also tried to scrutinize some of the answerbooks, which had a range difference of more than 10.

The average marks obtained by the examinees in the same answerbooks were different among the three different markers. The first and the second markers showed consistency in checking (44% vs. 47%), but the third one was found somewhat lenient. There was a difference of 10 marks between the first and third Markers and of 7 marks between the second and the third on an average.

Analysis of the marks given by the first marker shows the first marker did not rate some of the answers. S/he did not add the scores given for the objective items in 12 out of the 27 answerbooks scrutinized in the process of reviewing the marks offered by the three different markers. This may be and large explain the low average marks given, an error found also in the process of retotaling the answerbooks at OCE.

In totality, the first and second markers and the subject expert marked the answerbooks almost similarly. But the third marker gave the marks leniently in all the answerbooks. This is simply a problem of attitude of the examiner and suggests the answerbook markers require proper orientation.

## 6.7 Scoring Theoretical vs Practical Examinations

HPE is a subject where students get practical and theoretical marks separately. The students have to secure at least pass marks separately in each to get through. In practice, students get comparatively better marks in the practical whereas in theory paper they often fail. Therefore, an attempt was made to see the difference between these two parts in the available answerbooks. Altogether 276 cases out of 280 were examined for a comparison of their practical and theory

**Table 8. Scores Awarded in Theory and Practical Examinations in HPE**

Type of Examination	Total Examinees	Full marks	Average marks
Theory	276	75	32.5 (43.3 %)
Practical	276	25	20.5 (81.9 %)

are based on the marks given by the OCE. On the other hand, out of 25 marks in practical, the candidates scored 20.5 (81.9%) mark on an average. The practical marks are based on internal assessment, given by the school (subject teacher) itself. The results show that there is a big gap between the scores awarded in theory examination (final) and practical examination (in the school).

marks. In the case of four examinees, the practical marks were missing. Table 8 presents the actual deviation between these two marks.

The table shows that out of 75 marks, in theory paper, the candidates scored 32.5 (43.3%) on an average. The theory marks

## 6.8 Conclusions and Recommendations

Based on the foregoing analysis, some conclusions and recommendations are drawn:

- Most of the questions asked are recall type in multiple-choice items, where students can directly copy from their textbooks. Orientation program is needed for the question setters especially in the construction of multiple-choice questions and of questions from different domains.
- There is a scope for copying answers from the neighboring candidates because multiple sets are not available in this paper within the regions. Parallel sets of question papers should be introduced instead of giving five sets of papers separately in rogue at present.
- The nature of the question papers clearly shows that all the setters are not from the subject background which determines the level of the question. Appropriate persons must be identified for setting questions in HPE.
- All the question setters have not followed the specification grid, especially in setting up the subjective type questions. Question setters should strictly be instructed to follow the specification grid.
- Candidates can take maximum advantage from the paper because of the repeatedly asked questions even if however it is very difficult to secure very high marks. Repetition must be avoided.
- More than 40 percent of the examinees did not attempt questions from Environment Education. The subject matters included in Environment Education is basically from Environment Science. This indicates that the area of Environment Education was either not taught properly or the area is difficult for the students to understand. Appropriate actions need to be taken in this regard.
- Different examiners rated differently though they were provided with marking schemes. This shows that either the markers did not follow the marking scheme strictly or the marking schemes were not specific enough. However, there is no significant difference in the marking of the answerbooks.
- The pass percentage of this subject was found to be very high (97.25); however, the average mark that the candidate secured in the paper is comparatively low, which shows

that it is easy to get pass mark even with less effort. This might be due to general nature of the subject that is related to the life situation.

- The content load is found to be heavy for the students in this subject if the curriculum is followed properly. Separate examinations for Grade nine and ten should be conducted to assess the students' performance so that their load can be relieved.

## 7. ANALYSIS OF TEST MATERIALS RELATED TO SOCIAL STUDIES

Social studies, one of the eight subjects taught in the secondary Grades, plays an important role in preparing children to take on the duties of citizenship. It is an integrated field of knowledge, which is imparted to develop a balanced personality. This section summarizes the findings of the analysis of curriculum and test materials of social studies.

### 7.1 Curriculum and Textbooks

Social studies draws contents from a number of disciplines within the field of social sciences such as history, geography, economics, civics, sociology, anthropology, social psychology, and philosophy. Of these, history, geography, and civics are the core areas. Geography occupies the top priority in the social studies curriculum with 25% weightage, followed by historical studies (20%). Other fields such as economics (15%), environmental studies (15%), and civic studies (10%) are also part of the curriculum. The curriculum also incorporates topics related to community, nation, development, social values, tradition, international understanding, peace, and cooperation.

It should be mentioned that the social studies textbooks lack in rich/wealthy information. The quality, extent, length, and standard of the subject matter in the textbooks are not satisfactory. There are many lessons but they lack the subject matter according to the need of learner and nature of exercises. Maps, pictures, sketches, charts, and diagrams are essential illustrative materials that make textbooks more meaningful, attractive, and informative. Evaluation of the nature of placement of illustrations shows they are not appropriately done: their size, signs, symbols, and letters used are not clear and distinct. They are given in black and white. A map of Nepal in Grade IX textbook is associated with rivers and streams of Nepal. The line indicating the major river is smaller than that of its tributaries, which only creates confusion among the readers. Thus, a number of the illustrations given in the books are not properly designed and incorporated.

Exercises are essential to evaluate the performance of the students. They are also important tools for developing knowledge and skills in the students. In the social studies textbooks some exercises have been included at the end of each lesson. They are of varied nature—subjective and objective. Most of the questions are of subjective type—long and short. In the objective type, matching, true and false, and fill in the gap type items are included, but multiple-choice questions have not been considered. The arrangement of exercises, too, is not systematic in all the cases.

The exercises in the secondary textbooks are activity-oriented. However, all of these exercises are not practicable because a lot of time and reference materials are required for solving them. It is not possible to collect the materials required in most of the areas of Nepal.

## 7.2 Specification Grid

Test items are constructed according to the specification grid in order to maintain uniformity and consistency in marking. Specification grid also provides guidelines to cover the course. The grid has identified four areas of learning: knowledge, comprehension, higher abilities, and practical exercises as mentioned in the curriculum. Knowledge and comprehension are associated with the cognitive domain. These areas carry 40 percent marks that include one long answer question of 10 marks with the rest left for the short answer (too short 6 and short 8 questions) type questions. The items dealing with higher abilities carry 50 percent marks and are related to knowledge, attitude, and skills. Under this, one long question is associated with practical abilities with reference to map work in geographical studies. It is the area of psychomotor domain. Thus the grid has made an attempt to cover each area of grid, a modified version of Bloom's taxonomy.

## 7.3 Test Papers

The test papers are based on the specification grid. It is also obvious that the grid and test papers have made an attempt to follow the guidelines provided by the curriculum. However, the grid had deviated 1-3 points from the weightage suggested in the curriculum. The test paper has followed the grid while constructing the questions. Test papers for the last three years were analyzed and its results are given below:

### Clarity

The language used in the test paper is simple and clear in most of the cases. However, there were some errors.

### Repetition

There is no problem of exact repetition in the test papers. Some of the topics like map work and field visit have been repeated. However, the styles of interpretation are different and they are also modified and specified. Within the various sets used in the same year and different years no exact repetition could be noticed.

### Test items in terms of curriculum and grid

Test items are prepared according to the curriculum and grid constructed. They have followed the weightage given in the curriculum and grid. Geographical and historical studies are given the top priority in the curriculum. The grid has also attempted to consider this aspect. The test items have considered each of the aspects mentioned in the curriculum and grid.

### Physical Quality

Under this component, the instructions, printing, quality of the paper, color, size, and length of the questions are considered.

### Printing

Test papers possess clarity in printing. Since the paper is double-folded, it may be uncomfortable for the examinees to stretch in a limited space and turn back and forth.

### **Quality of Paper**

The quality of paper is not very good. In some of the pages, the facts and figures look opaque. The physical aspects of the question papers are ordinary. Since the paper is thin and opaque, the illustrations disturb the visibility of the text on the opposite side. It would be better if thicker paper were used to make question papers more distinct and clear.

### **7.4 Marking Schemes**

Marking scheme is based on the nature of the question papers as also on the specification grid which provides specific criteria for setting questions. Two sets of marking schemes reviewed and are found to be good and enough to deliver the message. However, a number of problems such as lack of clarity and poor sentence formulation were noted.

### **7.5 Response Patterns of the Examinees**

Our analysis of the responses revealed the following

#### **Difficulty in expression:**

Most examinees were found to have used Nepali as their medium of writing. These students showed problems in using the correct language. Altogether 138 (45%) of the examinees had expression problem indicating expression practice in correct language is essential at the school level. Most of the answers looked unsatisfactory due to the lack of study, proper understanding of the questions, and confusion created due to nervousness. Thus, understandability, flow of language, consistency, formation of sentences, and correctness of language were the areas associated with difficulty in expression.

#### **Questions not attempted**

There were altogether 9 major questions with 33 sub-questions. Students seem to have difficulties with the items related to geographical studies. Out of 309 students 52 percent attempted questions related to geographical studies, of which 114 (71%) left one or another sub-question unanswered. Similarly, 80 percent of the students attempted questions related to history only partially. The same problem appeared in the area of international understanding, peace, and cooperation. It is obvious from the response patterns of the examinees that questions need to be made more specific so that the examinees could understand them clearly. Furthermore, it is clear that the students were not well prepared in the subject matter.

#### **Questions Repeated**

Cases of repetitions were observed in the answerbooks, here 22 (7%). The major causes may be students' carelessness and poor preparation in the subject matter. The students might have expected marks even if they repeated the questions, expecting they could deceive the examiners. The most repeated questions were found to be 4, 6, and 7. More cases of repetitions were found in geography and history sections.

### Correctness in Writing

The answerbooks of Kathmandu, Dang and Dhankuta maintained standard to some extent. The students in the other districts showed low levels of correctness in writing. The examinees from Pyuthan, Rukum, and Siraha districts, appeared very poor in this aspect.

### Question Numbers Mentioned Wrongly

Some of the examinees were found to write the numbers of some questions wrongly. The frequency of such cases was 84 (27%). In a few cases, the number was given in both Nepali and English, creating confusion. Some were written in English while others were in Nepali. Non of the answerbooks from Dhankuta and Sindhuli showed such errors. The reason for writing the wrong number may be confusion in using Nepali and English numerals in the answerbooks or just nervousness.

## 7.6 Consistency in Marking

The range of differences marks is displayed in Table 9 shows the range of marks among the examiners varies from 1 (lowest) to 19 (highest). The number of cases under the group with a discrepancy of up to 5 marks was 16 percent higher in the case of Markers 2 and 3 compared to Markers 1, 2, and 3. In the case of 6 to 10 range, the number was found to be higher among the three markers (38%) compared to markers 2 and 3 (27%). The number of cases decreased as the range of discrepancy increased. Although there was no greater difference in the marks awarded, discrepancy was observed in most of the cases attributable to subjectivity and lack of seriousness

**Table 9. Discrepancy in Marks**

Range	M1, M2, and M3		M2 and M3	
1-05	148	(48%)	198	(64%)
6- 10	118	(38%)	82	(27%)
11-15	38	(12%)	27	(9%)
6-20	5	(2%)	2	(1%)
Total	309	(100%)	309	(100%)

of examiners in following the marking schemes, as mentioned in an earlier part of this analysis.

Overall, student performance has remained poor, as represented by the average marks (44). The possible reasons for such poor performance of students and discrepancy among the markers are: lack of specificity of the test papers, lack of clarity in marking

schemes, lack of uniformity in the use of terms, poor translation from Nepali to English, and lack of required understanding on the part of students.

## 7.7 Conclusions and Recommendations

The analysis leads to the following recommendations for further improvement:

- Social studies is an integrated subject comprising various aspects of human life, but teachers are oriented only on single subjects such as history, geography, economics, and political science making it difficult to find teachers who can handle the social studies curriculum properly and adequately. This should be addressed through pre-service and in-service teacher education courses.
- Test materials need further improvement. The language and key terms used in the test papers should not be made ambiguous. Questions should be made more specific so that the examinees know exactly what has been expected. Special care should be taken during the process of moderation and editing of the test papers to make it error free.

## 8. MAJOR CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the major findings and conclusions of the study 'Analysis of the Technical Quality of Test Materials used in SLC' and offers a set of recommendations.

### 8.1 Curriculum and Textbooks

No major flaws were reported in the curriculum materials. However, the analysts have noticed a number of problems. First, the use of mechanical, reproductive, and market-oriented contents and techniques instead of materials likely to contribute to the cultivation of human values and broad spectrum of human civilization in English. The textbooks contain materials that are 'artificial' rather than genuine, original, and authentic. Second, the texts and activities chosen in Nepali are centered mainly on reading and writing giving least priority to aural-oral skills. The curriculum and textbooks do not favor the non-Nepali speaking students because of their over-emphasis on the literary aspect of learning rather than language skills. Third, in Mathematics, Science, and HPE curricula are content-heavy. The provision for testing of both Grade IX and X materials in SLC add heavy burden on students who are already strained due to the contents-driven curricula and textbooks. Fourth, there is sufficient overlapping in contents across the different subjects. The following actions are therefore suggested:

- As in English, a provision should be made to introduce of practical test in Nepal. Similarly, the Math and Social Studies curricula should emphasize practical orientation.
- The overlapping of contents from one subject to another should be minimized through joint curriculum workshops of subject experts.
- More authentic, original, and genuine materials should be included in the textbooks.
- SLC should only include texts set aside for Grade X. The existing provision of testing both Grade IX and X materials has added unnecessary burden, leading to high failure rates. This is consistent with many other education systems that focus on the achievement of single year in their public examinations.

### 8.2 Specification Grid

The specification grid that provides a plan for testing the learning achievement of children is believed to promote the quality of test papers in terms of maintaining curriculum coverage, testing students' higher-order and lower-order abilities, and developing valid and reliable test items and serves as a guide to the test developers that has been in use since 2001. The grids of six core subjects were reviewed by the experts. The review suggested that the grids are consistent with the curriculum – one essential feature of the grid. Since what is tested in SLC is determined by the grid, which eventually determines what will be taught in schools, the OCE must ensure that the grid is technically sound.

### 8.3 Test Papers

In general, the SLC test papers have more or less followed the direction given in the specification grids. In some subjects, however, a large variation was recorded between the specification grid and the test papers (e.g., Science). The test papers used in SLC suffer from a number of deficiencies. First, the parallel sets of test papers were not comparable in terms of their difficulty level. Most importantly, the multiple sets of papers were not serving any real

purpose. Second, tests were poorly constructed in terms of their language, structure, accuracy, clarity, and purpose. Third, test items demanded memorization of texts rather than problem-solving and creative, analytical, and critical thinking on the part of students. There was evidence of test developers not following the grid. Fourth, there was also a tendency to repeat question items of the previous years. Fifth, in Science and Math there were simply too many questions and there was no match between the tasks and the time allotted. Sixth, in some cases, the two versions of test papers (English and Nepali) did not match due to the poor quality of translation work done. Finally, there were also problems with the physical quality of the papers. The actions suggested to improve the quality of test papers are:

- The tests developers and moderators should take their work seriously about making the tests error free, unambiguous, impartial, and judicious. They should be made accountable for any errors committed by them.
- The test developers should follow the specification grids while developing the tests.
- The test developers should be aware of using a simple language to keep the questions free from ambiguity and confusion.
- Short-term workshops and training programs on test development and moderation should be organized within certain intervals to refresh the old test developers and prepare the new ones.
- A question bank should be established at the OCE to store quality questions in each subject.
- Parallel sets of tests instead of multi or alternate sets should be developed.
- The test paper should be produced in the form of a booklet with two or three stitches so that it is easy to handle and use.
- Better quality 80 gm map litho paper should be used for printing test papers. For a better result, color printing with different letter faces would be worth while and welcome from the students.
- Twelve (12)-point letter fonts instead of 10 in practice, as at present, should be used for printing test papers that are visible even in rooms with poor light.
- Instructions should be printed in bold faces and the number of questions to be attempted should be put in italics or vice versa to attract students' attention towards what they are supposed to do.
- Too many and too lengthy questions combined with inadequate time do not permit students to perform well. Therefore, the time given should be commensurate with the magnitude of work assigned to the examinees.
- Many of the problems reported earlier result from the lack of standardization of test items. The OCE should take actions towards the standardization of test items.

## 8.4 Marking Schemes

Marking schemes have helped in many ways to ensure consistency in marking. However, in some cases the marking schemes themselves were responsible for inconsistency in marking.

Vagueness, lack of clarity, poor structure, choice of confusing words and terminologies, etc. were observed in the marking schemes. In some cases, the schemes suggested the desirable response, while in others no such suggestion was found. In such context, the OCE must consider improving the quality of the marking schemes.

### 8.5 Response Patterns of the Examinees

- Analysis of the response patterns of students shows that some examinees have inadequate language ability resulting in difficulty in expression. The students coming from Non-Nepali speaking background suffer from inadequacy of language. They are face difficulty in answering questions that demand long answers and creative or imaginative responses. One's language ability is found to determine the chances of obtaining high marks in almost every subject. Non-Nepali students will benefit if measures are taken to help them improve their language ability in Nepali. The Government should consider teaching Nepali as a second language to the non-Nepali speaking student population.
- Students' responses lack originality and creativity. It is not surprising given the fact that the questions used in SLC themselves call for reproduction of texts. At times, those who try to demonstrate their originality and creativity are penalized. There was one case in Science where the student's creative response did not yield the mark the student deserved. Examiners should be instructed clearly to value students' original and creative thinking, a message that should get across the education system.
- The study shows that quite often questions in almost every subject are either not attempted or only partially attempted. Such a situation arises due to a number of reasons such as poor and inadequate teaching, content overload, lack of preparation on the part of students, etc. The best bet would be to improve teaching and giving opportunity to the students to learn .
- It was common among the question-setters to use question items used in the previous years. Such repetition promotes selective teaching. Teachers and students leave out certain portions of the curriculum and over-emphasize others that are likely to repeat. It results in inadequate coverage of the learning outcome. The incidence of repetition can be avoided through adequate and careful moderation. A provision for item-banks can also be made a priority.
- Students do not seem to be familiar with the norms and expectations of the examinations. Attempting the same question more than once, writing answer on the back of the cover page of the answerbook, failing to mention the question number or mentioning the wrong number, inability to follow the given instructions, treating long-answer questions as short-answer ones and vice versa, inability to write legibly are a few examples. Schools should prepare their students adequately for the examinations.

### 8.6 Consistency in Marking

Re-examination of a sample of SLC answerbooks revealed inconsistency in marking which is true for all the six subjects. While the marking scheme has played a major role in ensuring uniformity in marking, there were cases where these schemes were not followed. The lack of uniformity may have resulted from a number of reasons: vagueness in marking scheme, failure

of the examiners to consult the marking scheme, carelessness of the examiner, poor formulation of questions, overloading the examiner with too many answerbooks, lack of seriousness on the part of examiners, poor supervision by the head examiner, unclear instructions, lack of standardization of terminologies, etc. These problems have to be addressed to ensure consistency in marking.

### **8.7 Theoretical vs. Practical Examinations**

In three subjects, the practical aspects of learning are also assessed - English, Science, and HPE. While English (speaking and listening) is tested externally, marks in HPE and Science are given by the schools themselves. In English, the oral test conducted in the examination centers is just a ritual. Tests lack objectivity and seriousness from both sides— examiners and examinees. Students appear in the test without adequate practice. In the case of Science and HPE, there are unacceptable differences between the marks obtained by the students in the theory and practical aspects: the average in the practicals stand for higher than the scores obtained in theory papers. A student securing about 80% marks in practical and 30 to 40% in theory raises questions and doubts. Often, students are not engaged in practical activities in schools. Here two measures can be suggested. First, the MOES must ensure that schools engage students in practical activities as envisaged in the curriculum through proper monitoring and supervision. Second, some kind of adjustment in the internal marks would be necessary to reduce the disparity between the theory and practical marks.

## CHAPTER VII: PROCESS MAPPING OF SLC OPERATIONS\*

### 1. INTRODUCTION

Over the years, Nepal's education system has undergone several changes in terms of its structure, curriculum, administration, and financing. Critics, however, argue that the examination system of Nepal largely remains the same (World Bank, 1996), despite numerous efforts to improve the examination system. Many say that Nepal has a highly modern curriculum but an outdated examination system. In simple terms, the function of any examination is to test the learning achievement of students. Normally, students' achievement level is measured against the objectives and learning outcomes specified in the curriculum. Studies have concluded that the SLC examination has virtually failed to perform its basic function of measuring the learning level of students (CERID, 1996; Bista, 2000). The act of entire teaching and learning is directed by the contents of the SLC examination. One major purpose of the examination is to serve the curriculum and instruction. This is, however, not the case with the SLC examination. The essence of schooling is reduced to 'test scores.' Analysts say that, as a result of heavy pre-occupation with the examination, teaching-learning activities are mainly limited to a lower cognitive level at the cost of higher order knowledge such as critical thinking, creativity, problem solving, etc. What goes on in Nepalese classrooms, especially at Grade 9 and 10, is basically note giving, factual memorization, or recall of texts. Both the policy-makers and educators in Nepal are now beginning to recognize that the quality of schooling cannot be improved without improving the quality of examinations. Improving the quality of examinations calls for serious reform in the ways examinations are planned and conducted.

While there can be multiple explanations for the alarmingly low performance of students in SLC, OCE's practices and processes may, in part, have contributed to lower the quality of testing as well as the performance of students. Studies in the past have not examined OCE processes and practices. In fact, the existing understanding about the internal functioning of SLC is very limited. This chapter provides insights into how various activities involved in SLC are planned and executed, while highlighting areas where reforms are needed to improve the quality of SLC examinations and, eventually, student performance. In short, the chapter is about what goes on inside the OCE and how various activities are performed.

For details on the objective and methodology, please refer to 'An Analysis of the Process involved in preparation and execution of SLC'.

### 2. MAJOR FINDINGS

This section summarizes the major findings and conclusion of the study 'Analysis of the Technical Quality of Test Materials used in SLC'.

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\* This chapter is based on the report 'An Analysis of the Process involved in preparation and execution of SLC' prepared by Prof. Dibya Man Karmacharya for the SLC Study Team.

## 2.1 Activity Schedule of OCE

Managing a nationwide system of public examinations is a massive task. Although there are a number of professional/technical tasks associated with the SLC examinations, much of it involves logistics management. There are tasks that need to be undertaken routinely with a high degree of efficiency. Typically, OCE operations begin with test development and culminate in the publication of results, followed by issuance of certificates. Over the years, OCE has gained experience in managing many of these operations. Many a time, OCE operations have been poorly organized. In recent years, there is an activity schedule to guide these operations (Table 1). The schedule shows that OCE remains extremely busy for about eight months preparing for and conducting the SLC examinations. The remaining four months are said to be spent on analyzing, reviewing, and discussing matters for improving the system. However, very little has happened on this front.

**Table 1. Activity Schedule of the OCE**

SN	Activity	Schedule
1	Student registration (Regular)	May-October (Baishakh-Aashwin)
2	Test construction & moderation	October 15-December 15 (Ashoj 15-Mangsir)
3	Test paper printing	Dec. 15 -January (Paush-Magh 15)
4	Examination center selection	December 15-Jan. 13 (Paush)
5	Administration of test (Regular)	March 14-March last (Chaitra 2 <sup>nd</sup> week)
6	Marking, entry and verifications	April-June 1 <sup>st</sup> week (Baishakh-Jestha)
7	Result publication	June 2 <sup>nd</sup> week (Jeshtha last)
8	Supplementary examination	June 3 <sup>rd</sup> week (Shrawan 1 <sup>st</sup> week)
9	Supplementary result publication	July 3 <sup>rd</sup> week (Bhadra 1 <sup>st</sup> week)
10	Re-totaling (Regular)	July 3 <sup>rd</sup> week-August 2 <sup>nd</sup> week (Shrawan)
11	Re-totaling (Supplementary)	November (Kartik-Mangsir)
12	Certification (Marksheet only)	After 15 days of the publication of results

Source: OCE

## 2.2 Student Registration

Students appearing in the SLC examinations have varying status. A student sitting for SLC for the first time registers as a regular candidate. Those who fail in one or two subjects are allowed to take SLC the same year by organizing a chance examination, which is known as the supplementary examinations. The provision of chance examination within the same academic year helps students continue their studies further without having to wait for another year. Those who cannot pass SLC either as a regular or a supplementary candidate have to 'repeat' all the subjects as 'exempted' examinees. Students can also appear as private candidates. These students must have completed formal education up to Grade 8. They can register for SLC through the District Education Office (DEO) with the recommendation of a teacher or someone who holds a Bachelor degree stating that the student studied under his/her guidance. In this case, the DEO will put up a send-up test for the candidate and let him/her register for SLC only if she/he gets through the test.

Typically, student registration in SLC begins in Grade IX. This process starts within six months of the academic session of the school (Ashwin/October). As a part of the registration, students fill up a form provided by OCE to the schools. The DEO then sends the completed forms back to the OCE, which provides a registration number to each student. OCE starts necessary planning and preparation for the coming SLC on the basis of the number of students registered in Grade IX. This gives enough time, almost one and half year, for planning and management of the SLC. In Grade X, the students are again required to fill up another form after they get

through the send-up examination administered by their schools. The students who fill up the SLC Examination Application Form are given symbol numbers by the DEO of the concerned district. Although registration in Grade IX as well as in Grade X is a regular process, many during our fieldwork felt that there was no need for double registration. Further, a seminar of the ex/present officials of OCE suggested that the process of registration should be decentralized either at the district or regional level because OCE is already over-burdened. They also suggested one registration instead of two as at present.

### 2.3 Test Development

OCE employs school teachers for preparing test papers. Multiple sets of test papers in each of the six core subjects are developed for five regions. Besides this, two parallel sets of questions are developed in Mathematics and English respectively for each region. The Controller decides which set goes to which region. The main purpose behind using parallel sets and multiple sets is to avoid cheating and copying. In the same way, the use of parallel and multiple sets helps in cases of question leakage.

Workshop or orientation for the test developers has been more than rare. However, the test developers were given guidelines to follow during paper writing (OCE 2057/2000). It was also known that nobody from outside the Kathmandu Valley had been involved in the test construction process. None of the 46 teachers of the six core subjects interviewed in the field had got an opportunity of being a question setter. The reason given by OCE for this was, of course, shortage of time. It was difficult to invite teachers from outside the Valley and orient them before assigning them the task of writing the test papers. Not much time was available for test development and paper moderation. The purpose behind moderation is to make the question paper error-free from the point of view of language, content, coverage of the curriculum, pursuance of the specification grid, distribution of weightage and instructions. The available time for test development and moderation is not enough.

It was reported that the questions were developed in haste because time was limited and that there were, therefore, chances of mistakes creeping in. Further, the test developers themselves did not work in earnest. They copied questions from books and old test papers rather than develop original questions themselves using the specification grid provided. Studies have reported cases of question items copied straight from the guidebook or textbook (Khadka et al. 2058). OCE neither did possess professional capacity or technology nor had any dependable way of being sure if the question setting was correct and maintained the standard.

The five different sets of test papers for the five regions are known as multi-sets. The multi-sets are not parallel in nature, so they treat the students differently in different regions. By 'parallel' we mean uniformity of standard and coverage of all the essentials of the test. It is obvious that the test papers should treat the examinees the same way the country over, but they do not do so. No doubt, the use of multi-set test papers helps in improving the assessment practice. Parallel sets are believed to minimize malpractice in examinations (Pradhan et al. 2001). Teachers often preferred parallel forms of tests. The main advantage of such tests is that they minimize cheating. The students interviewed also felt that the chances of copying and cheating are minimized.

After the tests are developed, they go through a process known as moderation, in which subject experts are supposed to check the papers and make improvements before finalizing them, where necessary. Though moderation is an effective measure for maintaining the standard of the

question papers, it seems that this process was not followed properly by the OCE for the lack of time and professional expertise. That was why the test papers used in SLC were not completely error-free. This was reported by a group of teachers who were involved in test setting and answerbook marking. They stated that not even the parallel sets were actually parallel to each other. Since the test papers were used to measure one uniform national standard, it was suggested that the OCE should not use different levels of test papers for different regions. The ex and present officials of OCE felt that, to make the moderation process effective, the test papers need to be set much ahead of time, may be a year ahead of the examination. At times, the test papers are developed in haste with little or no time for moderation. The establishment of an item bank appears to be a solution to this problem.

It was found that test developers often do not use the specification grids while developing the tests. During our fieldwork some suggested that the test paper developers should have at least 10 years of teaching experience and that they should be thoroughly familiar with the curriculum and specification grid. It was also suggested that a plentiful of question items should be developed and stored in an item bank. To make the test construction maximally reliable and economic, the need for an item bank was strongly felt.

A group of teachers said that if the present system is to be continued, it would be better to consider only Grade X for SLC examination. This would avoid duplication of the registration of the students (in Grades IX as well as X). The participants recommended making Grade IX and X independent by curriculum and by introducing the provision of separate examinations. The OCE officials were also found in favor of separating Grades IX and X. They saw no rationale in combining two years in one test.

## 2.4 Printing of Test Papers

Test paper printing is a sensitive issue. The OCE officials were found divided on the issue of printing. Some participants felt that it was necessary to print the test papers outside the country from the point of view of security and secrecy. Others felt that it would be wise to get the paper printed within the country by establishing a security press. According to them, printing the papers in India would not stop paper leakage. They suggested the use of Janak Educational Materials Production Center (JEMC) for printing purposes. JEMC have the infrastructure and manpower enough to run a security press. If the printing is done within the country, it will save about 15 to 20 hundred thousand rupees each year. It was also known from JEMC that MOES had already given permission for establishing an education security press within JEMC and that the Government had allocated budget. But the decision has not been implemented yet. The ex and present officials of the OCE suggested the establishment of a security press within OCE. The OCE officials did not seem to oppose the idea of establishing an education security press within the premises of JEMC, but they preferred having a small printing mechanism of their own under whatever good name. They thought that this would make question paper printing more cost-effective, easier and faster and, at the same time, help keep what is printed secret as well as confidential. The OCE has at least 50 items to get printed every year. The items include from letter pads to ledger books to conduct day-to-day administrative activities as well as test papers, marksheets, and certificates (at least 2,500,000 sheets each). The establishment of a security press within the OCE or outside will be cost-effective and efficient. The press can be kept busy in printing all necessary items for OCE and other related offices.

## 2.5 Administration of Test/Examination

### Send-up Examination

The send-up examination is a screening device used by the schools to select students academically qualified for SLC. At present, the schools themselves hold the send-up examination at the end of Grade X. Besides, clusters of schools have been conducting the send-up examinations on mutual understanding for maintaining a uniform standard. In public schools, the send-up examination is tied up with the financial policy of the Government. According to the rule, the schools will incur a budget cut of 30 percent if they fail to get at least 10 percent of their candidates pass SLC. Similarly, there will be a 20 percent budget cut if the schools are unable to have 20 percent of their students pass for three consecutive years (HMG 2060/2003). Besides, it has been a prestige issue for the schools. As a result, the schools use send-up examination to screen their students for SLC examinations.

### Bodies Responsible for Conducting SLC

The highest body is the SLC Examination Board chaired by the Secretary of Education. The Board has nine members, consisting of eight administrators and one educationist appointed by the Ministry of Education. The OCE is the secretariat of the Board. The Board makes policy decisions regarding the entire SLC process. It is not made for carrying out tasks of development and innovative nature (HMG, 2003). The Board makes decisions on a number of things to be done prior to the conduct of the examination. Tasks such as fixing of the centers, deciding on the exact dates of the examinations, packing and dispatch of question papers and answerbooks to the districts, etc are done on the basis of Board decisions. Similarly, it plans security measures, fixes answerbook-marking centers, and manages supplies of logistics for conducting the examination. The Secondary Education Action Plan (MOES, 1998) has recommended reform in the membership of the Board by including representatives from professional and academicians.

In each district, a three-member SLC Examination Coordination Committee (ECC) is constituted under the chairpersonship of the CDO. The other members of the committee are DEO and the District Superintendent of Police (DSP). The committee is responsible for fixing examination locations, appointing the center superintendent, and providing security. The executive and security responsibilities go to the DEO and CDO. All the CDOs (except one) that the study team interviewed had several years of experience with respect to SLC.

### Appointment of Superintendents and Invigilators

In six out of the ten examination centers the superintendents were appointed from among the secondary head teachers and teachers selected for the centers. Four of them said that the DEO had selected them and the other six said that they had been appointed as per the decision of ECC. Fifty percent of them had the experience of conducting the examination for 10 to 30 years and the other fifty percent had an experience of 1 to 6 years. It was known that in some districts political parties pressurized the examination committee to appoint teachers loyal to them as superintendents. The number of invigilators was found to be proportionate to the prescribed ratio, one invigilator for twenty examinees (1:20).

Generally, schools with sufficient physical facilities are selected as examination centers. The general practice is to recruit one superintendent for each center. The superintendent is allowed

to employ up to two assistant superintendents for the center and one invigilator for every 20 examinees in consultation with DEO and CDO. The superintendent, assistant superintendent(s), and invigilators are not assigned to the center where their own students sit as examinees (OCE, 2004/2061, p. 112, 6.27 Kha). However, this rule was not strictly followed in the supplementary examination of 2003. The superintendent is given a list of guidelines governing the overall management of the examination (OCE, 2003/2060).

Twelve of the 23 invigilators interviewed had participated in the examination works on the request of the superintendents. The others had been recommended by DEOs and their own schools. About three-fourths (71%) of the invigilators were drawn from local primary schools. It was assumed that the primary teachers would not be able to unfairly help the examinees in writing answers, which of course, did not seem to be true. There were primary teachers (with more than the SLC qualification), lower secondary teachers and secondary teachers, and also people from outside the teachers' community. Observation showed that even the invigilators who came from among primary teachers helped the examinees by providing answers to the questions. They generally overlooked the unfair practices of the examinees. Their only concern was to control noise during cheating and copying. The invigilators often protected the candidates. Security people also talked about this behavior of the invigilators. As the invigilators were local people, they did not like to be strict in the examination halls. One invigilator said, "The students become hostile if we do not allow cheating. There are therefore risks for the invigilators."

The superintendents stated that the school/center should be made fully responsible for taking care of everything during examination hours. Nowadays, the general practice is that the school only provides space as requested. The school has nothing to do with the examination. The superintendent and invigilators picked up from outside might not be familiar with the local community. This might create a communication gap between the superintendent and the community. As a result, mistrust might crop up between them. The community is the intruder and the superintendent the ruler. Therefore, it was suggested that the staff of the concerned school should be employed for examination operation purposes.

A second view was that superintendents and invigilators should be taken from outside, so that local people and politics may not influence them. There are no directives or guidelines as regards the qualifications of the invigilators. In some centers, primary teachers were employed as invigilators in the hope that they would not be able to guide or help students in writing answers. In this sense, this seemed to be a good idea, but this had some drawbacks. It was observed that the examinees did not obey or respect them much. It seemed that the invigilators were there only to protect the examinees. They only watched the examinees consulting with each other, copying from each other, and passing chits to each other. In some cases, they even helped the candidates get chits from outside and warned them against the approach of an examination authority. In some examination centers, the superintendents even did not know the invigilators because they were appointed by the DEO. It was suggested that full authority for managing the examination center and appointing invigilators should be given to the superintendent.

### **Pre-Examination Activities at the Examination Centers**

Generally, the examinees were allowed to enter the examination hall half an hour earlier. In a majority of centers, the police and examination officials checked the students and asked them to leave their books, guides, and notes, outside. However, in some centers this was found to be a mere formality and, in others, the officials tried to be strict. The students who had lost or

misplaced their ID cards were asked to wait in a corner till all other students were checked. The students who had lost their cards were found feeling nervous and some of them even cried and shed tears. After their verification by their own school teachers/ head teachers they were allowed to enter the examination rooms.

There were cases where students had difficulty locating their seats, and they were often found running nervously from one room to another. Though there was a seat-plan notice posted somewhere, the symbol numbers of the students who had registered late were missing from the list. The students were not able to understand why their names were withdrawn or missing from the list. It was known that the symbol numbers of the students who had registered and paid the examination fee at the eleventh hour were not in the list. The name list was printed and sent to the examination centers before the students had registered and paid the fee.

About 15 minutes before the start of the examination, answerbooks were handed to the students. As soon as they received the answerbooks, they began to write their symbol number, registration number, center, subject, date etc. on the front cover page as required. Neither the examinees themselves felt the need for going through the instructions printed on the front cover of answerbook nor did the invigilators tried to explain the instructions to them. Many students were found writing on the backside of the cover page of the answerbooks, which were to be torn out after the coding. This means the answers written on the backside of the cover page would not be checked because the page was not meant for the examiners. Similarly, the examinees did not follow the instructions regarding the margin space to be left nor were they aware of the risk involved in writing a part of an answer on one page and another part in another page.

### **Practical Examination**

Some subjects requiring examination of the practical component, assessment (of 25% weightage) is conducted at the concerned schools by their own teachers except in English and Computer Science. The examinations in English and Computer Science (of 20 % weightage) are conducted on the spot at the examination centers. The mark is sent to OCE through respective schools. Even though the CDC has provided a separate guideline for conducting the practical examinations and school-based assessments, these examinations were not problem-free. It is said that the schools generally awarded marks leniently and the marks did not match the marks of the SLC (written) examination. Teachers have been criticized for being careless about conducting the practical examinations. There is a big difference between the scores in practical assessment taken by the schools and those of the SLC final (see Report on the Technical Quality of Test Papers for details). There was a wide gap between the scores obtained by the examinees of the same ability, which possibly owed to individual differences in performance rating. There was a suggestion that practical examinations should be held in the resource centers rather than at schools. The ex and present OCE officials felt the need for making the teachers accountable for assessing their students periodically as required and dissuading them from allotting marks at the end of the session without following the guidelines properly. For this, they felt that the teachers were required to be trained properly on the assessment and evaluation processes. In this regard, one head teacher said, “Drop the internal assessment system if it cannot be managed properly.” The assessment of practical activity is an important part of student learning. So, it will be wise to think and take action to strengthen this part of assessment rather than altogether drop the practice.

### **Physical Conditions of Examination Centers**

As the examination centers were housed in secondary schools, the centers used whatever facilities the schools had. For the examination, the schools were completely closed for about 10 days. Some schools shifted their school hours and others closed down for the whole examination period.

#### **Seating Arrangement**

Irrespective of gender, only two examinees were allowed to sit on a bench which could accommodate three in a regular classroom. In some cases, three examinees were seated on one bench for lack of space. The classrooms of schools were used for examination. Desks and benches were set in two rows with a small passage in between. In most cases, there was hardly any space left between the benches in the rows. On an average, the space available to the examinees sitting on a bench was less than one square meter. In such cases, students had to climb on or over the bench if they needed to go out. Some students complained of not feeling comfortable during writing because there was no space to move their legs. This happened particularly with the examinees whose benches were fixed against the walls for want of space. This did not allow them to stretch their legs. In a majority of cases, the space was found too tight. On the other hand, this helped the students copy answers or consult with their peers in front and back. Similarly, since two students sat together on a bench they could easily move, copy, and talk to each other. There were cases where examination rooms did not have enough ventilation and light. Especially, the examinees seated in the corner or back of the room had difficulty in writing and reading their paper.

#### **Toilet Facility**

In almost all the examination centers, there were separate toilets for boys and girls (at least one for each). Besides, there were also common toilets in 40 percent of the centers. In about 41 percent of the toilets, water was available and more than half (52%) of them were found clean. In the examination centers, where both boy and girl examinees had to share the same toilet, the girl examinees felt uncomfortable.

#### **Drinking Water Facility**

Except in two centers, drinking water was served in the room whenever the students requested for it. However, some students complained that the water was not served in spite of repeated request. In two centers, the examinees had to go out of the room to drink water kept outside at the cost of valuable time.

## **2.6 Social Conditions of Examination Centers**

### **Family Cooperation**

Students' families supported them in a number of ways (Table 2). For the most part, students seemed to be satisfied with the help and cooperation of the family (90%). They said that their families did whatever they could do. More than half (58%) of them said that their families helped them by providing private tutors for difficult subjects or by sending them to coaching classes (7%). Similarly, 44 percent said that their family reduced their workload or released them from household works so that they could devote more time to their study. To add, 38 percent said that their parents provided them with materials necessary for the preparation of the examination

**Table 2. Family Cooperation During SLC Examination (N =203)**

No.	Cooperation	%
1	Provided private tuition	58
2	Sent in coaching class	7
3	Reduced or released from household work	44
4	Provided necessary materials	38
5	Managed residential accommodations	15
6	Provided separate room	6
7	Provided food and snacks on time	6

NB: Some respondents gave more than one response

and also gave moral support by encouraging them to do better. Similarly, 15 percent of the examinees said that their parents helped them in getting residential accommodation near the examination centers. Further, the students also mentioned that their parents provided them with separate rooms and timely food and snacks at home.

A small number of the examinees (N=8) felt that their parents did not provide them as much support during the supplementary examination period as they did during the regular examination period. The examinees expressed their dissatisfaction, saying that,

since they failed in the final examination, the family members behaved differently with them than before. Their parents did not provide them tuition facility nor did they release them from the household duties. They did not even give necessary monetary support.

### Accommodation

Residential accommodation was one of the things of great concern for the parents. Most of the examinees had to travel to the town and stay there throughout the examination period. They had

**Table 3. Accommodation During Exam (N=203)**

No.	Accommodation type	%
1	Home center	28
2	Hotel/Inn/Hostel	34
3	Rented room	16
4	Relative	19
5	Paying guest	3

to arrange for their accommodation themselves. For 28% of the total students interviewed, the examination site was the home center (the school where they studied), while for a large majority, this was not the case (Table 3). The examinees who came from outside had to travel a long distance. Thirty-four percent (34%) of the examinees from outside had sheltered themselves in hotels, hostels, and inns, and 16 percent in rented rooms. The rest were staying either with their relatives (19%) or as paying guests (3%). Most of the students were economically not

in a position to rent a room in a hotel. They were not able to afford eating in a restaurant. In some places, house owners were reluctant to rent out their rooms to the students. Due to high expenses and security problems girl students (mostly of the same school) formed a group of four to six and stayed together in a rented room. Of the 101 examinees staying in hotels, hostels, inns and rented rooms about 38 percent stayed single or double in a room. One-third of them stayed in groups of three to four and the rest (32%) in groups of five or more. The examinees (24%) staying in hostels and rented rooms prepared their food themselves on a work-share basis. They had with them luggage and baggage and utensils and foodstuff enough for the whole of the examination period. Others stayed with their relatives or in hotels and ate their meals in restaurants or cafes. A small number (3%) were staying as paying guests and another 3 percent had helpers to cook for them and take care of their belongings.

To get rid of the problem of accommodation and eating, some 40 percent of the examinees wanted to have some places, e.g., school hostels or similar places available for the period of the examination at an affordable cost. This would relieve their parents of worry.

More than half (56%) of the examinees were disturbed due to the movement of vehicles (Table 4). Some others (19%) had to do household work during the exam period. For 17 percent, having to stay together in groups in congested rooms without enough bed facility for all was very uncomfortable. Further, queuing up for turn into the toilet and dining hall wasted their time. Another disturbing factor was load-shedding (14%). Similarly, strikes, lack of coaching, search and inquiry by security people were also mentioned (by 2-4% in each category) as factors hampering preparation for the examination.

**Table 4. Disturbances in the Preparation of Examination (N=98)**

No.	Accommodation type	%
1	Movement of vehicles	56
2	Had to perform household work	19
3	Group staying in a single room	17
4	Load- shedding	14
5	Lack of cooperation from house owner	8

NB: some gave more than one response

### Experience of the Examination

Asked about their feeling (when they were entering the examination hall), 44 percent of the examinees said that they were worried about the questions and the results of examination (Table

**Table 5. Experiences of the Examination (N=203)**

No.	Experience	%
1	Worried about the questions and results	44
2	Confused and nervous not being able to find their seats	19
3	Nervous being a new place amidst army and police	15
4	Excited	15
4	Worried thinking about the behavior of the invigilators and other fellow	8
5	Nothing	6

NB: Some participants gave more than one response

5). Another 15 percent were feeling nervous in the new environment amidst army and police and unknown people. Nineteen percent were confused and nervous because they were able to find their seats. Eight percent were worried about thinking how the invigilators and other examinees would treat them. A small group of examinees (6%), however, was not worried about these matters.

Regarding support in the examination hall, 75 percent of the examinees said that the invigilators were helpful and sympathetic. They allowed them to go out and also provided them hints or clues to the answers.

The forty-four percent agreed that invigilators helped them in cheating, obtaining chits, and in copying from others.

About 25 percent of the student respondents did not have positive experience about their examinations. For 30 percent, having a nice superintendent and cooperative invigilators was the best experience. There was no harassment, nor checking during entry into the hall. This was the best experience for 31 percent and getting opportunity to cheat was the best experience for another 30 percent. Similarly and 19 percent felt that the questions for supplementary examinations were easier than those for ones regular.

The students also had unpleasant experiences. Some 27 percent referred to favoritism in the examination hall. Some examinees got the help of invigilators, peons, and police in cheating whereas others did not. Some tried to cheat but were not successful. Another bad experience was frequent checking by different persons and the rough behavior of invigilators, security people, and DEO (25% examinees). Some of them got nervous and their hands shook due to the presence of the security people and other strangers in the examination room. Scarcity of

toilets and lack of water in the toilets, compulsion to use a common toilet, mosquito bites in the examination hall were bad experiences for 19 percent. Frustration, nervousness, forgetting and non-concentration, (due to noise) and the consequent inability to write were also examples of bad experiences. Forgetting to bring the Admission Card and not being allowed to use the calculator and formula sheets were other bad experiences.

Students sitting for supplementary examinations felt that the questions used for the same were easier than those used in the regular examinations, which they had attended a few months ago. Some DEOs and superintendents agreed that supplementary examinations were often loose and the test papers were easier compared to the normal papers. The examination environment was friendly for 63 percent and stiff for 25 percent. Fifty-one percent (51%) found the invigilators helpful and 41 percent strict. Forty percent (40%) said there was more cheating and unfair practice helping than in the regular examination, whereas 57 percent did not observe any incidence of cheating.

### **Disturbances in Examination**

Groups of people seem to disturb and threaten the students in examination halls. The police were complaining about media people who came to observe the examination. Similarly, people from outside, district officials, and policemen entered the room and disturbed students by searching their pockets and seats. This broke their concentration. Similarly, a crowd of people outside the boundary walls of the examination center was also a disturb source of once. Some of them even climbed the wall and got to the back window of the examination hall and hurled chits into the room.

### **Security in Examination**

Security people were deployed in the examination center on the request of ECC. The main problems of security people were intruders and crowds that mustered outside the examination building. They did not listen to the warning of the police. During the observation of examination centers the field researchers had to play hide and seek between the intruders and the police. Sometimes the situation got worse and the mob began to make noise calling names. Here is an example of the situation getting worse. It seems to be a common practice for the police to enter the examination rooms now and then. During observation it was found that policemen entered the rooms carrying walkie-talkies, which distracted and disturbed the examinees. Some invigilators said that police and army interference should not be tolerated. In some examination, the security people checked the students at the entrance, which the examinees did not like. They wanted the police and the army to stay out of the examination building, limiting their functions to security.

Going out while staying in a hotel or rented room was a problem for the girl students. About 20 percent of the female examinees experienced this problem. In Nepalgunj, a group of girl students staying together was escorted outside and guarded in the room by the brother of a girl student. The foreign faces of female students attracted local youths, who teased and harassed them. It was heard that even the security people entered the girls' room, in the name of search and sexually harassed them. Thus it was necessary that someone look after the girl students throughout the exam period.

## 2.7 Answerbook Marking and Scrutiny

The pass rate in SLC is about one-third, which invites regular criticism. SLC is an iron gate for students. It is said that the examination brings more frustration and depression to a large number of youths rather than help them in their career advancement. As soon as the examination is over, the answerbooks are dispatched to the answerbook marking centers by the respective DEOs, as directed by OCE. In total about 2,044,840 answerbooks in eight different subjects were marked by 10,224 examiners in 36 marking centers (regular examination 2003 AD).

### Background of Answerbook Markers

Altogether 83 examiners (74 males, 9 females) participated in the discussion sessions organized at eight marking centers in seven districts. The examiners were mainly of the six core subjects, i.e., Nepali, English, Mathematics, Science, Social Studies, and Health, Population & Environment Education of the SLC curriculum. A majority (68%) of them possessed a B.Ed. or M.Ed. degree; the others held degrees in other areas. About 38 percent of the participants had more than one degree (mostly B.Ed. or M.Ed.). In general, most of the examiners were from community/public high schools. Similarly, it was found that none of the answerbook marking centers had all examiners from among trained teachers, except in Kathmandu (Table 4.6).

**Table 6. Answerbook Markers by Gender and Qualifications**

Center Category	Kathmandu.	Lalitpur	Nuwakot	Number of Examiners				Total
				Kaski & Pokhara	Nepalgunja	Janakpur	Sarlahi	
Male	10	8	5	28	7	9	7	74 (89%)
Female	1	-	1	1	6		-	9 (11%)
Total	11	8	6	29	13	9	7	83
B.Ed.	8	3	5	15	8	5	4	48 (58%)
M.Ed.	3	2	-	3	-	-	-	8 (10%)
Total	11	5	5	18	8	5	4	56 (68%)
BA., BSc., BCom.	1	3	2	16	5	3	6	36 (43%)
MA., MSc., MCom.	7	3	-	9	2	2	1	24 (29%)
DPA,	-	-	1	-	-	-	-	1 (01%)
Dip. in Agri- culture	-	-	-	-	-	2	-	2 (02%)

Note: In the counting of academic degrees, the number exceeds the total 83 because some participants held two degrees.

### Appointment of Examiners and Head Examiners

It was known that DEOs have lists of people who had worked as examiners and head examiners, on the strength of which they appoint examiners and head examiners. However, during the study it was found that there were other people who made this appointment. The general practice was that DEO would publish a notice and write to the schools to recommend the names of teachers and head teachers for examinership on the basis of their experiences and qualifications. In some centers, DEOs themselves invited teachers to participate in answerbook marking. In some cases, the teachers themselves contacted the DEO or Regional Education Director (RED) when they came to know about the need of teachers for the marking purposes. Some got information through their own colleagues and their own head teachers or when they visited the DEO and RED offices. In the case of teachers involved in marking along with their

regular teaching job, they had to go to the center for answerbook marking and come back to the school for teaching, which disturbed the work of both places. They got pressure from their head teacher to be in the school on time. Now and then they missed the class or arrived late for class. Even though they considered answerbook marking as a duty of the teachers, it affected their classroom teaching. But this was only for a short period of time. Actually, teachers were expected to adjust their time schedule so that they could do answerbook marking without doing any harm to their teaching in the school. For this reason, they were mostly selected on a local basis. Some examiners, who were from outside, were not able to walk the home to center distance every day and stayed at the marking center hoping to get deputation on duty (*Kaaj*) for the period of marking. In some cases, teachers who had stopped teaching, e.g., retired head teachers and teachers, were also found marking answerbooks. This helped to meet the need of teachers with long experiences in marking answerbooks. However, retired teachers and head teachers may also not be familiar with the on-going courses and so might not be able to do justice to the answerbook marking.

Similarly, only a limited number of teachers from the rural area schools were found participating in answerbook marking. It seemed that the teachers from private schools did not take much interest in answerbook marking activity because it was a low-paid job. Also, their school management did not permit them to be late or absent from their duty. The district education management does not seem to be in a position to put pressure on them to participate in the answerbook marking process. The participation of rural teachers in answerbook marking was kept in a low profile, for they could not walk every day to work in two places, i.e., the school and the marking center. The DEO offices did not invite them formally to participate in the answerbook marking work for fear of having to invite them on deputation for the work period. If they did, teachers would have to be paid daily allowances and schools would, on the other hand, suffer by their long absence.

### Orientation and Training for Examiners

The OCE organizes a three-day orientation/training workshop on answerbook (checking) for teachers in different places, when funds are available. The organizers provided teacher quotas to the districts and the districts sent teachers to participate in the workshop. The OCE had already trained two teachers from each of the marking center areas to work as master trainers, who were supposed to train other teachers recommended for answerbook marking. The orientation package focused mainly on the advantages

of using the marking schemes in specific subject areas as per the instructions given. However, the orientation/training program had not been organized on a regular basis because the implementation of program depended upon the availability of fund. On the other hand, not all examiners involved could be exposed to the process or method of answerbook marking. Altogether 65 percent of the participants (examiners) were found to have participated in the orientation/training workshops (on one or another occasion) organized by DEO, SEDU, and OCE. It is only in the Banke center that all the examiners attended the training on answerbook marking. This means that in other districts either many teachers were untrained on marking



A view of answerbook marking in process

process or even the teachers who had attended the training did not participate in the answerbook marking.

On the other hand, the examiners who had no idea or training said that they started examining the papers on the basis of the marking scheme and the general instructions provided to them. However, not all the teachers followed the instructions seriously. Some of them were even found marking answerbooks in pencil rather than in red as instructed. Marking in the middle of, or in a wrong place in the answer was found to be a general practice. General instruction was provided to examiners who were without training but the marking centers usually did not organize any focused orientation on marking of answerbooks. The OCE claimed that two persons from each of the answerbook marking centers had been trained as master trainers, but this did not seem to have shown any result.

The examiners claimed that they should have been given on-the-spot orientation/training prior to their appointment. This would have helped in maintaining the standard eliminating the confusion regarding the marking schemes and instructions. It was suggested that only trained examiners should be appointed as far as possible. Similarly, the ex controllers, the present controller, and other officials suggested awarding certificates to the teachers trained in answerbook marking. This would help in identifying trained examiners easily.

Actually, the head examiners should be made responsible for all aspects of answerbook marking. However, a head examiner is there just for scrutiny of the answerbooks. But the teachers who had worked as head examiners could be used for training the examiners. As head examiners, they could also be used for providing immediate feedback to the examiners under them if the conference marking system is to be introduced. However, due to the lack of space facility this scheme is difficult to implement.

### **Atmosphere within Marking Centers**

From the very beginning of the SLC examination, answerbooks have been collected by the OCE from all examination centers and delivered to teachers door-to-door for marking. From the perspective of the examiners, this door-to-door system was comfortable. They could mark answerbooks in their convenient time at home. In this system, the answerbook marking activity was confined only to Kathmandu and around. Teachers living outside Kathmandu did not get any opportunity to participate in the marking process. The door-to-door marking usually delayed results since all the markers did not complete and submit marks to the OCE on time. Complaints were heard about negligence and carelessness in marking on the part of the examiners.

Considering cases of dishonesty and malpractice in answerbook checking, the home delivery practice was abandoned and the concept of conference marking was introduced in 1999 with the supplementary examination of that year. In this system, answerbooks are dispatched to the centers by the respective DEOs as directed by the OCE. There the in-charges of the marking centers manage security (of the center), coding and decoding, appointment of answerbook markers and head examiners, management of space maintenance of confidentiality, and so on.

In conference marking system, examiners are required to come to the answerbook marking center established by the examination committee of OCE. In this system, answerbooks are marked by a team of subject examiners (about 4). The head examiner supervises the works of examiners, scrutinizes answerbooks examined, and provides immediate feedback to the examiners. Since the answerbooks are not allowed to go outside malpractices in marking are

minimized and markers are obliged to complete their assigned task within the time given. This helps publish the results in about two months' time.

However, the spirit of the conference marking could not be maintained due to the lack of space. The examiners in all subjects worked at one and the same place. In most cases, they could not sit comfortably. In Pokhara, two marking centers were close to each other. Some examiners covered both the marking centers. Neither of the marking centers was found to have security facility.

The center at the regional office in Kaski had a room overcrowded with examiners, so the examiners had to be scattered in different offices of regional directorate. The marking centers, established in local schools, used classrooms and halls. Actually, no special provision was made for marking the answerbooks. In general, rooms were found crammed with bundles of answerbooks lying at sixes and sevens on the floor. Papers and sacks lay scattered here and there in the rooms. It seemed as if the rooms had not been cleaned for a long time.

The examiners came and picked up the answerbook packets assigned to them and sat wherever they could e.g., verandah, chaur, floor, office rooms, and classrooms. The marking centers remained open from morning to evening so that the teachers could come and go at any time according to their convenience. In the Tarai, examiners faced difficulty due to the scorching heat. Rooms had no fans. The teachers who had to take classes in their schools came to mark answerbooks at their leisure time, morning or evening. Teachers who came on leave stayed whole day working.

In one of the centers of Dhanusha, one examiner was reported as using his students for posting the marks on the front cover page of the answerbooks so that he could devote more time to marking. This was done by evading the notice of the head examiner and the concerned officials. This shows that the answerbook markers either lacked information about their responsibility or failed to perform their duty with integrity.

**In one of the centers, two students were reported as helping an examiner by posting marks on the answerbooks.**



*Examiners marking answerbooks sitting on the floor*

### Marking and Scrutiny of Answerbooks

Before the answerbooks are released for marking, they are first coded in the marking centers and then given to the examiners directly on an individual basis or through the head examiners of the respective subjects. Coding is done only in the six core subjects and Optional Mathematics and Computer Education. The main purpose of coding is to maintain anonymity of the examinee and confidentiality of the answerbooks. However, in 2059, it was noticed that some centers did not code the answerbooks.

In every center, the head examiners are supposed to look critically into the markings done by the examiners under them. They are required to sample and check 10 percent of the total number of answerbooks marked by the examiners. Now the 10 percent has been raised to 20 percent (OCE, 2060). The head examiners are also required to recheck the answerbooks with pass-fail margin marks and those with the highest scores. They are also expected to help and guide the examiners under them and supervise their work. However, this responsibility of the head examiners is not explicitly mentioned in the directives given to them. Their main job seems to involve checking, correcting, and reporting. The OCE has defined the responsibility of the answerbook examiners and head examiners. However, now and then the examination markers commit mistakes. In one case, an examiner in Mathematics awarded 24 to a student while the student should have secured 68. According to the head examiner, the examiner did not mark all the answers written by the student. This might have happened due to the examiner's haste in checking the answers.

It was found that the examiners allotted marks without going seriously through the answers written by students. A head examiner of Nepali in a marking center said, "The examiner turns over the pages to look at the length of the answer rather than go through the answer looking at its quality." In such a situation, the examiners award marks leniently considering only the length of answer, i.e., without considering the correctness, consistency, and relevancy of the answer.

Some head examiners had asked the examiners to recheck answers or retotal marks. But most of the examiners were found reluctant to do the work for which they were not paid. Besides, head examiners did not want to take the risk of incurring the displeasure of examiners who were from the same area or community. Khadka (2058) reports that head examiners were themselves involved in marking. Thus, they performed two jobs at a time. However, this was not considered bad. The rationale was that if the head examiner examines the answerbooks herself/himself, she/he would do his work better. If the head examiners themselves check the answerbooks, they will be familiar with the question papers and answerbooks in their respective subjects before starting to work as head examiners.

Most of the examiners from Kathmandu, Lalitpur, Nuwakot, and more than 50 percent of those from Kaski reported that they did not know who their head examiners were. One examiner from Kathmandu center said, "I do not know who my head examiner is; his unknown presence has no effect on my work."

In Banke and Sarlahi marking centers, examiners knew their head examiners and had good relationship with them because they belonged to the same community. Some of them had received feedback from their head examiners. One respondent from Sarlahi center said, "Since there is the head examiner, who crosschecks, the examiners become careful while marking the paper". On completion of marking, answerbooks are decoded and sent to the OCE through DEOs/REDOs along with two copies of the mark slips, Tab 1 and Tab 2.

According to the examiners, if the purpose of using the coding is to keep the identity of the examinees unknown, coding should be done in all subjects, not only in the core subjects. As the system has now adopted the conference marking system, the concerned officials feel that there is no need for coding. Kadka et al. mention, "There is an unnecessary expense of time and resources for coding in the conference marking system" (2058, p. 7). In conference marking, the examiners come to the center and mark the answerbooks which are not from their own area. This minimizes disclosure of students' identities and scores. Therefore, it is better to drop coding. The ex- and present controllers and other officials felt that coding did not make sense

and was irrelevant because direct observation by the head examiner was there. However, it was suggested that in sensitive areas, e.g., the Kathmandu Valley, where schools or individuals might try to use their influence, money, or nepotism, coding might be necessary for some time because the copies of the Valley are examined locally.

Similarly, according to the examiners, coding was not necessary because the copy numbers of the students are printed on the front cover page of the main and additional answer books which could decode the anonymity of students. Summarily, the process of coding and decoding is just a ritual; it does not help maintain anonymity.

### Use of Marking Scheme

Before the introduction of marking scheme, examiners were free to use their personal (subjective) judgments in the marking of answers. Since the examiners marked the answers on the basis of their own knowledge and discretion, differences (big or small) would appear in the markings. For the purpose of making the marking more accurate and reliable, attempt was made to develop a scheme that could guide examiners in scoring answers. The marking scheme introduced in 2000 tried to objectify scoring. The main purpose of the marking scheme is to minimize inter-examiner variability. The marking scheme became a guideline for examiners and head examiners. The scheme included expected answers. It also advised examiners and head examiners to give marks to a right answer even if the answer given by the student was not included in the scheme. If this is done, there is a possibility of marking variation due to subjectivity in the markings based on the discretions of the markers. Instead of this, emphasis needs to be given in specifying the marking scheme in detail.

Regarding the marking scheme, all the participating examiners felt that the scheme had made their work easier and helped maintain uniformity in marking. All of them found that the marking schemes were clear and helpful. However, the respondents noted some mistakes, which confused them about whether to follow what was stated in the scheme or not. They said that the scheme in English contained errors. Further, the examiners pointed out that the instructions given in the schemes were not enough. They found that some instructions given in the scheme were not fully relevant to the questions. However, they had to follow them. Even though the students were right in their own way, the marking scheme did not permit the examiner to give any mark. A close observation revealed that the instructions given in the schemes were not uniform for different subjects. In some subjects (language group), the instructions were found to be flexible and in some others (Science, Mathematics, and Social Studies) they were rigid. The examiners also reported that some answers given in the marking scheme were not complete. In some centers confusions were cleared up with the help of the center in-charge and the DEOs.

It was suggested that there should not be any mistake in the marking scheme and there should not be any confusion that could decrease its validity. The marking scheme *is* the guideline, directive. If the marking scheme is wrong, the examiner's marking will be wrong. They also suggested that the marking scheme needed a thorough checking before its finalization. There is a provision for the finalization of the marking scheme by the groups of subject experts at OCE. There is the need for a careful check-up with regard to the possible right answers too. The marking scheme is simply a guideline; it should not be taken as the word of God. On the basis of the general experience, the OCE has taken steps to revise them. Accordingly, OCE has revised the marking schemes for HPE, Social Studies, and Mathematics.

### **Maintenance of Confidentiality and Anonymity in Marking Process**

As mentioned earlier, there is a system of coding and decoding answerbooks in the six core (compulsory) subjects and in Optional Mathematics and Computer Education (in the regular examination) to conceal the identity of the student from the examiner. However, in other (optional) subjects and in the case of students using extra paper, this system is not there. Also there is no provision, for coding for the supplementary examination and in the case of exempted students. To add, the student's symbol number on the extra paper is not converted into code. The symbol numbers may work as clues to the student's identity. From the check-up of 10 sample answerbooks of a district from each of the marking centers (regular examination 2059/2002) it was found that the marking centers were not very serious in assigning code numbers to answer books. Five districts (Parsa, Nawalparasi, Sunsari, Rupandehi, and Makawanpur) did not code answerbooks even in Science, Nepali, Mathematics, and English.

In language subjects, generally, the test paper consisted of a question asked to write a letter as a part of the requirement. While responding to the question, candidates wrote their names, addresses, symbol numbers, and examination centers, which automatically disclosed their identity. In some cases, students even wrote in pleas to the examiners for helping them out in the exam. This automatically disclosed the identity. It was reported that some students even enclosed their photos, bills and telephone numbers in the answerbooks.

### **Pass Marks and Grace Marks**

The students are required to secure at least 32 percent marks in each of the six core subjects and two optional subjects for a pass. Although there is no rationale for fixing 32 percent as a cut-off point, the practice has been going on since the establishment of the OCE. In the beginning, a score of 30 percent was fixed as the minimum pass score, which was raised to 32 in the seventies. Considering this as an extremely low score, a committee had suggested that the pass mark should be raised to 40 percent (MOE, 1961). However, the suggestion did not materialize.

Official records show that the total pass percentage in SLC has never exceeded 50 percent even after the award of what is called grace mark(s). This means the number of SLC failures each year is colossal. Considering this, the SLC Board decided to award "grace." This helps marginal-case students to get through. The intent of this scheme seems to help the students, who would have failed as a result of not being able to obtain the pass marks in one subject or two in spite of the good marks secured in other subjects. In this context, providing grace marks seems to be reasonable.

There are two types of grace marks, informal and formal (or academic and official). The extra marks, which the examiners award as per the dictates of conscience or on personal judgment, are informal or academic. Official grace marks are given on the formal approval of the Board of Examination of OCE. Official grace marks are included in the result sheets sent to the schools.

According to the examiners of 2003, the practice of awarding grace marks indirectly pressurized them to add up to five marks to bring the total score to 27 so that the student could get an official grace marks of 5 and pass in the concerned paper. In such a case, examiners had to rethink and reexamine answers if the marks stood between 22 and 26. They took it as an unnecessary burden on them. One examiner expressed his dissatisfaction saying, "Stop giving grace marks on an ad hoc basis." Another examiner said, "This is a sort of thing we unwillingly do while we are marking answerbooks."

Some suggested the modification of the cut-off point for passing by taking into account the average score obtained by students in the previous year(s). Others suggested use of a standard score, a score altered to have means and standard deviations instead of the raw score assessing the achievement of students. Others wanted to wait for the result of study.

Failing in one subject should not be taken as fail. Suggestions were made for not declaring anybody as pass or fail. They suggested adaptation of the letter-grading system in which the average point and scores in the related subjects are considered. The letter grading allows grouping of students, minimizing errors in scoring. This gives a kind of relief to students.

Direct letter grading is not possible in large-scale examinations. For this reason, CBSE India has introduced what is called the indirect letter grading which converts the scores into nine groups on a relative basis. "Relative scores are the scores obtained by a student in his group and indicate his placement in the group" (CBSE, 2000, p.13). In the same way, some said that students should be permitted to take examination not in all subjects at a time. In this respect, Joshi (2004) suggests that students should be permitted to sit at the examination in any subject as they wish according to their ability and interest.

### Quality of Test Items

Most of the answerbook markers (participants) said that the responses did not come up to the level of their own teaching. They had found that the answers of students mostly resembled each other, which implies that answers were either based on rote learning or memorization from guidebooks or copied from each other. In general, the examiners felt that the levels of answers given by students were not very different from each other. They observed that some questions were a little bit difficult and had a higher level. In Nepali, some questions were not clear; in Social Studies the questions related to Geography and the Constitution were not clear to the students; in Optional Mathematics questions were of a higher level; and in Compulsory Mathematics questions matched the level of teaching-learning. Science mostly had knowledge-level or recall-type questions, which did not test their ability level. However, respondents found that students had not written as the question demanded. They complained that, in some cases, the questions meant differently in the Nepali and English versions. This created a problem for examiners. Most of the students might have written their answers after reading the Nepali version of question and the examiner might have marked the answers after the English version questions or *vice versa*. This would not do justice to the students. In both cases, students will be losers. For example, the examiners in Science gave an example from RE-511B, 2060BS (2004) of the central region. In the English version, Question Number 3Gha was about the density of water. The question was

*An example of different versions of the same questions in Nepali & English:*

**“Why is the density of water highest at 4° C?”**  
पानीको विशिष्ट तापधारण शक्ति ४° से. मा सबैभन्दा बढी हुन्छ, किन?  
(Why specific heat capacity of water gets highest at 4° C?)

### “Why is the density of water highest at 4° C?”

The same question in the Nepali version was

पानीको विशिष्ट तापधारण शक्ति ४° से. मा सबैभन्दा बढी हुन्छ, किन ? (Why does the specific heat capacity of water get highest at 4° C?)

The examiners suggested that the questions in English and Nepali versions should carry one and the same meaning.

The participants also indicated that some questions with similar meaning were repeated in the same question paper. According to them, this was seen in the Economics paper of 2060 BS/2003 regular examination. Questions 13 and 26 carried almost the same meaning.

**Question 13: "Show marginal and total utility in the form of table."**

**Question 26 said: "Introduce the law of diminishing marginal utility with table and diagram."**

(For detailed information, refer to the report on "Technical Quality of the Test Papers").

In Health, Population and Environment (HPE), the examiners of Kathmandu center found the level of answers very low even though questions were easy and not difficult to answer. According to them, students seemed to be very weak in that particular subject. This was possibly because either the schools did not have the qualified subject teachers or the classes did not run regularly.

### Factors Influencing Marking

The examiners have their own styles of marking. A majority of the respondents said they went through the question papers and marking schemes and then tried to understand what answers the questions expected. They read two or three answerpapers as samples and started marking. Another practice among the examiners was to read four or five answerbooks at a stretch to form an idea about the general standard of students. Since in most centers there was no provision for orientation, the examiners now and then found themselves in confusion. They therefore discussed with their fellow examiners (in the room) to be clear about the marking scheme and the instructions given. The following factors were considered as positive in answerbook marking.

#### *Factors positively influencing marking*

- Clean writing
- To the point answer
- Logical presentation
- Original language
- Argument

- Presentation: Examiners were expected to follow the marking schemes. Their main basis for the award of marks was the directives given in the marking scheme. Clear and clean writing was the main thing that impressed them. Respondents felt that illegible writing and unnecessary details in the answers were a disincentive in the marking process. For most examiners, systematic or logical presentation was the main thing besides cleanliness (no corrections made). One examiner said, "Carefulness or negligence in writing leads to addition or reduction of about 15 percent marks."

To the point and precise answer was another factor mentioned by more than 80 percent of the respondents. Originality (in writing), logicity, good language (grammar and expression) were other things that impressed them most. Other factors influencing marking were margin left on each page, space left between two consecutive answers, and use of figures, graphs and tables, etc.

- Remuneration: Teachers devote their time to answerbook marking because they are given remunerations. However, they said they were paid very low. Low remunerations affected their performance. They were paid Rs. 9/- per answerbook. Four answerbooks marked in one hour on the average would bring them Rs. 36/ with a 15 percent tax cut. In some centers, they had made a rule that the examiners should finish marking 14 answerbooks in 90 minutes, which fetched them Rs. 107.10 after the tax cut. Recently

the tax cut has been removed. The head examiners, on the other hand were, paid Rs. 3/ for every answerbook they scrutinized. They were supposed to re-examine at least 10 percent of the answerbooks sampled from the total. If mistakes were found in more than 5 percent answerbooks, they were required to re-check all answerbooks, for which they were not paid. In this case, most head examiners tried to overlook the mistakes made in marking by the examiners so that they do not have to re-check. They suggested a doubling of the present remuneration.

- **Workspace:** The marking centers were supposed to be established at places with enough space for the storage of answerbooks and for the examiners to sit comfortably in while at work. In most cases local school buildings were used as centers. Schools were not in a position to provide the necessary facility due to their own need of running the classes. So the centers had to work within a limited space. Besides, most of the centers had no proper working environment owing to the lack of required physical facilities. In most centers, many examiners of different subjects worked in one room. Some of them found it difficult to concentrate on their work in a crowded room sitting in student-size-benches for a long time. This made them tired. The Nuwakot center had managed marking 50 percent of the subjects first, followed by the remaining 50 percent later for lack of space. The examiners felt it very uneasy to work in a small crowded room.
- In Sarlahi, the marking activity was conducted in the District Development Committee building where a big hall equipped with tables, chairs, and fans accommodated about 50 percent of the examiners. The other examiners used the adjacent room. Similarly, separate rooms were used for storage and administrative purposes. The Sarlahi center was found to be in a better position than other centers observed. One examiner suggested marking of one subject at a time. He said “Complete one subject first if the space available is not enough for all subjects at a time”. He further said, “ A provision for marking one subject at a time (in a group along with the head examiner) will help get clear of the confusions and facilitate give and take of feedback from each other.” This sort of conference marking practice will help minimize communication lacuna between examiners and maintain the standard and validity of answerbook marking. The center chiefs suggested separate rooms for storage, coding, and decoding and (if possible) separate rooms for the different subjects so that the spirit of conference marking could work properly.

**Time limit:** Since most of the examiners were teachers, their first priority was teaching. Marking answerbooks was the secondary work, which could be done in their spare time. They were able to spend only a part of the day for this purpose. According to them, if they were allowed to take the answerbooks home, they could mark them at leisure in the evening, at night, and in the morning. In the marking centers they were not able to devote as much time as they could do at home. However, there was another side of the picture, i.e., delay in submitting the answerbooks. At present, examiners try to mark as many answerbooks as possible within the given time. One examiner put his difficulty, saying, “ I come from Panga, a village far from Kathmandu. I arrive here at about 7 AM. I work here for about one and a half hour only because I have to leave for the class.” The pressure to finish marking within a limited time was another thing, which disturbed them mentally. They felt that this sort of pressure decreased their efficiency, which might have an effect on their marking. One examiner compared act of answerbook marking to

a horse race. In a stakeholders' seminar, a representative from the teachers' union said that he had seen an examiner marking 91 answerbooks within two hours.

Similarly, in one marking center, a teacher was found marking as many as 3,200 answerbooks. This over-speed in marking frequently led to unreliable marking and to mistakes in totaling and posting of the marks. According to a new OCE directive, an examiner should not be given more than 1000 answer books. It seemed that this rule was not followed.

The instance of error caused by carelessness indulged under time pressure and reported in the daily newspaper *Kantipur* daily, July 5, 2004 might just be one out of many. It was found that an examiner of Science and H/PE when copying the scores on the markslips Tab1 and Tab2, happened to post the scores of Science also in HPE. Though action was taken in time to correct the mistake, this caused tension to related schools, teachers, students, and guardians.

The examiners felt that they were not doing justice to their teaching by marking the answerbooks, for they very often missed the class or arrived at the school late. They suggested fixing a definite duration of time for marking answerbooks. Attention should be paid to maintaining the standard of marking rather than to completing marking within a short time. The OCE expected 14 answerbooks marked in 90 minutes, which means one answerbook is checked in six and a half minutes. They suggested full-time deployment of teachers for marking and use of retired teachers.

### Mark Entry and Validation

Two copies of markslips are forwarded to the OCE through DEO as soon as marking is completed (Annex A7). One is sent for data entry. The verifiers appointed by the SLC Examination Board verify the printout scores against the markslips. After this, the second printout is verified with the second mark-slips. Finally, the results are presented to the Board for approval and publication.

For making this process more reliable and faster, the ex-and present officials of OCE and a group of teachers suggested that two persons be employed to make score entry from both the slips simultaneously and verify the printouts of both slips against each other. Similarly, a discussion pointed out the possibility of computer networking of the answerbook marking centers through DEO. The officials liked the idea of networking of the centers with regions and OCE. They said that spot entering of marks and mailing entry direct to OCE would help improve the efficiency of results publication. The centers answerbook marking can use wireless mail to send the results and maintain secrecy and confidentiality. There was a suggestion for exploring the possibility of using modern technology for sending examination-related information from districts and answer-book marking centers to OCE and *vice versa*. A previous study suggested the use of computer network to send the examination results from each region to the OCE. The study says:

“Computer entry of markslips should be completed in the related Regional Education Directorate and they should be sent to the Office of the Controller of Examinations through computer networking in order to make the publishing of the results prompt and reliable” (Khadka, 2058, p.11).

The ex-and present officials of the OCE suggested the development of a core team of computer personnel at OCE to get the work done reliably on time and make information available when

needed. This, they said, would avoid dependence on one single person. At present, OCE has to depend upon one non-gazetted I level person with two computer typists for everything related to the OCE including SLC. The duty of the person is to perform the task of programming and data processing. But he handles virtually everything related to computer work. This person stores the data all by himself (as he said) for security purposes. This may, however, make the manipulation of data and information possible. Furthermore, processes at the OCE that depend on the computing system could come to a standstill if the person is absent due to any reason. Therefore, other persons should be trained to handle the data and information and make them easily available. The computer technician himself felt the necessity of a new provision handling the data. It was getting very difficult for him, a single person, to do so. He suggested that training should be organized at the regional level.

## 2.8 Publication of the Results

After check-up and verification of marks, the SLC Examination Board gives its approval to the publication of results, which get published in Kathmandu through a Government daily the *Gorkhapatra*. But for the students living outside Kathmandu timely access to information on the results is difficult. Even in Kathmandu, crowds gather in front of the Gorkhapatra office to get copies of the newspaper. There are instances of violence and feuds taking place in the office. In 2003AD a special provision was made, free of cost, by Nepal Telecom, for providing information on individual basis, through telephone, with the results also posted on the website. It was highly appreciated by students and parents and people are for regionalization of this process through networking.

## 2.9 Re-Totaling

According to rule, the students not satisfied with their results are allowed to apply for a re-totaling of marks awarded in a particular subject. In this process, the answerbook of the applicant is checked by a sub-committee at the OCE to see if there is any mistake in tabulation or totaling of the marks entered for different answers. In the year 2003, the number of applicants requesting for re-totaling was 4605. Similarly, 1,500 students who sat at the supplementary examination expressed their dissatisfaction over the marks assigned to them in different subjects by applying for re-totaling. This shows that the examinees are skeptical about the marks awarded to them. The process of re-totaling has proved helpful to the students who failed or got lower scores on account of the errors made by the answerbook markers or computer personnel.

Differences are often found in the scores after re-totaling. While validating the score entry, the verifiers identified errors and they sent the entry back for correction. This sort of mistake has proved very devastating for students. Some students got alarmingly shocked at not getting the results approximate to their expectations and went to the extent of committing suicide without trying to find out whether the scores were correct. There is a ground to believe that all of the students who were declared failures or low scorers in one or more subjects may not be as such in reality. Many students whose real score might have been miscalculated do not apply for retotaling. Mistakes were also made during coding and decoding, which unlawfully penalizes the students. Due to the carelessness of the coder, the tabs of one subject may be placed on that of another subject. Recently, in the year 2003, regular examination's, this happened to one of the schools of Chitwan, where students were given the same score in two subjects, Science, and HPE due to the carelessness of the coder. Also, during the computerization of scores, mistakes

were made in entering numbers, e.g., 90 as 09. In the regular examination of 2003, the score of a student was totaled as 10 where it should have been 90. The mistake possibly owed to the number '9' in English taken as '1' in Nepali. Thus, sometimes good students fall victim due to the errors made in the processes of posting, totaling, decoding, and marks entry. The following table 7 shows the cases of re-totaling and their results.

**Table 7. Results of Re-Totaling: Regular Examination 2003**

Subject	Total applicants	Total valid	Range of difference	Average difference
509 Comp. Mathematics	1,344	62 (5%)	4 - 60	28
511 Comp. Science	822	29 (4%)	5 - 34	19
501 Comp. English	704	35 (5%)	4 - 60	17
522 Comp. Social Studies	405	25 (6%)	4 - 46	16
505 Comp. Nepali	261	27 (10%)	4 - 33	17
533 Comp. Health, Pop. & Env. Edu.	80	5 (6%)	10- 27	20
631 Opt. I Add. Math.	623	33 (5%)	-32- 60	24
643 Opt. I Economics	149	2	10 - 40	20
667 Opt. I Shukla Yajurved	1	1	8	8
701 Opt. II Office Mgmt. & Accounts	132	6 (5%)	3 - 30	12
734 Opt. II Computer Science	51	1	9	9
785 Opt. II H & PE	33	1	10	10
Total	4,605	227 (5%)	- 32 - 60	21

Of the 4,701 students who applied for re-totaling in 20 different subjects, they were found to be right in their claims in 12 papers mentioned in Table 7. The highest percentage of such cases (10%) was in Nepali and the lowest (4%) in Science. The range of differences between the reported scores and the results of re-totaling was highest in Compulsory Math (4 to 60) with an average of 28 followed by Opt. Add. Math (-32 to 60) with an average of 24.

A study of the list of errors made in the reported scores of the students revealed a mystery. OCE receives two copies of the scores known as Tab 1 and Tab 2 in each subject from all answerbook examination centers. Tab 1 is sent to the computer which enters and prints it. The printed copy is checked against Tab 2 by the checkers. If any mistake is found, correction is made on the computer. Even in such a situation, getting 5 percent errors seems to be a serious thing. A sample of five errors made in the reported scores is shown in Table 8.

The differences found between the posted and real scores might be due either to the errors made by the examiners during marking or copying marks on the tabs or to the computerizing process or even to the negligence of the checkers.

Voices have been heard about the need of replacing re-totaling with rechecking (Khadka 2058). A small number of teachers and students attending a seminar also expressed their opinion about the need of introducing a system of rechecking.

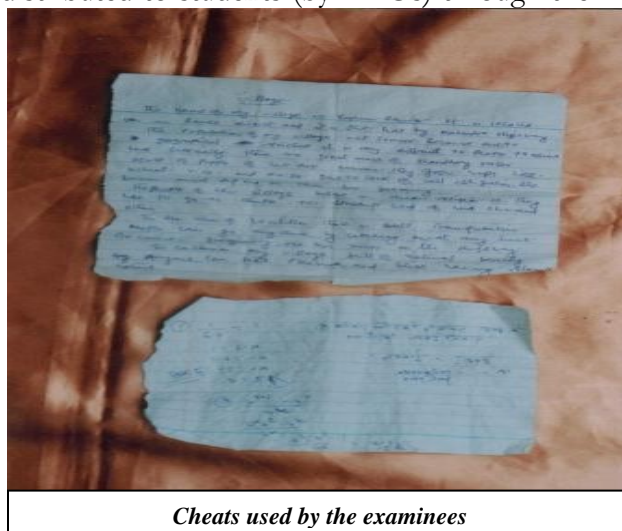
In this regard the ex- and present officials of OCE said it was not possible to introduce rechecking because SLC examination was subjective in nature. There was plenty of room for variation in the markings of two or more examiners in subjective questions. Therefore, if rechecking was introduced, it would invite further complication. Moreover, if rechecking is introduced, many more students would apply for this and OCE would require a separate section for taking care of this.

**Table 8. Error Made in Awarding Scores Difference between Reported and Corrected Scores**

Type	Reported Score					Corrected Score				
Subject	1	2	3	4	5	1	2	3	4	5
509 Comp. Math.	34	6	35	3	20	94	66	85	63	51
511 Comp. Science	12	34	39	24	16	46	54	59	43	46
501 Comp. English	4	54	13	29	10	64	64	33	38	40
522 Comp. Social Studies	18	18	15	33	20	64	46	45	58	50
505 Comp. Nepali	33	37	42	27	18	66	67	63	51	49
533 Comp. HPE	14	35	34	25	25	41	55	54	35	46
631 Opt. I Add Math	34	32	18	17	93	94	92	81	71	-45
701 Opt. I Office Magmt. & Accounts	28	27	13	15	20	58	35	24	27	25

## 2.10 Certification

After the results are published, marksheets are distributed to students (by DEOs) through their schools. It seems that OCE is not serious in issuing certificates to the students. It was reported that OCE had not issued the certificates of regular and exempted examinees since 1989. Similarly, it had not issued certificates to students who had passed the partial, compartmental, and supplementary examinations. OCE always remains busy conducting examinations and publishing results. As the performance assessment of the OCE is mainly based upon the success achieved in conducting the examination and publishing the results, it concentrates its effort mainly on conducting the examination activities. It was said that OCE had not computerized the record of students from 1988 to 1998 (2045 to 2055 BS). If the office had to check the records, it would have to turn over the pages of ledger books. Somehow, the office started computerizing the record in 1999.

*Cheats used by the examinees*

## 2.11 Malpractice

SLC final examination is conducted at the national level at a same time everywhere, huge task for OCE every year. During examination, influence, inducement, and threats are the major challenges the superintendents, invigilators, and guards have to face. In this regard, a report from CERID writes:

“Cheating in examination is rampant. Mass cheating is so rigorously done that test has little meaning. Even teachers, parents and friends have been reported to help the examinees in cheating. The examinees were reported to threaten sincere and honest invigilators themselves and through their friends.” (Pradhan, et al., 2001, p.1)

Malpractice in SLC examination takes place in different forms: internal and external. Internal malpractice refers to those acts where the invigilators and administrators help the examinees by supplying answers slips or voluntarily ignoring change of answerbooks. And, external malpractice refers to acts where parents, relatives, and friends of the examinees supply answers from outside.

Malpractice takes place in the initial stage in the form of paper leakage through question-setters, related authorities, press/printers, proof-readers, moderators, etc. Similarly, in the test administration stage, it takes place in form of fake candidates attending examination, invigilators helping the examinees in writing answers by dictating, supply of worked-out answers and supplying of ready-made answers from outside the examination building. Similarly, materials are smuggled in pants, shoes, bras, and saris or written on part of the body (e.g., palms).

Nowadays, dozens of notes and keys are available in pocket size, which the students stealthily bring into the examination hall. Here are some example of keys, notes, exam guides, guess papers, and exam tips published by different commercial agencies. Demands have been raised for banning such publications. These materials are sold openly in the market and are very popular among the students. Of the 64 examinees attending the supplementary examination in 10 centers, 70 percent said that carriage and use of chits, guess papers, guides, etc were practiced on a massive scale. Besides, copying or reproducing work of a peer sitting next with or without her/his permission was common at the examination centers. Twenty-five percent of them said that invigilators helped by providing answer clues, and 14 percent reported that even peons and security people passed chits on to their people writing their examinations. In one of the centers



*Guess papers & Exam tips used by the examinees*

#### Some Observed Cases

- One examinee had hidden a small guidebook inside clothes, which was discovered by an invigilator after a search.
- An invigilator snatched the ID paper of an examinee helping a friend copy from his answerbook.
- An invigilator was found helping a student to copy from a friend's answerbook by standing beside her to protect her.
- An invigilator was found helping an examinee by dictating the answer.
- There were three examinees sitting on one bench while there was a bench without anybody sitting on it.
- An examinee was consulting a guidebook for solving a question related to map even while the invigilator was standing in front of him.
- Two young people climbed over the back compound wall, got up to the window examination room, and passed ready-made answers to an examinee. When the police came, they climbed down and ran away, shouting bad words.

even teachers were suspected of working on answers (outside) a short while after the test papers were smuggled out and passing photocopies of the answers to the students on contract. They charged fixed amounts of money for the answers. Further, a candidate might be placed under special protection from the examination officers under the pressure of local authorities. This was suspected in one of the centers.

Finally, malpractices can occur during the marking stage where the examination-related officials deliberately alter the original marks. In this context, Khadka quotes from a study made by Maharjan 2003. The study suggests, “The code of conduct should include to the authority take action on the personnel involved in...” (Khadka, p. 12, 2058 BS). There is an act which mentions a fine of one hundred thousand rupees and/or six months' jail, but this has never been enforced nor does any body believe in it. The act is only in paper.

Nepal (1991) reported an event that took place in the regular examination of 1989. A student failed the examination because he failed in English. Upon inquiry, he found that the front cover page of his answerbook was replaced with that of the sister of the invigilator. Nepal reported a case of change of the photograph on the admit card and temporary smuggling out of the answerbook for getting the answers written outside the examination hall. In 1996, the police had to resort to blank firing in Siraha district to control the mob of guardians who were protesting the ban on the use of unfair means in the examination. In the same year, a nation-wide cancellation of a question paper and postponement of the examination took place because of a suspected leakage of the questions (CERID, 1996).

During the regular examination of 2060 BS / 2003 several malpractices were recorded. In Lahan of Siraha district, an elder brother was discovered substituting for his brother in the Math exam. One report from Dailekh said that teachers, parents, even journalists were taken into police custody for supplying chits to students. In Dhading, teachers were arrested for passing answers to students. An extreme case was reported from Parbat district where seven superintendents were squashed for their exam-related misdemeanor. Similarly, one superintendent was also dismissed from Jumla for his misbehavior in the examination (*Kathmandu Post*, March 28, 2004). Another form of malpractice is the sale of fake certificates. Even teachers and administrators have been found involved in this business. *The Space Time daily* (May 29, 2004) had news about a police raid in the home of a teacher who was involved in such a business. The teacher charged 15 to 40 thousand rupees for one fake certificate.

### 3. CONCLUSIONS AND RECOMMENDATIONS

The analysis done above allows a number of conclusions and recommendations.

#### 3.1 Student Registration

The practice of double registration started long time ago when the country lacked transportation and communication that took time to pass messages from one place to another. It was necessary to start planning far ahead of time. Today, as a result of the advancement and availability of information and communication technology, it has become far easier to contact and communicate. So, retaining the old practice of registering twice for the same purpose can hardly be justified. It leads to wastage of time, energy, and resources, which could be used otherwise. Therefore the recommendation:

Consider doing away with the age-old practice of double registration and make it a one-time process to take place at the beginning of Grade X so that students do not have to register twice. This will save time for other purposes.

### 3.2 Test Development

Much remains to be done to enhance the quality of test papers. The parallel sets of test papers that are used to minimize cheating are actually not parallel in terms of their coverage and level of difficulty. The variations and differences in contents and standards in the test papers used across the different regions can create inequity. Tests are developed by school teachers from Kathmandu. Test developers do not appear to be fully trained in the technique of test development. In that context:

- A question bank should be established under OCE in order to facilitate retrieval of standard question items in the time of need.
- Two or more parallel sets of test papers should be developed for each subject. (not only for Compulsory Mathematics and English) and the same sets of test papers should be used throughout the country instead of using different sets in different regions.
- Best teachers should be selected from different parts of the country for test construction. This will minimize the urban and Kathmandu bias in test.
- Training programs should be organized for test developers to expose them to skills/technologies pertaining to curriculum, textbook, taxonomy of educational objectives, testing, test construction, and validation of the tests before assigning work to them.
- The test items stored in the question/item bank should be validated.
- Software should be developed for the purpose of question bank.

### 3.3 Printing

Though Nepal has developed a lot in the field of printing, the OCE still prints the question papers in India. There is no reason for doing so. Nepal has developed the necessary expertise and sophistication in printing business. JEMC seems to have experience and expertise enough for running a security press. The paper used for printing question papers does not seem to be of quality or standard. Since all the papers are printed on white paper, it is difficult to separate them by region and by subject. In that regard:

- An education security press should be established within the country that should be used for printing the test papers and other materials related to examination
- Test papers should be made attractive in look. Papers of different colors should be used for different sets and quality paper should be used for quality printing on both sides.
- Let the test papers have not more than one fold. When there is more than one fold, the students may get confused and lose some of their precious time.

### 3.4 Test Administration

Poor administration of tests, unsuitable environment, uncooperative invigilators, and a host of other factors can contribute to lower student performance in examination. There is a need for

improving the administration of SLC examinations. The following recommendations have been made in this regard:

- The responsibility of the Board should be taken further beyond making administrative decisions. It should include more professional people who are experts in the related field.
- A clear job description should be prepared for the superintendent and her/his major tasks and line relationship with related agencies should be defined. Overlapping and interference should be stopped in the work of superintendents.
- The police and military personnel should be deployed only for security purposes. No armed guards should be kept within the examination premises and no police should be used to enter the examination building unless it is very essential or unavoidable. No unrelated persons, i.e., social or local leaders, party people, journalists, police or military personnel and Government officers should be authorized to enter the examination premises even on passes received from the DEO or CDO. No security people should be used for checking students at the entrance and inside the rooms unless the superintendent finds it very necessary.
- Both male and female invigilators should be appointed in each room as far as possible.
- Use male as well as female staffs to check the examinees before they enter the examination hall or building. Let the invigilators advise the examinees to leave their books, chits, and other unpermitted materials outside.
- Necessary training should be provided to the teachers on evaluation, assessment, and examination and testing procedures and make it mandatory for them to assess their students periodically.
- Seat plan notices should be posted at different places to make it easy for the examinees to find their seats.
- Remuneration should be provided also for pre-examination work (preparation) and post-examination work. The rates of remuneration/allowance for serving in the examinations should be fixed at least on the basis of the regular salary drawn by an equivalent status of the concerned person to be used. The budget required to meet the needs of the center for the necessary stationery, tea, hiring of cleaners and helpers to arrange furniture, and remunerations for officials involved in the examination should be enough.
- A provision should be made for reading out the examination rules and regulations to the examinees prior to the distribution of the question papers.
- At least half a meter's distance should be maintained between one bench-desk set and another. A line should be drawn between the two examinees sitting on the same bench not to allow them to cross the line. The furniture in the examination room/hall must be comfortable to the examinees.
- The students' symbol numbers should be written on each page of the answerbook so that unlawful change of front cover page could be discouraged. However, this would not work for the coding system. An alternative to this has, therefore, to be sought and used.
- The schools should assume the responsibility of orienting and training their students on the rules and procedures of examinations. They should train their students in writing

neatly, correctly, and to the point. Creativity is another thing students should be trained in. Students should be trained to read the questions carefully, form an idea of what answers are actually expected, and mentally prepare the major points to be covered in the answers. Training in the planning of time according to the marks allocated to the questions is also very necessary.

### 3.5 Answerbook Marking

The study has pointed out a number of gaps and inconsistencies in answerbook marking. Marking centers do not have sufficient space. Marking schemes are not completely error free. The practice of coding does not make much sense in the changed context. There is no satisfactory answer to why a score of 32 percent has been made the cut-off point for passing in the SLC examinations. The current arrangement for availing the services of teachers for marking answerbooks is ad hoc in nature. The existing rules on the number of copies one should be examining are not strictly followed. In order to address these and other problems associated with answerbook marking, the recommendations are:

- The existing training course should be reviewed for the examiners and it should be an integral part of the examination system.
- The existing training package should be modified as per the practical needs of answerbook marking.
- A supplementary package should be developed for head examiners so that they could help and guide the examiners better.
- A roster of trained examiners (for each district) should be maintained and used whenever necessary.
- A subjectwise marking strategy should be introduced. The marking of one subject should be completed first before starting the marking of another.
- Provision should be made for the best use of the locally available facilities for establishing a marking center.
- A process of reviewing the marking schemes should be made by a technical committee of the related subject experts and technical experts and the scheme should be made error-free in terms of language and presentation.
- The existing practice of coding of answerbooks should be dropped.
- The management of marking centers should be improved and strengthened by using the conference marking scheme. Encourage the process of marking subjectwise by establishing separate centers or providing separate space.
- The cut-off point should be fixed on the basis of the average achievement of students using standard score in a given subject.
- The practice of giving grace marks should be stopped.
- Letter-grading scheme should be introduced for the SLC examinations.
- Answerbook marking should be scheduled for longer vacations so that capable teachers could participate in the process or they could be invited to participate making it a necessary provision.

- The time shift should be fixed in such a way that all the examiners of a particular subject could work together in a group.
- Considering the issue of efficiency, one should not be allowed to mark more than 25-30 answerbooks a day.
- A fixed number of answerbooks should be given to each examiner at a time, not 250 to 450 as at present.
- A location should be selected for marking that meets requirements including a suitable work environment.
- The remuneration structure should be revised, considering the average time spent on marking the answerbooks in proportion to the salaries the examiner-teachers receive from their schools.
- Either the number of answerbook markers should be increased by recruiting new ones or the duration for completion of the work should be stretched longer.
- Schools should educate and train their students in the skills of writing in the examination as an essential part of their instructions.
- Make a provision for the entry of scores by two persons simultaneously from the twin markslips, (tab 1 and tab 2). The two printouts should tally fully with each other.

### 3.6 Publication of Results

At present, the main outlet of the SLC results is the Government newspaper *Gorakhapatra*. Attempts have been made to disseminate information also through telephone and internet. However, these are not enough in a country where access to telephone and internet is minimal. The following recommendation is therefore made:

- The results should be available in the districts through networking; a provision should be made for posting the results at DEOs on the same day. Further, other prominent newspapers should also be utilized to publish the result of SLC.

### 3.7 Re-Totaling and Rechecking

There is no provision for re-checking the answerbooks. Even if a student doubts the intention or ability of the examiner, s/he is helpless. Re-totaling is limited to seeing if there is any mistake made in marking whereas rechecking involves a thorough re-examination of the answerscript by a different examiner. There is some difficulty in permitting re-check. In a subjective test, variations may appear in the marking done by different examiners. However, if tests and marking were made reliable, the variation could be minimized. This invites two suggestions

- Re-totaling should be made effective, taking particular care of the negligence found in the marking of answerbooks.
- Rechecking of answerbooks should be introduced, if a student wants it.

### 3.8 Supplementary Examinations

Students who pass SLC through supplementary examination are not awarded their performance ranks or divisions. Even if they score first division marks, they are simply given a pass. This is not fair. We recommend the following:

- A provision should be made to treat the graduates of supplementary examinations as regular graduates in respect of awarding divisions.

### 3.9 Malpractices

Malpractice and misdeeds seem to be rampant. Though it is difficult to eradicate or stop such acts altogether there are several ways to minimize or discourage them. Making rules and regulations alone would not be enough. Both long-term and short-term measures should be adopted to curb the incidence of malpractices. Some of these measures are listed below:

- Checks at the entrance of the examination site should be made more strict.
- Seating arrangements should be made conducive to the students by providing enough space and distance to move comfortably.
- Intruders/visitors should be kept away from the examination site.
- Immediate and strong actions should be taken as permitted by the 'Education Act and Rules' against persons involved in misdeeds and unfair practices.

### 3.10 Certification

OCE has not been able to issue certificates to the students for a long time. For want of certificates students have to satisfy themselves with their marksheets. There is a huge backlog of certificates at OCE which have not been issued for the last several years due to lack of funds. This simply indicates inefficiency on the part of the OCE. To address this:

- OCE should develop a plan for issuing SLC certificates (original) to students who have not yet received their certificates.

## CHAPTER VIII: INSTITUTIONAL STUDY OF OCE\*

### 1. INTRODUCTION

The SLC examination has come in for sharp criticism in recent years and there have been many calls for change. There has been strong public concern at low pass rates. A large number of reports have also pointed to the technical weaknesses in the SLC examinations, with poorly constructed questions, badly regulated marking, and poor management system. While the scope and contents of the SLC examinations have changed significantly over the years, many of the operational procedures continue to follow traditional patterns.

Notwithstanding the criticism it has received from various quarters, OCE has a secure place in Nepal's education system that currently caters to an annual cohort of about 300,000 candidates. Any reform of the SLC examination system must therefore begin with the strengthening of the OCE. It is in the interest of the entire education system to develop it as a strong national testing institution to enable it to cope up with the increasing number of candidates and the public demand for improvement in the examination system.

This chapter presents the findings of the Institutional Study of OCE conducted by the SLC Study team to assess the management capacity of OCE and recommend appropriate interventions for strengthening the possibility of developing OCE as an independent national testing institution that can effectively cater to the changing needs of Nepal's education system.

For details on the objectives and methodology, please refer to 'Institutional Study of OCE'.

### 2. INSTITUTIONAL ASSESSMENT OF OCE

#### 2.1 Policy Making on SLC

MOES is responsible for the smooth conduct of SLC Examination. It is also responsible for ensuring that majority of students appearing in the SLC examinations perform well. In other words, MOES is expected to manage educational institutions (schools) in a manner as the latter would deliver high quality teaching. Examination is a system of testing how well students have learnt the prescribed curriculum. MOES has set up a School Leaving Certificate Examination Board (SLC Board) to make major decisions on conducting of the examination. The Board has 9 members with the Secretary of MOES as Chairman, and the Controller, OCE as Member Secretary. The Board is authorized to do the following works (as stated in the Education Regulations, 2059):

- Determine policy on conducting examination
- Determine criteria for setting up examination centers
- Determine the rates of Registration and SLC Application fees

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\* This chapter is based on the report 'Institutional Study of OCE' prepared by Dr. Madan Manandhar, Mr Tirtha Bahadur Manandhar and Ms. Renu Thapa for the SLC Study team.

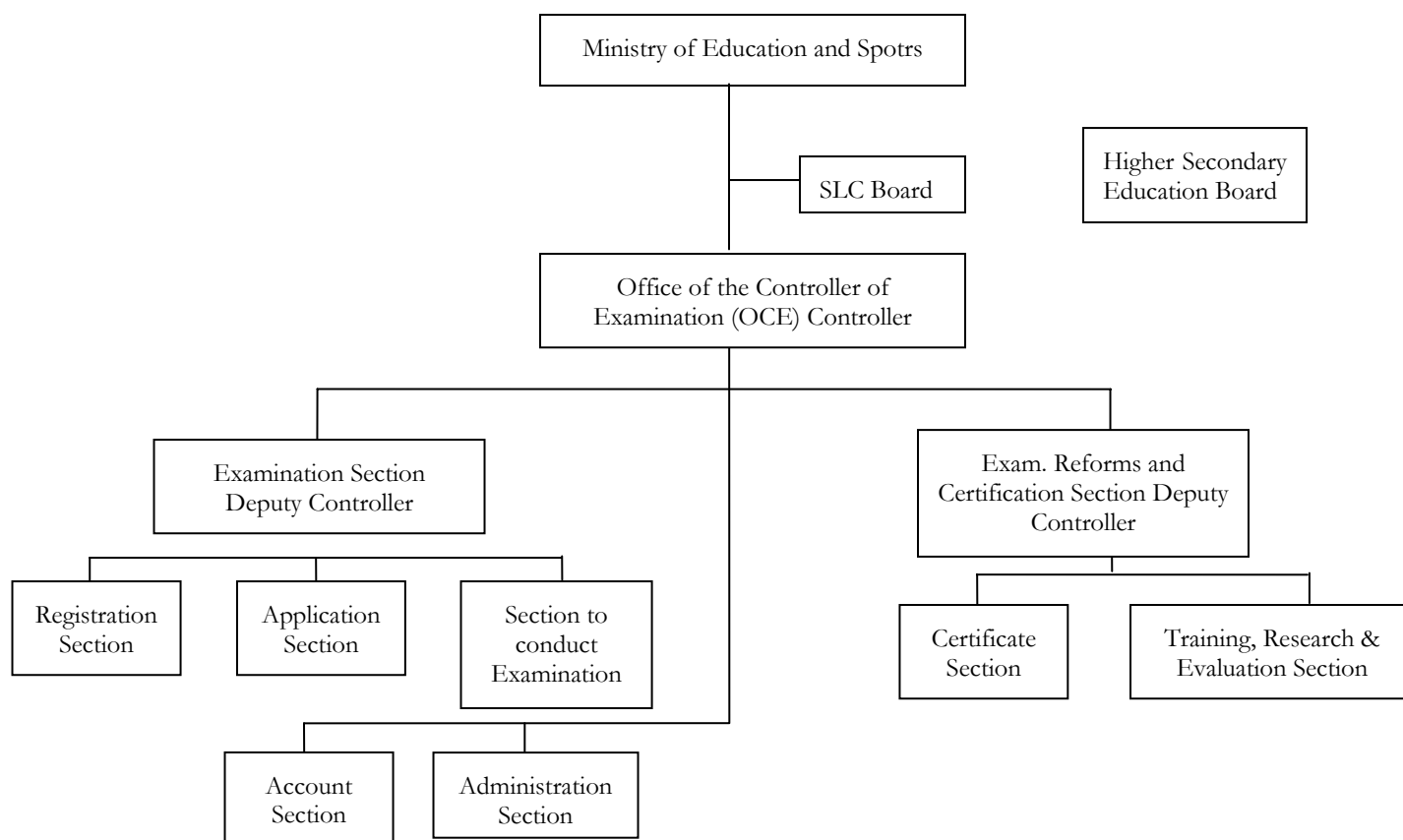
- Fix rates of remuneration for personnel engaged in SLC examination
- Take actions against teachers and personnel who break examination regulations.
- Order reexamination or close a center if there are irregularities
- Take decision on conducting examination in time of natural disasters
- Specify tasks of examiners, head examiners, and paper setters.

The Board is mandated to take discretionary steps (like awarding grace marks) in special circumstances. OCE closely follows the decisions of the Board. The Board gives its final approval to the results of SLC, before these are made public. The Board meets two to three times a year, or when there are crucial decisions to be made regarding the conduct of SLC examination. No SLC result is published prior to the approval of the Board.

## 2.2 Organization Structure of OCE and Staffing

OCE functions directly under the Ministry of Education and Sports as a full-fledged departmental organization. Under the organization structure mentioned in "Education Information of Nepal 2000(MOES)", OCE has two major sections (Chart 1):

**Chart 1 Present Organizational Structure of OCE**



- Examination Reform and Certificate Section with Sub-Sections for Certificate, Training and Research (Administration and Accounts).
- Examination Conduction Section with Sub-sections for conducting Examination Conduction.

OCE has a Controller, two Deputy Controllers, 14 Section Officers (including 12 officers of technical cadre), 13 senior assistant staffs (including 3 for accounts). Drivers and Peons together number 11. Altogether OCE has now 58 employees. It heavily depends on external specialists for carrying out various technical tasks like preparing test questions, marking of papers, and conducting assessment and examination training activities.

### 2.3 Functions of OCE

As one of the major departments of the Ministry of Education and Sports, the main function of the OCE is to conduct the School Leaving Certificate (SLC) Examination and publish results. It is responsible for carrying out all aspects of SLC examination including test construction (question paper preparation), distribution of question papers to examination centers, conducting examination, arranging marking of answer papers, marks processing and publishing results.

As mentioned in the Education Regulations 2059 BS, the tasks of OCE are:

- Carrying out policies and decisions of the SLC Board
- Conducting SLC examinations, publishing results, and awarding certificates
- Monitoring the marking of answer books at the Regional Education Directorates and District Education Offices
- Preparing specification grids and model test questions
- Disseminating statistical information of SLC examination
- Maintaining records of individual candidates of SLC examination
- Conducting research activities to make tests more reliable and valid
- Organizing seminars/workshops for further improvement in SLC examination.

OCE performs its major duties in close consultation with the Ministry of Education and Sports. Conducting SLC examination twice a year is its major function.

The organizational structure mentioned above indicates that OCE operations are predominantly influenced by the requirements of smooth conducting of SLC examination, processing of marks, and publication of results. OCE is also found to have been heavily engaged in maintenance of examination records of the past years, correction of age/birth dates of SLC graduates, and verification of certificates. Verification of certificates has recently become a major work of OCE, as an increasing number of people, estimated at 300 – 400, seeking to go aboard for employment, visit OCE per day to have their SLC certificates verified officially. The verification of certificates is a service rendered by OCE free of charge. Similarly corrections of names, age, and dates of birth consume a lot of time and effort of the OCE staff.

At present, research works occupy a low priority in OCE work program due primarily to the pressure of publishing results on time. In addition, OCE has no published plans and

programmes other than holding of SLC examinations twice a year. All the section officers of technical cadre are presently engaged in non-technical administrative works such as certificate distribution, record keeping, verification of certificates and marks, mark sheet distribution, etc. The computer processing of marks secured by the students who appeared in SLC is a crucial function done in the OCE. Three assistant-level computer personnel do it. It is observed that processing of data of over three lakh students is too heavy a task for this limited staff pool.

## 2.4 Planning and Funding in OCE

OCE is heavily involved all round the year in activities relating to examination (regular and exempted examinations followed by compartmental examination of a particular year followed again, immediately, by the examination cycle of the next year). OCE does not publish its annual program, though it is understood that it has a fixed schedule of activities. Its major operational activities are preparing question papers, printing of question papers, procurement of answer books, dispatch of answer books to districts and of answer question papers to DEOs, conducting examination, marking and publishing results. Over the years, the number of students appearing in SLC examination has substantially increased.

**Table 1. Number of Students Appearing in SLC (Regular) by Development Region**  
(The dates are in BS, unless specified otherwise)

Year Region	Students Appearing (Regular) in SLC						Growth Rate			Average (3 years)
	2055 (1999 AD)	2056BS (2000 AD)	2057 (2001 AD)	2058 (2002 AD)	2059 BS (2003 AD)	2060 (2004 AD)	2054/58	2058/59	2059/60	
Eastern	38,998	58,098	36,271	41,859	41,433	47,933	15.4	-1.0	15.7	10.0
Central	47,552	69,679	46,336	53,130	61,314	62,444	15.1	15.4	1.8	107.
Western	31,066	46,108	29,372	33,713	38,333	40,412	14.8	13.7	5.4	11.3
Mid-Western	11,846	18,244	10,080	10,916	11,633	13,715	8.3	6.6	17.9	11.9
Far Western	9,740	13,410	9,430	10,791	11,151	10,914	14.4	3.3	-2.1	5.2
Nepal	139,202	205,539	131,489	150,409	163,864	175,418	14.3	8.9	7.0	5.2
Kathmandu District	10,373	15,248	11,504	13,599	15,585	24,990			60.0	
Kathmandu Valley	16,509	24,276	17,901	21,992	15,585	24,990				

Source: OCE, October, 2005

**Table 2. Budgetary  
Allocation for OCE**

Year	Amount in Rs. 1000
2056/57	48,731
2058/59	52,862
2060/61	85,656
2061/62	99,914

Source: MoF, Annual Budgets

OCE receives annual budget from the Government. The budgetary allocations for the OCE in recent years are as follows:

The budgetary allocation for OCE has increased with increase in the number of SLC candidates. The money is used for paying staff salaries, remuneration for specialist services, providing paper materials, printing of examination papers, transportation of materials for conducting examination in over 900

examination centers, and funding of SLC examination related works done by REDs and DEOs.

OCE collects a large amount of money every year from various fees such as Registration fees (Rs. 100 per person), SLC Application fees (Rs. 200 per person), Mark sheet fees, Duplicate Certificate fees, and Migration Certificate fees. Most of these fees are collected at the district level. The total amount raised from various fees annually is estimated to be about Rs. 120

millions (according to OCE estimation). OCE cannot use this money as it goes directly to HMG's Treasury as revenue.

## 2.5 Work Flow Relating to The Conduct of SLC Examination

Main highlights of the sequence of principal activities are:

- The SLC Examination Board determines the policies relating to examination.
- Question papers are prepared at the central level and sent to districts through the involvement of Regional Directorates.
- DEOs are responsible for conducting SLC examination in the designated examination centers. Regional Directorates are responsible for supervising the conduct of examination in each center.
- The District SLC Coordination Committee provides support for conducting examination (determining centers, appointing supervisors, invigilators, and arrangement of law and order).
- As per the directives of OCE, answer books are sent to specified marking centres for examination. Marking schemes are forwarded (by OCE) to the REDs for examiners' use.
- The corrected answer books along with markslips (Tab 1 and Tab 2) are forwarded to OCE directly from all the marking centers.
- Mark entry work takes place at OCE.
- The compiled mark sheets are processed at the computer facilities of OCE.
- Completed results are presented to the SLC Board before being announced.
- The mark ledgers and original marksheets are then sent to DEOs for distribution through schools.
- Schools distribute the original marksheets to students.

The massive work of conducting SLC examination all over the country simultaneously is accomplished by OCE with the involvement of RED and DEO offices. District SLC Coordination Committee provides crucial support. The schools, where examination centers are located, provide vital assistance as well. The District Police Offices provide security services.

## 2.6 OCE Linkage with Central-level Institutions

Various central-level organizations under the MOES are related to conducting of SLC examination and student performance in this examination. The relationship of the OCE with the other MOES organizations is discussed below.

### i. OCE and the Curriculum Development Center (CDC)

The OCE and the CDC are closely related. CDC prepares the curriculum of the secondary level (as well as of the lower levels), and textbooks and other related reading materials. OCE conducts SLC examination based on the curriculum and textbooks of Grades 9 and 10. At present, the interactions between two organizations of the MOES, despite their close physical proximity, are

not frequent. OCE is in a position to find out how well or poorly students perform in various subjects in the examinations and to identify issues concerning student performance in various subjects. This information can be of great value to the CDC in making improvements in curriculum and textbooks.

### **ii. OCE, CDC, and HSEB**

The need of good coordination between OCE, HSEB, and CDC has been well recognized. HSEB caters to SLC graduates and the curriculum it has for Grade 11 and 12 are built on the secondary school curriculum. Despite this, the relations between these organization are very tenuous.

### **iii. OCE and Ministry of Home Affairs**

MOES enjoy good cooperation from the Ministry of Home. Police security arrangement in over 900 examination centers requires a large deployment of police force during the entire examination period. At the district level, the CDO, who is an official of Home Ministry, acts as the chairperson of the District SLC Coordination Committee.

The smooth operation of OCE in examination work owes much to the police protection.

### **iv. OCE and JEMC**

The Janak Education Materials Center (JEMC) is the press complex owned by MOES. Although it has latest printing technologies, OCE does not used these facilities for its printing purpose, fearing that they might have to make compromises on security and confidential matters if printing is done in Nepal.

## **2.7 Aspects of OCE Operations**

### **i. Quality Control Measures**

OCE has been effortful in improving test construction. For instance, it has prepared a Specification Grid on all subjects for all question setters to follow. OCE also held orientation programs for question setters and moderators some years ago. Such orientation sessions have not taken place in recent past. In the process of implementing quality control measures, OCE also develops marking schemes and instructs all examiners to follow them while checking SLC answer books.

OCE also spends time and efforts in coordinating with the Nepal Police Force for the protection of examination centers so that no outsiders could indulge in unfair practices of helping students to cheat.

### **ii. Marking Center Arrangement**

One main criticism of OCE operation has been the long delay in publication of examination results. In the past, the gap between examination date and announcement of results was as long as 4 to 5 months. OCE has addressed this problem by decentralizing the checking of answerbooks and introducing the system of checking answerbooks in marking centers in various districts. This has greatly helped to reduce the time lag between the completion of SLC exam and publication of result. The result is being now published within two months from the date of completion of examination.

### iii. Supervision and Monitoring

OCE works under specific deadlines – examination dates and the time frame for publishing results. This requires OCE to closely supervise and monitor all its activities and processes. The question papers and examination materials must reach the designated places at appointed time. Personnel must be in place to conduct the tasks specified. Answer papers must reach OCE within set times. These outcomes can be achieved only through constant monitoring of the operations by OCE, RED, and DEO staff. Further, regular supervision of the examination centers is expected to be done when the examination is in process. This work has to be done by the RED and DEO personnel. Again, the marking centers should be supervised to ensure that proper marking is being done.

### iv. Management of 'Outside' Manpower

OCE makes generous use of external specialists, teachers, and other personnel at the central and district levels for various tasks such as developing question papers and marking schemes, conducting examinations, managing the marking centers, final checking of marks/results, and computer processing of final results.

At the central level, the preparation of question papers is done by external specialists. School teachers are hired to do the work of marking of answer-books at the marking centers. At the central level (in OCE offices), large numbers of personnel (teachers and others) are engaged for several days in a row to complete checking of the results fast enough so that the results are published in time.

## 2.8 Issues Related to Institutional Development of OCE

OCE suffers from numerous problems as an institution. Some of them are: continued heavy pressure of work despite devolution of several works to Regional Directorates, shortage of fund for taking care of essential functions like repair and maintenance of buildings and equipments, irregularity in conducting orientation sessions for superintendents and invigilators, heavy pressure in publishing SLC results within two months from the date of completion of exam, limited and inadequate computing facilities, nonfunctioning of the technical unit with technical staff bogged down in administrative and logistic matters, virtual absence of any staff training program, inadequate furniture, equipments and facilities, incapacity of in-house expertise to analyze SLC results and conduct exam-related training programs, its weak linkages with central level organization, with CDC in particular, and absence of a concrete program for strengthening examination-related sections or units in RED and DEO offices.

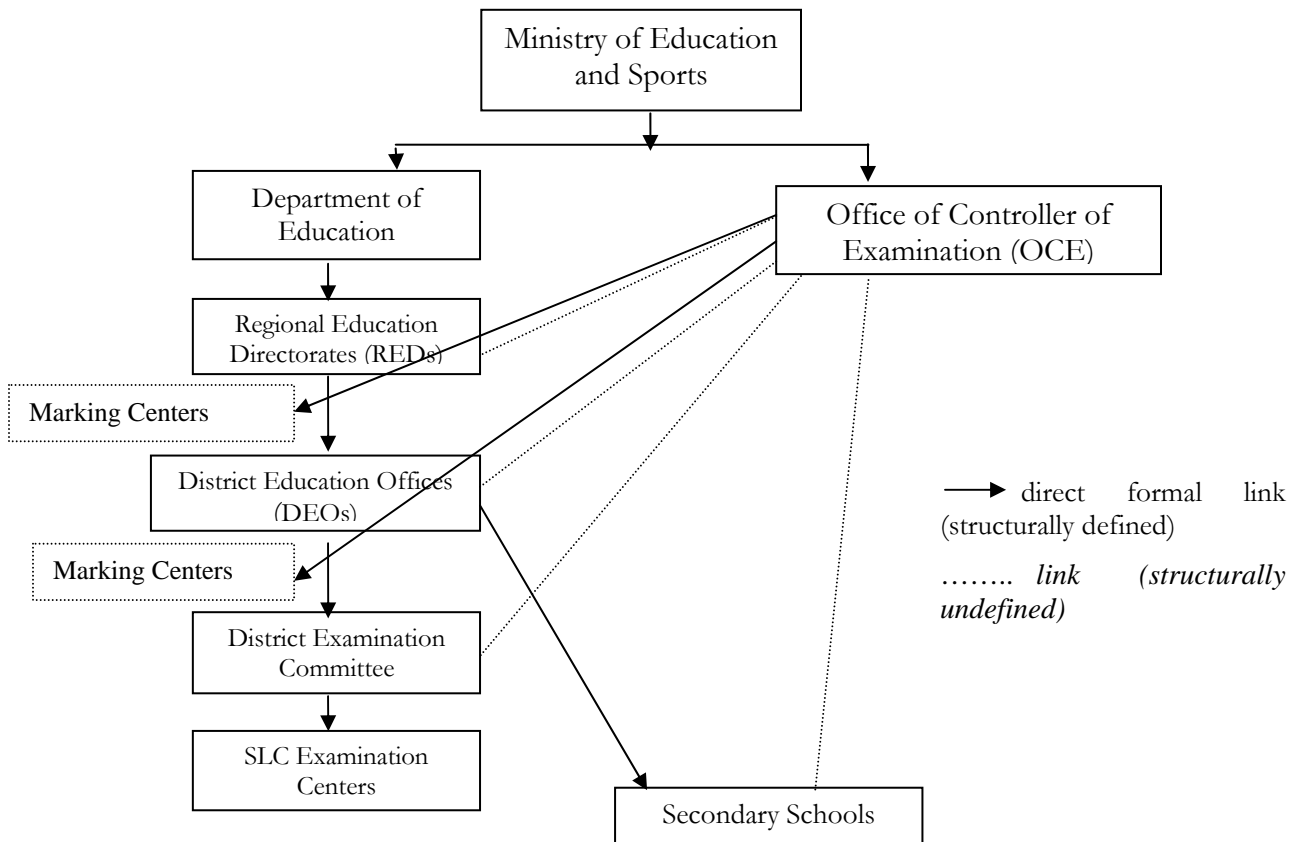
## 3. DECENTRALIZATION PROCESS

### 3.1 Present System

OCE fulfils its responsibility of conducting SLC examination with the support of REDs, DEOs, and schools along with help from local administration and police.

With increase in the work burden of OCE due to increasing number of students appearing in the SLC examination every year, various functions of OCE are now being delegated to the REDs and DEOs. The present system of authority delegation is shown in the chart (Chart 2).

**Chart 2 Decentralization of SLC Examination**



## 3.2 Regional Level Management

### Functions and Activities of RED

The Regional Education Directorate (RED), an intermediary educational administration organization, is placed between the center and the districts. REDs were originally established to assist MOE in carrying out administrative functions at the regional level. Since the central offices, including OCE, directly deal with DEOs and vice versa, REDs are left with only peripheral functions.

Despite this, REDs play an important role in the smooth conduct of SLC examination and distribution of certificates and marksheets. REDs also occasionally conduct small studies and workshops on SLC performance in the districts.

Some of the important SLC-related functions of REDs include implementation of SLC examination activities as directed by the SLC Board, including determination of SLC exam centers and supervision of examinations, distribution of provisional SLC certificates and marksheets, amending of names, caste and birth dates in the certificates and distributing migration certificates to students who have passed the examinations.

### 3.3 District-level Management

#### Functions and activities of DEO

The DEO office has a number of functions specified in the Education Regulations. These functions include implementing educational programs, supervising schools, monitoring educational progress in the concerned districts, conducting short-term training, conducting district-level examination and conducting SLC examination in a sound manner. The SLC examination-related tasks specified for the DEOs by the Education Regulations 2059 include conducting; SLC examination in a regular and smooth manner, inspection and checking of records, question papers, and answer books of the final school level examination; making changes in names, caste, and age of students in the registration forms; and monitoring the implementation of annual educational programs in the schools.

District SLC Examination Coordination Committee headed by the CDO plays an important function in planning and supervising the conduct of SLC examination. The major functions of this committee include determining examination centers and appointing superintendents and other staffs for the examinations.

#### Issues in District-level Management

Some of the issues at the district-level management include limited staff and computer facilities, inadequate facilities, space and furniture in many marking centers, low remuneration for those who invigilate the examinations, inadequate physical facilities in exam centers, heavy pressure from CDOs and local bigwigs on DEOs for opening new centers, and difficulties in preventing outside help to students to cheat in the exam hall.

### 3.4 Rationale for Further Decentralization

Considering the huge operation of OCE, it is imperative that it adopt a decentralized system of management, particularly since there is a rapid growth of students every year appearing in SLC examination and OCE is finding it extremely difficult to cope up with the management of examination. Decentralized management system will ease the difficulties currently being faced by OCE in conducting SLC examination and make the organization more efficient. It will also make OCE students friendly in the sense that many boys and girls living in remote districts do not have to travel to Kathmandu for such minor work as getting duplicate copies of certificates and marksheets.

Effective decentralization of OCE works, however, requires careful planning at the regional and district levels. Larger staff needs to be mobilized and trained and more physical facilities and equipments need to be arranged for at the district and regional levels.

### 3.5 Conditions for Further Decentralization

Further decentralization of OCE functions can be done only when certain conditions are fulfilled. Both the human and other resources and capability of REDs and DEOs are very limited that need to be strengthened so that they can handle the added responsibility of SLC examination without cutting down other functions of school supervision and training. Decentralization of function should be accompanied by fiscal decentralization. OCE should transfer a certain portion of its budget resources directly to the REDs and DEOs offices to

execute the devolved functions. Optimal use of digital mode of communication (emails and internet) for intra- and inter- office communication and for dissemination of information to REDs, DEOs, schools, students, guardians, and local community also need to be assessed and introduced. This will not only save time and energy but will also make the operations more very efficient and cost-effective.

## 4. FUTURE DIRECTIONS

### 4.1 Introduction

OCE is, at present, working under several constraints to fulfill its main responsibility of conducting SLC Examination, and publishing results. It has several problems related to management and finance. Several studies on secondary education have recommended granting of autonomous status to the body. The recommendation has been made in order to (i) give greater financial independence; (ii) enable OCE to undertake developmental functions such as research and training; and (iii) take up repair, and maintenance of physical facilities and equipment and further enhance its facilities.

An independent autonomous organization means an organization that has the freedom to plan its own program for work and development and to take necessary steps to realize its own freely decided aims and objectives. In the context of Nepal, an autonomous testing organization should have the power to develop and implement program for improving school-level examinations and assessment systems, and to fulfill the basic responsibility of conducting the S.L.C. examinations smoothly and fairly. Besides, an autonomous organization is also expected to be financially self-sustainable and capable of making the best use of its resources. This means OCE must have full access to the resources it generates from various fees. Importantly, it should also have the authority to explore other sources of income.

**The granting of autonomy has several implications.** As an autonomous organization, OCE needs to be staffed by its own personnel. The Government staff can be retained only on secondment and a fixed period of time. On financing matter, OCE will receive only block grant from HMG, a grant that could be much smaller than the present budget allocation. More importantly, an autonomous OCE can be established only by an Act of parliament.

### 4.2 An Independent OCE Model

There are three organizations that can be considered as a possible model for OCE: Nepal Administrative Staff College (NASC), Higher Secondary Education Board (HSEB), and Council for Technical Education and Vocational Training (CTEVT). NASC was established under NASC Act, 1982; HSEB was established under HSEB Act, 1989; and CTEVT was established under the CTEVT Act, 1988.

All these organizations have autonomous status and they can all develop and implement their program keeping in view the national development priorities. All these organizations receive annual grants from the Government, which are not tied to staff salaries and allowances and are meant to support part of the costs of program. These organizations have their own staff and personnel regulations and they generate incomes from fees and other sources.

As the organizational structure of CTEVT is relatively complex (due to its wide scope and areas of functional coverage), CTEVT is not preferred as a suitable model future OCE. For the purpose of developing OCE as an independent organization, HSEB and NASC models are considered more appropriate.

### **Three options and creating Secondary Education Board (SEB)**

Three options are offered for the future organizational and institutional development of OCE. The first option foresees no change in its structure and status, except for the addition of some sections. OCE will continue to remain as an organ of the Government bureaucracy but will have a certain financial autonomy so that it can make use of the resources it generates for conducting SLC examination and carrying out other developmental activities. However, the strengthening of a full-fledged Government department has its limitations and, given the deficiencies inherent in the present OCE, one cannot expect drastic improvement in delivery of quality SLC examination while OCE continues to function as a Government entity.

A second option is therefore recommended to create a new independent body responsible for secondary level examination for the country by combining OCE and HSEB (minus its curriculum unit). This body, which can be named the Secondary Examination Board (SEB) can be established by suitably amending the existing HSEB ACT 2046. This body will have the authority, standing, and competence to manage and deliver quality public examinations from Grade 8 to Grade 12. Apart from addressing the problem of coordination now prevalent between secondary and higher secondary level examinations, a problem reflected by a large number of failures in Grade 11 examination, this arrangement will create a strong and financially viable national testing body at the level of the secondary education. Such an organization once set up, can not only manage and conduct all secondary level examinations with greater efficiency, but will also carry out and promote research and training in evaluation and assessment. Along with this arrangement, it is also recommended that the curriculum unit of HSEB should be merged with CDC so that there is a body to look after the curriculum of all levels of school education.

Under the third option, the secondary curriculum unit of CDC will be combined together with HSEB and OCE into the proposed SEB. Since this arrangement will prevent the Ministry of Education and Sports from having a holistic and complete picture of school-level curriculum, it is recommended that the second option, with HSEB (minus its curriculum unit) and OCE merging into the new SEB, is desirable. Along with this arrangement, it is recommended that the curriculum unit of HSEB be integrated with CDC so that all school-level curriculum and textbooks would be handled by one agency. This will be in tune with the MOES' policy of viewing Grades 11 and 12 as an extension or part of the school system.

An autonomous Secondary Education Board as recommended under Option 1, has many merits, the most important one being its ability to give professional leadership in bringing overall improvement in secondary public examinations, as well as the assessment and evaluation practices at schools.

Many reports and documents support the argument for integration of OCE and HSEB. Both the Ninth Plan (1997-2002) and Tenth Plan (2002-2007) documents, for instance, have taken higher secondary education as a part of school education. By implication it means, it is better to have one single examination body rather than two separate entities for managing Secondary and Higher Secondary examinations. The SEDP report also recommended that HSEB and OCE

should be merged into a new structure responsible for all public examinations from Grades 8-12. SESP PPTA (ABDTA-3526-Nep) feels that a single coherent structure is capable of dealing with Grade 8, 10, and 12 examinations. Experience from SAARC countries such as Bangladesh, India, Pakistan, and Sri Lanka also tell us that a single board for both secondary and higher secondary examinations would be desirable

It is recommended that, instead of creating a brand new statutory body for conducting school level public examination by an Act of Parliament, it would be wise to establish SEB by amending certain articles and clauses in the HSEB Act, 2046. It is recommended that the OCE and HSEB be combined into SEB with minimum structural change.

### 4.3 Role of Independent SEB

The SEB proposed will be an autonomous, independent organization and with authority, standing, and competence as a financially sustainable National Secondary School Examination Board. It is envisaged that it will

- a. provide professional leadership in school level assessment and evaluation.
- b. continue fulfilling all the works currently being done by OCE (SLC Examination and other functions) and HSEB (except the work related to, curriculum and text book development part which will be transferred to CDC).
- c. decentralize many of its functions to REDs and DEOs in stages. Accordingly, Regional Examination Offices will be established in REDs, and will be made responsible in a phased manner for conducting regional Grade 10 examinations.
- d. develop training program for the key Regional and District Examination Office personnel and work with them to establish training program for teachers who will be examination paper setters, editors, and markers.
- e. make increased efforts to mobilize cooperation of REDs, DEOs, and schools in effectively conducting Grade 8, 10, and 12 examinations.

### 4.4 Sources of SEB Funding

The major source of funding for SEB will be Government grants. SEB will also generate income from various other sources such as fees it raises from students for various services. The other sources of fund will be fees from participants of seminar and other courses it will organize from time to time and publication of various exam-related materials, exam rules and guidelines, model answer sets, tips for preparing for exam, research reports and so on.

### 4.5 Grade 12 as School Leaving Examination

With the establishment of SEB, it is envisaged that Grade 12 examination will eventually be the school leaving examination. It will be conducted by SEB the same way as SLC examination conducted by OCE at present, with support from various regional and district level offices and committees. Once Grade 12 examination is introduced as school leaving examination, Grade 10 examination will be decentralized to the regional level and Grade 9 and 11 examinations will be treated as school-based examinations. Certification of secondary/higher secondary school completion will be on the basis of Grade 12 examination only.

When the regionalization of Grade 10 examination happens, the role of the new SEB, in relation to Regional Examination Boards should be redefined. SEB needs to maintain its regulatory function to oversee the quality and effectiveness of exam conduct and provide necessary staff and technical support to REBs.

Regionlisation of Grade 10th exam should, however, introduced, be phasewise. For the first two years (starting from 2007), the Secondary Education Board (SEB) Office will arrange setting of question papers, distribution, and publication of examination results. Regional examination boards based at Regional Education Directorates would handle the local delivery of these examinations, a role similar to that used for SLC at present. Also, considering the large number

**Table 3. Level-wise Secondary / Higher Secondary School Examinations**

Grade	Level-wise Status	Responsible Examining Organizations and Agencies
Grade 8	Regional	RED
Grade 9	School	Individual schools
Grade 10	Regional	RED
Grade 11	School	Individual schools
Grade 12	Central	SEB

of schools and students to be served in the Kathmandu valley, it will be desirable to have a separate controller of exam for Grade 10 for the Valley.

Based on the findings and opinion of officials interviewed, it is also recommended that Grade 8 examinations should continue, but should be conducted from DEO Offices, supervised by REOs,

operating in a new role. Regional Examination Boards will arrange question papers setting and publication of examination results. District education offices would handle the local delivery of these examinations, in a role similar to that used for SLC at present. For the time being, schoolteachers would continue to conduct and mark examinations in their own schools, but with substantial improvements in quality control, and with the long-term possibility that conference marking could be introduced. Particular attention should be paid to ensuring that Grade 8 examinations are free from bias, and that students from deprived backgrounds are not put at a disadvantage by the examination formats used.

#### 4.6 Administrative Arrangement for SEB

There will be a full-time Vice-Chairman, Controller General, and a Director General appointed, compensated, and removed according to SEB service rules. The states and rules will prescribe their responsibilities and authorities. The Controller General shall manage the examination and general administration related functions, while the Director General looks after academic affairs and development tasks of the board at the direction and advice of the Vice Chairman. Both of them will report to the Vice-Chairman who will be the leader and chief executive of the organization.

The post of Vice-Chairman will be made equal to the post of university Vice Chancellor, while those of Director General and Controller General will be equal to Rector and Register respectively.

#### 4.7 Recruitment Through Public Notice

Recruitment for the posts of Vice-Chairman, Controller General, and Director General will be based on free competition (through public notice) from among individuals with the minimum specified qualification and experience. Candidates for these posts will be hired on contract on the basis of four year performance. The incumbent executives, however, may apply for the position again.

A three-member selection and recommendation committee appointed by the Cabinet at the recommendation of the Minister for Education and Sports will be constituted to select and recommend candidate for the position of Vice-Chairman. Candidates for the position of Controller General and Director General will be selected and recruited by a committee headed by the Vice-Chairman.

## 4.8 Staffing

As far as the permanent employees of HSEB are concerned, they can continue to work with SEB. But in relation to the Government employees of OCE, they will be given the following options:

- to work on deputation without giving up their HMG job for the interim period of 2 years (enjoying all the benefits and incentives of the proposed SEB)
- to join SEB on permanent pay role as per SEB personnel rules and conditions of services, by resigning from HMG
- to seek transfer to other places in HMG including MOES or other agencies and offices under it or
- to seek gratuity/pension (based on the number of service years) from HMG and join the SEB service in an appropriate position. A special career incentive package could be developed for those permanent OCE staff (only) joining the SEB.

In the case of HSEB staff working under the Curriculum and Training Division, it is expected that only the staff belonging to Curriculum and Textbook Section would be affected. They could be given the following options:

- to transfer to other sections of SEB
- to work on deputation to CDC upto 2 years
- to seek gratuity/pension based on the number of service years from HSEB and seek early retirement from service.

## 4.9 Legal Issues

From the legal viewpoint, it would be easier to redeploy or readjust OCE staff into SEB service rather than HSEB staff into a fully Government agency, such as OCE. The Public Service Commission (PSC) would not allow it. There are many merger instances in Nepal, where employees from Government organizations are given options to join the newly formed board or authorities. As in the case of HMG employees that joined the Nepal Electricity Authority (NEA) and Civil Aviation Authority after the merger, the HMG employees of OCE, with more than 10 years of service, joining SEB permanently by a certain date could be given one level automatic promotion from their current positions. Also, those HMG staff not willing to join the new board service will have options, either to continue working on deputation or to return back to HMG for necessary transfer and placements. It is important that there will be an attractive SEB service entry package for the HMG staff. If an employee of the OCE and HSEB are no longer interested to work in the newly established SEB, they may be given an opportunity for voluntary retirement (a golden handshake) or gratuity as per SEB rules within 90 days of the approval of their resignation.

## 5. THE ORGANIZATIONAL STRUCTURES AND OF THE PROPOSED SEB BOARDS, ITS EXECUTIVE COMMITTEE<sup>19</sup>

The proposed organizational chart shows the SEB Board, its Executive Committee, and various functional discipline division under it. The line and functional managers reporting to the Vice-Chairman and Member Secretary can be organized in a manner that most suits the needs and operations of SEB.

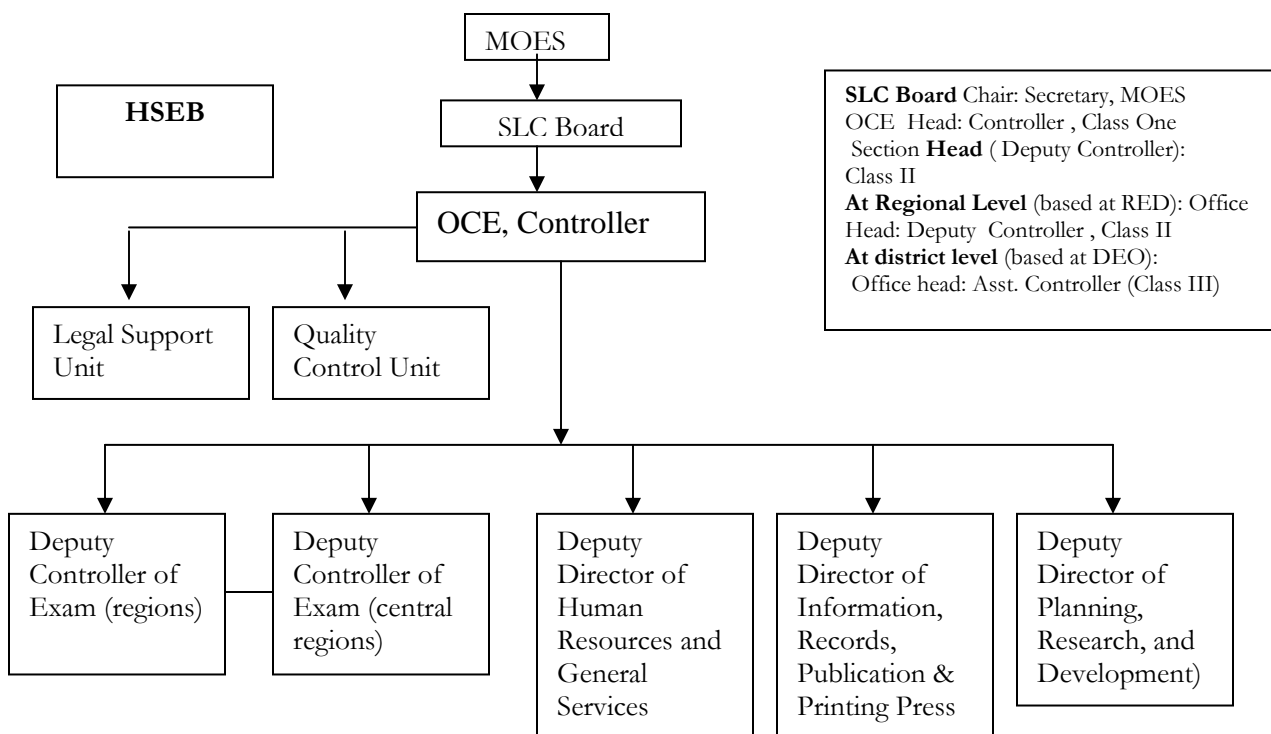
As has been illustrated below, the three primary disciplines of experts required to run smoothly SEB are – examination, curriculum, and research - with support of IT, HRM and Finance, Information, Publication, and Security Press.

The organization of SEB should be such as to facilitate an effective response to each need as it arises. The organizational design may follow functions or disciplines. The key is to make arrangements so that the roles and responsibilities of each professional and staff are understood by managers and staffers alike. Specific job descriptions, job specifications (qualifications), and a clear line of authority for each functional unit and person, with flexibility to change responsibilities, as circumstances require, are important.

### 5.1 OCE with Some Autonomy (Option 1)

This option envisages no major change in the present structural set-up of OCE except for addition of a few sections. Under this arrangement, OCE will continue to function as an organization of the Government, but will have a certain financial autonomy

**Chart 3 Proposed Organizational Structure for OCE (Option 1)**



Please Note: The terms `he` and `his` may mean `he and /or she` and his and /or her`.

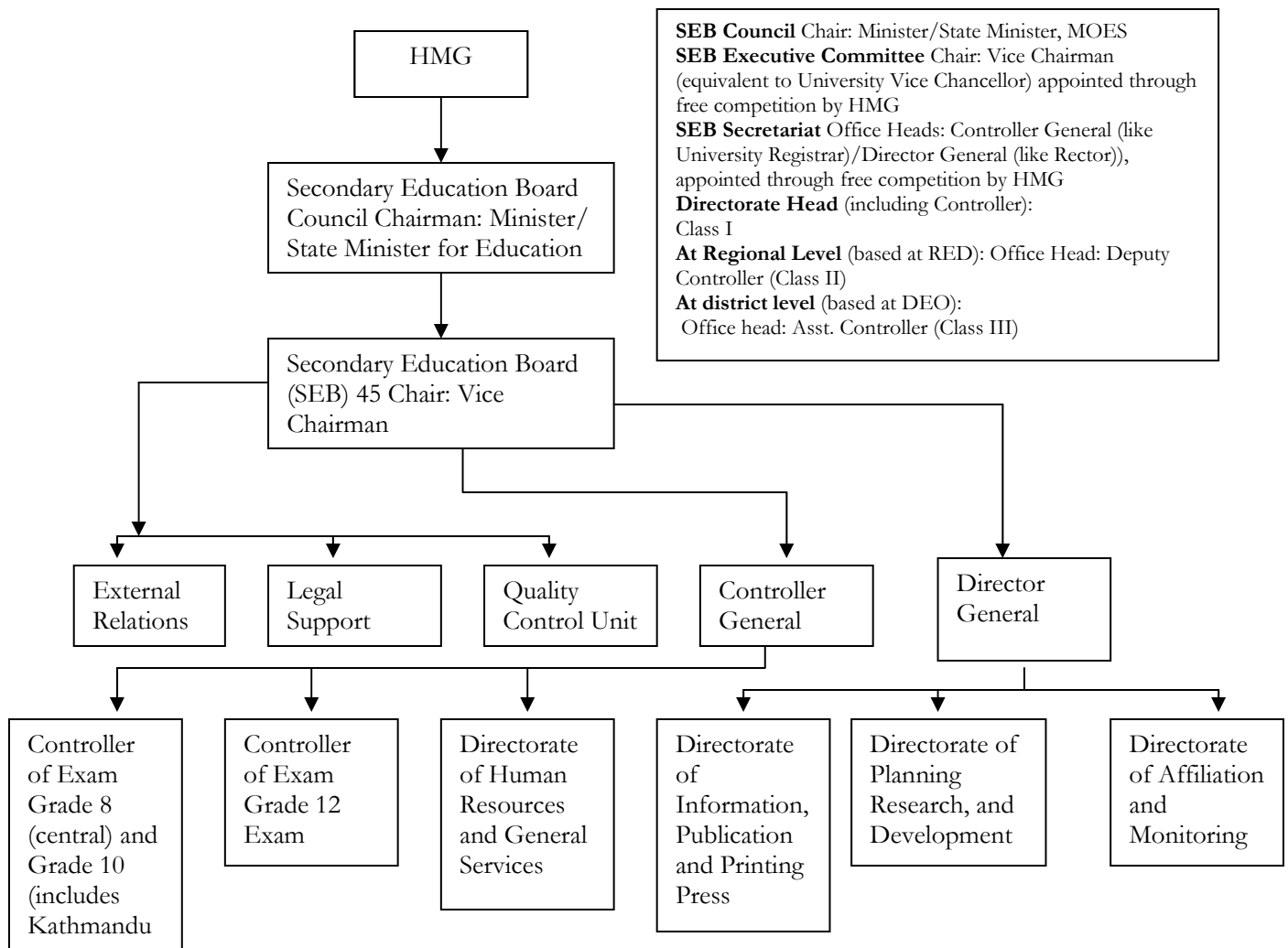
### Possible Limitations of Option 1

Experiences from full-fledged Government institution suggest that strengthening a Government department has its own limit. In particular, following are the possible drawbacks one could foresee if OCE is continued as a Government department, albeit with some autonomy on financial matters.

- It will have less autonomy and flexibility concerning curriculum, examination management, planning & programming, income generation, staffing and other matters pertaining to the issue of management of school assessment and examination
- There will be the possibility of direct political interference in OCE's operation, including appointments to executive positions.

## 5.2 Secondary Education Board (Option 2)

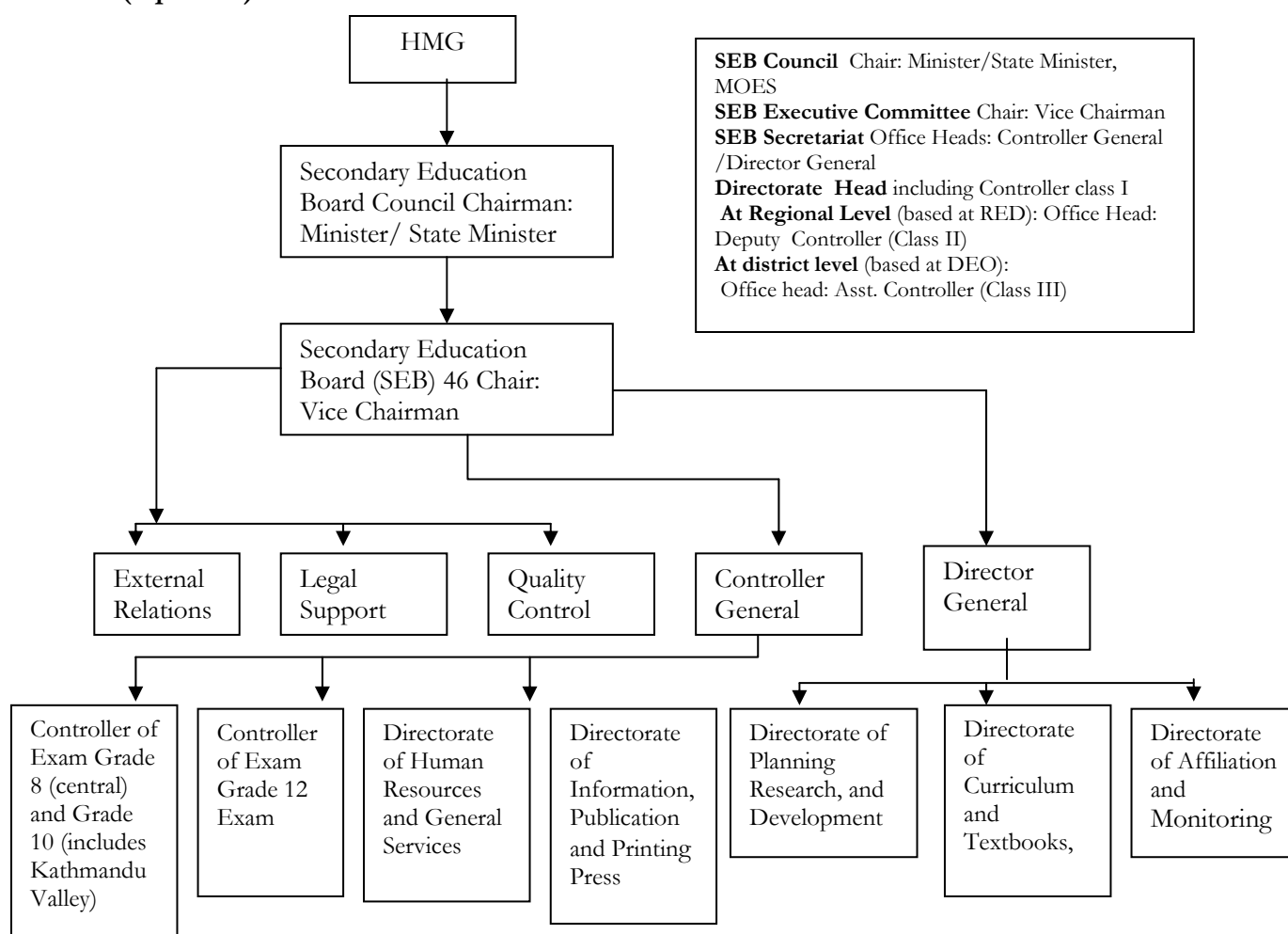
**Chart 4 Proposed Organizational Structure for an independent testing organization of SEB (Option 2)**



Here, both OCE and HSEB are proposed to be reorganized together into a new Secondary Education Board (SEB) by amending the HSEB Act, 2046, 2049 (2<sup>nd</sup> amendment). However, the responsibility of the curriculum and textbook section (currently under the Curriculum and Training Division) of the HSEB at present will be transferred to CDC. This is the most desirable of the three options presented here, the proposed SEB Option 2 will be a semi-autonomous, independent organization with the authority, standing, and competence to function as a financially sustainable National Secondary School Examination. In other words, it will enjoy greater more financial independence, will be able to undertake development functions, and operate as a business, like public organization. As an autonomous organization, SEB will also be staffed by its own personnel. The Government staff can be retained only on secondment and for a fixed period of time.

### 5.3 SEB with Curriculum Unit (Option 3)

**Chart 5 Proposed Organizational Structure for an independent testing organization of SEB (Option 3)**



This option has almost the same feature as Option 2, except that a part of the CDC dealing with secondary section will be combined together with OCE and HSEB into the proposed SEB. The

rationale for this arrangement is to help develop a better learning link between Grades 10 and 11 and between Grades 11 and 12. One disadvantage of this system would be the end of the holistic view of the entire school curriculum from Grade 1 to 12.

## 6. MAIN DIRECTORATES OF THE PROPOSED SEB

There will be a full time Vice-Chairman, Controller General, and a Director General in the SEB Executive Committee, who will be appointed, compensated, and removed according to SEB service rules. The Vice-Chairman will be the chief executive officer of the SEB executive committee. The statute and rules will prescribe their responsibility and authorities. The Controller General shall manage the examination and general administration related functions, while the Director General looks after academic affairs and development tasks of the board at the direction and advice of the Vice-Chairman. Both of them report to the Vice-Chairman. The Directorate will have the following main divisions:

### i. Controller of Examination: Grade 12 Examination

**Main Functions: conducting examination (Grade 12) and publishing results**

**Sections:**

- Registration Section
- Application Section
- Certificate Section
- Curriculum & Textbook Section
- Examination Section
- Computer Section
- Record Section
- Student Relation Section

### ii. Controller of Examinations (Centre): Grade 8 and Grade 10 Examinations

**Main Functions:**

- Conduct Grade 10<sup>th</sup> Examination of the Kathmandu Valley
- Assist REDs in conducting Grade 10<sup>th</sup> Examination
- Assist DEOs in conducting and publishing results of Grade 8<sup>th</sup> Examination

**Sections:**

- Grade 8 Examinations Section
- Grade 10 Exam Section (Kathmandu Valley)
  - Registration Section
  - Application Section

- Question setting (for the whole country)
- Examination Section
- Computer Section
- Record Section
- Student Relations Section
- Marksheet distribution (for Kathmandu valley)
- Result Publication and Certificate Section (for the whole country)
- Region-based Grade 10 Exam (except for Kathmandu Valley)
- Other projects related to Grades 10 and 8
- Records Section
- Curriculum & Textbook Section
- Computer Section
- Certificate Section
- Student Relations Section

### iii. Directorate of Information, Publication & Printing Press

#### Main Functions

- Management of Printing Press<sup>20</sup>
- Management of Publication
- SEB Publication Sales Section
- Public Relations (including press/ media)

**To make the exam-student friendly and transparent and also as a source of income generation:**

SEB should publish sample question papers, sample /model answer papers, answer paper copies (with editing, if required) of the top ten students, marking schemes (to encourage schools to prepare and practice in Home Examinations (classes x xii) and performance analysis of students to help acquaint the students and teachers with the system of examination to make it learner-friendly and transparent. For example, CBSE in India also generates a huge amount of income through the sale of exam-related materials, including sample questions and sample answer papers.

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<sup>20</sup> It was learnt that a small printing press, established 3-4 years ago at HSEB, Sanathimi is being operated externally under the supervision of an examination staff for printing exam-related papers. There is a scope to expand it so that HSEB officials may not need to go to India for printing question papers.<sup>20</sup> It was learnt that SESP is also in the process of funding the establishment of a printing press in the OCE. There is also a possibility for this purpose of entrusting and using JEMC that functions under MoES control.

To make availability of printed marking schemes to Head Examiners and Examiners as well to make objectives uniform and reliable and evaluation consistent.

#### **iv. Directorate of Planning, Research & Development**

##### **Functions:**

- Plans and program for improving assessment and examinations
- Research and Study Programs on Testing & Measurement
- Other Development Projects
- Regularity in management of exam-related statistics regularly
- Data bank of SEB for exam related activities
- Seminars and workshops
- Library (also digital library where possible and appropriate)
- Liaison with national and international institutions/agencies for professional, technical, and financial cooperation.

#### **vi. Directorate of Curriculum and Textbooks (under Option 2)**

- Curricula and textbook materials.
- Seminars and workshop.

#### **vii. Directorate of Affiliation and Monitoring**

- Affiliation to schools (Grades 8<sup>th</sup> to 12<sup>th</sup>)
- Monitoring of secondary education program.

#### **viii. Directorate of Human Resources and General Services**

##### **Main function**

- Personnel Administration
- Financial Administration
- Training & Development
- ICT Support Unit
- Security

### **6.1 Composition of The Executive Committee of The Proposed Secondary Education Board (SEB)**

#### **Composition of SEB**

- SEB will be governed by a Council.

- The composition of the Council will be set out in the legislation that establishes the examination authority. The nature of election of representatives to the Council is important in that it determines, to a large extent, the degree of direct political or Government influence on examinations.
- While the decision of the Ministry of Education and Sports should be usually required to appoint Council members, the number of direct appointees will be kept minimum with the rest nominated from specified organizations and / or elected as ex-officio members.

**Table 4. Composition of SEB Executive Committee**

	As per Present HSEB Act	Study Group's Recommendation
Chairman	Education Minister	1: Vice-Chairman of SEB
Tenure	4 Years	4 Years
Members	Four members nominated by Chairman	1: Director General, SEB
Tenure (for non-ex-officio members)	(i.e., Education Minister) among the members of HSEB Assembly	1: Director General, CDCC
Present tenure: 4 years		1: Controller General
Recommended Tenure: 2 years		1: Joint Secretary, MOES
Member Secretary	Member Secretary of SEB	1: Controller General
Tenure	4 years	(4 years)
Total	7	5

## 6.2 Suggested Phasewise Implementation Strategy for SEB Option 1 and Institutional Development

### A 3-Phase Implantation Plan of the Merger is proposed.

A phasewise implementation strategy should be adopted for the establishment of SEB. Assuming that the plan period starts from 2007, it is proposed that the implementation schedule should spread over the period of 4 years.

- **Phase I: Year 2007-8 (Interim Period)**, primarily for consolidation and capacity building of concerned agencies)
- **Phase II: Year 2008 onwards** (starting year of Nepal's 11<sup>th</sup> Plan and beginning of the SEB Operation)
- **Phase III: Year 2010** (Performance Audit of Phase II and execution of backstopping support activities to further consolidate and strengthen the work performance of SEB)

### Phase I: Year 2007-8 (Interim Period)

- During the Transitional Phase I period, (i.e., between 2006-2007), OCE, CDC and HSEB will continue to function as now, but with certain planned improvement (or changes) in their work activities.
- During this first phase, all the preparatory works needed, including the required amendment of certain articles and clauses of HSEP, 2046, structural readjustment of OCE, RED, DEO, and CDC should take place to establish a new organizational set-up,

Secondary Education Board, by amending HSEB Act, 2046 and by combining the staff of HSEB and OCE and transferring the bulk of the responsibility of curriculum and textbook affairs of Grades 11 and 12 of HSEB to CDC.

### **Phase II:**

- The second phase (i.e., the beginning of the year 2008) is the phase where we expect the completion of the task of combining HSEB, OCE into the newly formed Secondary Education Board (SEB) to start the proposed institutional reform process of Grades 8, 10, and 12 examinations. The planned beginning of the operation of the newly set up SEB takes place in this phase.

Some of the important works to be initiated or introduced during this period include:

- Regionalization of Grade 10<sup>th</sup> (present SLC) Examination
- Holding of Grade 12 (only) nationwide Examination
- Formulation of SEB Governing Council and Executive Committee
- Making Grade 9<sup>th</sup> Exam and Grade 11<sup>th</sup> Exam school-based and revision/changes in the curriculum of Grades 9 and 10.

The tasks of question paper setting, and publication of the result of Grade 10 examinations of all regions in the country, including the Kathmandu valley, will be retained by the Central office of the SEB.

### **Phase III: Year 2009**

- A performance review study of operation of the newly formed Secondary Education Board (SEB) by an independent team will be done.
- SEB will be fully responsible for planning and managing all secondary/higher secondary level examinations.

Experts believe that a sound examination system can have a major influence in reforming school education. A sound examination system, however, is only possible when a strong institution is in place not only to conduct public examination in a fair and impartial manner but also to play a leadership role in the country in research and further development in testing and measurement and in bringing about improvement in assessment practices at the school level. A strong institution presupposes freedom from excessive Government control, freedom to generate resources, and freedom to use the resources it generates for its own development and capacity building. It is believed that a semi-autonomous national institution for managing secondary level public examination in the name of Secondary Education Board along with continued decentralisation of the conduct of examination and the strengthening of zonal and district-level structures will significantly contribute to bringing about much needed reform in Nepal's school level public examination system.

## CHAPTER IX: FINANCIAL ANALYSIS\*

### 1. INTRODUCTION

The SLC examination is a crucial event for students in the series of tests and examinations they undergo in their educational career. Parents make investments in education of their children right from the primary level with the ultimate objective of seeing their children pass the examination in high division. The Government has the responsibility of conducting the examination in a smooth and fair manner and awarding certificates to successful students. This responsibility is vested in the OCE.

At present, the cost of education borne by the parents, the expenses of OCE, and the Government's investment in secondary education are increasing rapidly. Most parents are seen willing to spare no efforts in providing quality education to their children. The expenses of OCE are increasing because of the increasing number of SLC candidates. Also, the Government expenditures on secondary education are increasing in an effort to provide better facilities in school for the delivery of quality education.

This chapter attempts to throw light on the public expenditure levels on school education in general, and on secondary education in particular. Apart from the Government, parents and local communities also contribute substantially to the education of their children. Parents enable educational institutions (Schools) to function by provision of financial resources in the form of fees and charges. Schools themselves also generate funds other than earnings from fees and charges on the students. External funding is also made available for improvement of (Secondary) education system in general. The volume of resources available to the schools for conducting teaching has an important impact on quality of instruction provided to students.

For details on the objectives and methodology, please refer to the report 'Financial Analysis of SLC Examination System'

### 2. ANALYSIS OF GOVERNMENT FINANCING OF SECONDARY EDUCATION

#### 2.1 Education Sector Budget

The Education Sector Budgets for 2060/61 and 2061/62 are presented here with specific reference to Secondary Education and OCE. The HMG budget for fiscal year 2061/62 (2004/05) has allocated Rs. 18,059 millions for the Education Sector out of the total budget of Rs. 111,690 million. Thus the Education Sector has received 16.1% of the total national budget. The share of education sector in the national budget was 14.1% in 2001/02, and 15% in 2003/04. Allocations on various educational sub-sectors and programs for the years 2060/61 and 2061/62 are presented in Tables 1 and 2. Charts 1 and 2 show the distribution of sub-sectoral allocation of Budget 2061/62.

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\* This chapter is based on the report 'Financial Analysis of SLC Examination System' prepared by Mr. Tirtha Bahadur Manandhar for the SLC Study team.

**Table 1. Education Sector Budget 2060/61 and 2061/62**

Category	2060/61		2061/62	
	Amount in million Rs.	%	Amount in million Rs.	%
1 Educational Administration	821.8	5.3	1,080.7	6.0
2 Early Childhood Development	-	-	15.0	0.1
3 Primary Education	8,971.9	57.5	9,903.0	54.8
4 Secondary Education	3,103.2	19.8	4,145.9	23.0
5 Higher Secondary Education	50.1	0.3	102.0	0.6
6 Higher Education	1,528.4	9.8	1,690.9	9.4
7 Non-Formal Education	239.6	1.6	124.8	0.7
8 Teacher Training	289.6	1.8	402.2	2.2
9 Curriculum Development	15.9	0.1	16.7	0.1
10 OCE	85.6	0.5	99.99	0.5
11 Special Education	32.0	0.2	32.0	0.2
12 Technical Ed. and Voc. Training	230.7	1.5	208.9	1.1
13 Scholarships	103.1	0.7	90.0	0.5
14 Game, Sports, Youth	129.1	0.8	136.0	0.7
15 Libraries	11.4	0.1	10.9	0.1
Total (Education Sector)	15,613.4	100.0	18,059.0	100.0

Source: Ministry of Finance: RED Books for 2060/61 and 2061/62

Allocations for Primary and Secondary and OCE, and Higher Education in the budgets of the two years are as follows.

**Table 2. Sub-sectoral Allocations to Primary, Secondary Education and Higher Education**

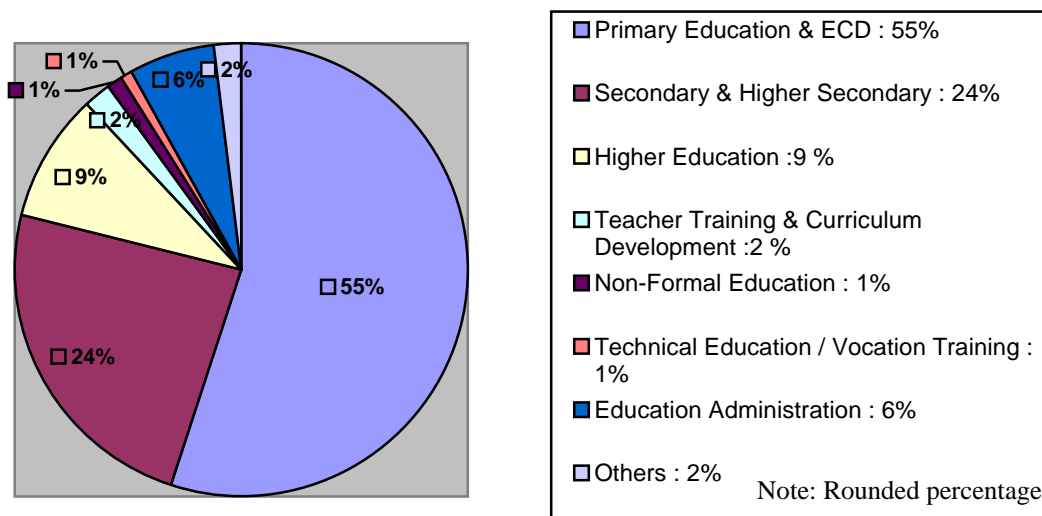
Sub sectors	Budget 2060/61		Budget 2061/62	
	Amount in million Rs.	%	Amount in million Rs.	%
Primary Education	8,971.9	57.5	9,903	54.8
Secondary Education	3,103.2	19.8	4,146	23.0
OCE	85.6	0.5	99.9	0.5
Higher Education	1,528.4	9.8	1,690.9	9.4

Primary Education is obviously the major component of Education Sector Budget, which accounts for over 50% of the annual Education Sector Budget. The amount and proportion of allocation for secondary education in 2061/62 Budget is higher than that in the 2060/61 Budget. This increase is attributed mainly due to expenditure allocation for the SESP program. The allocation for Secondary Education (excepting OCE) is Rs. 4,146 million in 2061/62 Budget. About 70% of this

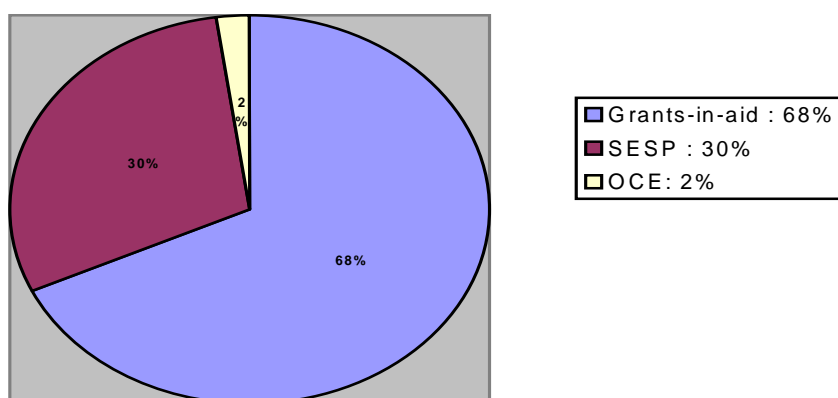
amount constitutes of grants-in-aid to public schools. Most of this money is meant to meet the salary of teachers and other staff members with very little left for expenditure on inputs related to quality enhancement (Chart 2). The proportion of secondary education budget for grants-in-aid was 97.4% in 2059/60, and 94.7% in 2060/61. Grants in aid are used mainly for paying teachers' salary.

The allocation for OCE in the budget of both years is quite small (0.5% of the Education Sector Budget). Governmental allocation is less (in amount) even than the fees collected from SLC candidates in any one year as will be explained later. The allocation for OCE is the Budget for 2061/62 is about Rs.100 million (Table 1).

**Figure 1. Distribution of Sub-Sectoral Allocations of the Education Budget, 2061/62**



**Figure 2. Distribution of Secondary Education Budget, 2061/62**



## 2.2 Secondary Education Budget

The categories of expenditure included in secondary education expenditure in the budget documents are Grant-in-aid to the lower secondary and secondary schools, expenditure on program of the SESP, expenditure for OCE, expenditure for SEDEC including SEDUs, and grants to Budhanilkantha school. There are other categories of Government expenditures related to secondary education. These are scholarships for secondary level girl students, pensions to retired secondary school teachers of public schools, training programs for secondary school teachers, and subsidies on prescribed text books. These are not included in allocation for secondary education subsection as presented here. The budget allocations for the Education Sector and Secondary Education Sub-Sector in recent years are shown in Table 3 below:

**Table 3. Budget Allocation on Secondary Education Fiscal Years 2056/57 – 2061/62**

Year	Education Sector	Rs. in Millions	
		Secondary Education Sub-Sector	% of Allocation for Secondary Education
2056/57	8,704	2,009	23.1
2057/58	11,749	2,334	19.8
2058/59	14,072	2,971	21.1
2059/60	14,402	3,017	20.9
2060/61	15,613	3,103	19.9
2061/62	18,059	4,146	23.0

Source: 1. MoES, Education in Nepal 2003

2. MoF, RED Books, 2060/61 and 2061/62

Note: Actual education expenditures slightly vary from above budgetary allocation

The absolute amount of budget allocation for education has nearly doubled over the period 2056/57 to 2061/62. The allocation on the secondary education sub-sector has also doubled over the same period. Current budget (2061/62) has allocated Rs. 18,059 million for the Education Sector. The secondary Education Sub-Sector has got an allocation of Rs. 4,146 million. The launching of the Secondary Education Support Program (SESP) has contributed to raising the proportional allocation to the sub-sector. About 30% of the budgetary allocation on secondary

education in 2061/62 is accounted for by SESP. Presently, the proportion of the Education Budget for Secondary Education Sub-Sector is 23%. If we add allocation for OCE, the proportion comes to 23.5%.

The allocation for Secondary Education Development Center (SEDEC) was shown under the Secondary Education Sub-Sector under budget heads of 2060/61. In the budget of 2061/62, there is no specific allocation for SEDEC. It is understood that the allocation for NCED has incorporated the finances for SEDEC, as well as the SEDUs (under SEDEC).

## 2.3 Policy on Financing of Secondary Education and Current Policy

### a. Policy on Financing of Secondary Education

The Government policy on financing of secondary education until the early 1990s was based on the system envisaged in the National Education System Plan, 1971 which provided for sharing of salary expenditure of the teachers between the Government and the schools. The Government met 75% of the salaries of teachers in lower secondary schools, and 50% of the salaries of teachers in secondary schools (for approved teacher posts). In the early 1990s, the Government introduced the policy of free secondary education prevailed throughout the nineties.

The Report of the National Education Commission, 1992 recommended that secondary schools should be allowed to levy charges other than tuition fees, as they have to meet expenses of improving physical facilities and procurement of educational materials (for quality enhancement).

The policy of free secondary education restricted public schools from charging tuition fees. It made it obligatory on the Government to meet 100% of the salary expenses of teachers. Public schools faced serious resource shortages, especially for making improvements in the teaching / learning situation. At the same time, the financial burden on Government went up significantly.

Several studies were conducted in the late 1990s' to seek ways of improving the financial situation of schools. The cost sharing principle was suggested by these studies. One of them was done by METCON for SEDP. The study –Cost Sharing Option for Quality Secondary Education, 1999– suggested various modalities (like allowing schools to collect a stipulated

amount from student per annum; making schools responsible for providing salary for additional teachers, providing matching grants based on local contributions, providing additional grants for quality related expenses).

In 2058, the Government made a major change in the Education Act, 2028 allowing public schools to collect fees at Grades 9 to 10 from the students. The Education Regulations, 2059 permitted public schools to charge the following types of fees with the approval of the Ministry of Education (at rates to be determined by School Management Committee).

#### Type of Fees

- Tuition Fee (Monthly)
- Admission Fee
- Examination Fee
- Computer Instruction Fee
- Library Fee
- Laboratory Fee
- Poor Students Support Fee
- Transport Fee
- Repair/Maintenance Fee
- Educational Excursion Fee
- Sports fee
- Transportation fee
- Lodging/food fee

The system of submitting proposals relating to fee rates by public schools to the Ministry for approval on rates of school fees seems to be highly centralized. The school management committees have been given powers to set fee rates within the rates approved by the Ministry of Education.

#### b. Current Policy

The present policy is based on the following premises:

- Permitting public schools to charge fees as provided in the Education Regulations
- Adopting cost-sharing and cost recovery strategies in secondary education
- Promoting the concept of “community schools” owned and managed by communities
- Promoting the practice of developing school improvement plans (for implementing which the Government will provide financial assistance based on cost sharing)
- Continuing to provide salary support for schools which still run as Government aided schools
- Providing scholarships for girls, and children of marginalized and poor groups.

### 2.4 Rates of Fees in Private Schools

Public schools have been permitted to charge tuition fees and other fees as decided by the respective school management committees and in consultation with the concerned DEO

Offices. They are expected to charge fees within the reach of the common people of the country.

As regards the private schools (intuitional schools), the Report on Fees and Scholarships in the Institutional Schools (in Nepali), prepared by the working team of the DOE in 2061, has

**Table 4. Recommended Rates of Fees in Institutional (Private) Schools (Tuition Fees)**  
in Rs.

Level	Rural Areas	Urban Areas & Headquarters of Districts	Metropolitan Areas, Sub-Municipalities and Dense Areas
Primary	300	450	500
Lower Secondary	400	550	600
Secondary	500	650	700

Source: DOE, Report on Fees and Scholarships in Institutional schools, 2061 (in Nepali), page 45 .

recommended the following maximum tuition fee rates chargeable by the private schools (Table 4).

Private schools can charge various other fees (computer instruction, examination, special training, lodging, boarding, etc.) with approval of District Institutional Schools Fee Management and Monitoring Committee.

The fees recommended in the above-mentioned report are much lower than what the private schools have been charging now. Application of these fees would reduce the cost burden on families with children studying in private schools. The concerned schools are obliged to follow the recommended fee schedule since their representatives have been a party to the agreed fee norms and rates. This will provide relief to the parents who send their children to private schools in so far as tuition fees are concerned. Yet these schools have a leeway to impose several other fees, which are to be monitored by the District Institutional Schools Fee Management and Monitoring Committee as stated above.

## 2.5 External Assistance for Secondary Education and SESP Components

### a. External Assistance for Secondary Education

The METCON study: Final Report on Secondary Education Development Project Evaluation (November 2000) shows that a sum of Rs. 523.3 million was spent during 2049/50 -2056/57 (1992/93 - 1999/00) under the Secondary Education Development Project. Of this amount, 76% was financed by Asian Development Bank Loan and the rest (24%) by the Government (mainly for salary and allowance of project staff) (Tables 4.2.2 and 4.4 of the Report).

Also during the period 1994-2000, DFID of UK provided assistance for undertaking various Technical Assistance (TA) activities related to secondary education. DFID provided 3.8 million Sterling Pounds for TA activities. (METCON: SEDP Evaluation November 2000).

One organization (out of several) receiving assistance from SEDP was the Office of Controller of Examination. OCE received assistance valued at Rs. 30.38 million for various activities (constructions, furniture, vehicle, examination reforms, and career development) over the project period (METCON: SEDP Evaluation, November 2000, Table 4.3.1).

The latest program of external assistance for secondary education is the Secondary Education Support Program (2003-2007). A total amount of \$74.83 million has been proposed to be spent under SESP. Of the total amount, 40% be grants from DANIDA, 40% loan from ADB, and 20% will be met by Government.

## 2.6 Cost implications of Secondary Education Support Program (SESP): 2003-2007

SESP, implemented from 2003, is expected to impact on the costs of education to the Government, the parents, and schools extensively. SESP has four components of Programs: (i) Learning Environment; (ii) Curriculum and Assessment; (iii) Teacher Education; (iv) Institutional Management and Capacity Building.

The impact of SESP on Government finances, costs to parents, and costs to schools is expected to be as follows:

**Government:** As mentioned earlier, 20% of SESP financing will be borne by the Government. This amounts to \$ 14.96 millions over the 2003-2007 period.

The SESP aims at providing an expanded program of scholarships for girls, students from disadvantaged groups, minorities, and students with special learning needs (studying at secondary level). It is understood that such scholarship provision will have to be continued after the SESP period.

The SESP aims at establishing 2000 Resource Centers, exclusively catering to secondary schools. Resource Centre mechanism for secondary education improvement is a new concept. Government obligations in this context will include construction of Resource Center physical facilities, appointment of resource persons, and support for operations. SESP also aims at establishing 15 new Secondary Education Development Units (SEDUs). The recurring costs of operating them will have to be borne by the Government after the SESP period. Female teacher hostels will be constructed in 10 PID districts, and 10 feeder hostels will be converted into female teacher hostels.

**Parents:** SESP has several Programs related to enhancement of equity and access. It will provide scholarships (to be used for dress, books, and fee payment) for students from disadvantaged groups. The total number of such scholarships is 5,000 for 10 Program Intensive Districts (PID) and 31,100 for rest of the districts (during the SESP period). Obviously, the parents of children receiving these scholarships would have their schooling cost burdens reduced considerably (with respect to fee payment, books, and dress).

Further, parents as well as students would be benefited immensely by several of the SESP with potentials for impacting on the quality of teaching such as: rehabilitation of physical facilities of specific schools, curriculum improvement, establishment of Resource Centers, teacher training, improvement of school management, and operation of an effective school inspection system.

**Schools:** SESP expects schools to prepare their own respective school improvement plans (SIPs), starting the schools in the PID districts. Schools are expected to improve their management system benefit from the Resource Centre System and training programs. The thrust of SESP policy is on promoting community management of public schools. A change in proportionate allocation of school budget on salary, and non-salary components is expected to occur. The inspection system is expected to bring about improvement in the teaching standards of schools.

**Examination:** With regard to examination system, SESP aims at:

- Improving Grade 8 Examination, making management of this examination the responsibility of REDs

- Providing training / orientation to paper setters, markers, and quality supervisors
- Building and maintaining a secure printing facility for printing of SLC Examination papers
- Consolidating and extending efforts of OCE in improving the SLC Examination.

SESP Programs are intended to help increase access of children of disadvantaged groups and people in disadvantaged areas to secondary education (mainly by reducing costs for parents). Various quality enhancement measures like building resource centers will be taken up. This will have a long-term cost implication for Government. Schools are expected to improve their management and budgeting practices. Allocations on quality enhancement are expected to be made at the school level.

## 2.7 Unit Cost Analysis: Government Costs in Public and Community Schools

Unit cost analysis tries to measure the annual financial inputs into each sub-sector of education. The analysis presents annual costs per student at a particular level of education. The method used is to work out average public expenditure per student (at a particular level). For this purpose, we need the enrolment data (public schools) and annual allocation of budgetary resources.

Table 5 presents the unit costs of students in public and community schools in recent years:

**Table 5. Unit Costs (Public School/Community School Students)**

Year	Total Enrolment Grade 6-10	Students in Public/Community Schools (Grade6-10)	HMG Budget Allocation on Secondary Education	Unit Costs in Rs. (per student in Public/Community Schools)
	(in '000)	(in '000)	(in Rs. '000)	
2057/58	1,330	1,192	2,334,075	1,958
2058/59	1,507	1,347	2,971,033	2,206
2059/60	1,617	1,397	3,017,096	2,160
2060/61	1,721	1,482	3,103,200	2,094

Source: Enrolment Data : DOE, School Level Education Statistics Reports, 2000, 2001, 2002, and 2003

Budget Data : MOES, Education in Nepal, 2003, and MOF, RED Book, 2060/61

Table 5 shows that the unit costs (of Government resources) on secondary education students (public and community schools) was Rs. 1958 in 2057/58, Rs. 2206 in 2058/59, Rs. 2160 in 2059/60, and Rs. 2094 in 2060/61. The fluctuations in unit cost are due to smaller changes in budgetary allocation relative to change (increase) in student enrolment.

It is understood that the expenditure covers all types of Government expenditures such as salary of teachers, and non-teaching staff members, operational expenses for schools, curriculum and textbook development, assistance for buildings/maintenance, teacher training (secondary level teachers), etc. However, bulk of the costs is tied to teachers' salary and benefits.

### 3. CONTRIBUTION OF PARENTS AND GOVERNMENT IN THE SECONDARY EDUCATION

#### 3.1 Contribution from HMG, Parents, and the country

A World Bank sponsored study “Nepal: Critical Issues in Secondary Education and Options for Reforms (1994)” presented data and information on the relative contributions of the Government, parents, and local community in the financing of secondary education at the national level. The study showed that in 1990-91, the Government’s share (including external aid) was 26% and parents’ share 5% in the total national expenditure on secondary education. According to the study, parents/households contributed immensely to financing secondary education (in the form of tuition fees, examination fees, stationery, textbooks, and educational materials). The study estimated the total school fee (annual) to be Rs. 880 per student in private non-boarding schools and Rs. 45,202 per student in private boarding schools in 1992. The expenses involved in sending a child to a private secondary school was over 5 times that involved in sending a child to a public secondary school.

#### 3.2 Level of household expenditure per student

**Table 6. Average Item-wise Household Expenses per Student for Private and Public School ( in Rs.)**

Items	Public School	Private school
Registration and Admission	236	959
Re-Registration	156	500
Tuition	366	1,285
Uniforms/Dress	54	1,175
Text/Reference Books	-	800
Study Materials	69	146
Transport	20	701
Charges for Food	57	927
Laboratory	42	273
Library	33	141
Sports	46	122
Excursion/Study tour	510	250
For Practical Subject	69	-
Computer	67	850
Coaching/Additional Class	42	-
Building Development fund	154	270
Rehabilitation/Maintenance	114	118
Health Check-up	27	58
Examination	98	192
Administrative Support	93	-
Teachers’ Salary Support	-	-
Student Welfare Fund	14	20
Exhibition/Meals	30	-
Others	110	190
<b>TOTAL</b>	<b>2,407</b>	<b>8,977</b>

\* Average for all the grades (Primary, Lower Sec., and Sec.)

Source: Field Survey (1998), METCON, Cost Sharing option for Quality Secondary Education in Nepal (1990)

The METCON study mentioned above showed that a household spent on average Rs. 2,407 per year for a student in public school but about Rs. 9,000 per year in a private school. The household expenditure in private school was 3.7 times higher than in public school. (Table 6)

Note: The Table 6 shows that Registration / Re-registration and Tuition fees accounted for 31.4% of the household expenditure in a public school. The household spends much higher amount (per student) for registration/admission, tuition fees, school dress, computer instruction etc. in a private school compared to that in a public school.

The study on Nepal; Cost Sharing Research in Education, done by Kathmandu Education Foundation (KEF, December 2000) tried to present a broad measurement of households' willingness and ability to pay for educational services and of the relationship between willingness and ability to pay for private costs of schooling and household income,

expenditure priorities, physical access to school, and community attitude. The study found that there was a high level of parental interest in education and a strong concern for quality education.

The study (based on sample survey of 180 households in 4 districts - Rasuwa, Achham, Kailali, and Kapilbastu) found that a household spent about 8% of its total expenditure on education (Public Schooling). On average, a household spends Rs. 704 for a child attending primary schools in a year and Rs. 2,141 for a child attending secondary school in a year. The major items of educational expenditure by households are educational materials (textbooks, exercise books, papers, pencils) and supporting materials (school dress, school bags, shoes, and tiffin money). The proportion of expenditure was as follows: payments to school 17.1%; educational materials 41.5%; other support costs; 39.7%, and private tuition: 1.6% (Table 22 of the Report).

The study presents expenditure levels by various income levels are as follows:

**Table 7. Household Expenditure for Student  
(Secondary Level)**

Type of Household	Per Boy	Per Girl
a. All Households	2,019	2,185
b. Poorest Households	1,811	1,802
c. Slightly Better Households	2,624	2,824

Source: KEF, Nepal: Cost Sharing Research in Education, 2000

Note: The above data are for three districts Achham, Kailali and Kapilbastu.

The data provided by the Study indicate increased expenditure (per student) coinciding with better economic status of the family.

At this point, a comparison of estimates of household expenditure on schooling made by the METCON Study and KEF Study seems appropriate. The

METCON Study shows fees and other charges paid to the school to be much higher than that reported in KEF study. On the other hand, the KEF study reports a high level of expenses on “Education Materials” and “Support Costs”.

The KEF study states that the poor households have to make different kinds of sacrifices for meeting the educational expenditures; for example, taking excessive work load, disposing assets (livestock, land, ornaments); cutting down on essential expenditures and borrowing. It shows that a large number of poor children in Nepal are denied schooling and that many children can not pay admission fees or spends on books, stationary and school dress.

The KEF study further shows that many poor children cannot go to school because they are needed for engaging in gainful work to ensure family livelihood. In poor households, the economic value of child labor is high. In the case of destitute families, child labor is often the major means of survival, according to the study.

The KEF study, which makes a comparison of Government expenditure per student at the secondary level and household expenditure per student, finds that the average household expenditure for all households (in the sample) exceeds the Government per student expenditure.

### 3.3 Estimate of costs to parents

The study ‘Financial Study of the SLC Examination System’ collected data on school fees from a number of public and private schools in the country. The details of the fees charged by different schools are given in Annex 5 and 6 of this Chapter. Summary data are presented in Annex 1A, 1B and 2A, 2B. Household expenditures on schooling in public and private schools are analyzed here.

### 3.4 Public Schools

Lower Secondary Level: At this level, the average annual household expenditure on the school fees per student is seen to be Rs. 839. Tuition fees account for a major portion of this expenditure. Three schools in the sample do not charge tuition fees. The average annual amount on account of tuition fees is Rs. 381. Only two of the ten schools (in the sample) charged "other fees".

Secondary Level: At this level, the average annual household expenditure on school fees is found to be Rs. 1061. Tuition fees constitute major portion of the expenditure by households. The average annual amount charged is Rs. 503. Only two schools charged "other fees" (see Annex 1A and 1B of this Chapter).

### 3.5 Private Schools (Institutional Schools)

Lower Secondary Level: At this level, the average annual household expenditure per student on school fees is seen to be Rs. 9,378 (average of six schools). Tuition fees account for a major portion of household expenditure; the average amount (for tuition fees) for six schools is Rs. 6436. Expenditure on account of "Other fees" also features prominently, unlike in the case of the public schools.

Secondary Level: At this level, the average annual household expenditure per student on school fees is seen to be Rs. 11,326 (for the six schools). Tuition fees account for a major portion of this expenditure. The average tuition fee (for six schools) is seen to be Rs. 7,742. "Other fees" account for a sizeable proportion of household expenditure as well (see Annex 2A and 2B).

**Table 8. Comparison of Household Expenditure in Public and Private Schools  
Average Total Household Expenditure on School Fees per Year per Student**

Level	(in Rs.)	
	Public Schools (Ten Schools)	Private Schools (Six Schools)
Lower Secondary (Grades 6-8)	839	9,378
Secondary (Grades 9-10)	1,061	11,326

Source: Fee data collected for the study.

The data show that annual household expenditure per student is eleven times higher in the Private Schools compared to that in the Public Schools, at both lower secondary and secondary levels. The richer people are spending large amounts of money for education of their children in the expectation of a better quality education. The private schools have much a larger volume of financial resources (collected in fees) to fund the school operations.

### 3.6 Other Direct Educational Expenditures than fees

#### a. Cost of Textbooks (Secondary Level)

Textbooks: It is known that Private Schools use several textbooks and supplementary reading materials besides the Government prescribed textbooks. The Public Schools use mainly the Government textbooks. Expenditure on Government textbooks only is noted here.

The total cost of prescribed textbooks (JEMC Publications) on six compulsory subjects (Nepali, Social Studies, English, Mathematics, Health, Population and Environment, and Science) for the 9<sup>th</sup> Grade is Rs. 341, and for the 10<sup>th</sup>, Rs. 270.40. The costs of optional subject books vary from

Rs. 25 to Rs. 60. English Cassettes (for 9<sup>th</sup> and 10<sup>th</sup> Grades separately) cost Rs. 45. In general, a student would spend about Rs. 400 to Rs. 500 on textbooks prescribed at Grades 9 and 10.

### **b. Cost of Writing Materials and other items of schooling**

Information on expenditure on exercise books, pens, pencils, and other education materials is not available. However, it is understood that parents bear quite a large amount of expenditure for such materials.

The study Nepal: Cost Sharing Research in Education (KEF, 2000), has estimated household expenditure on a child attending secondary education to be between Rs. 2,019 to Rs. 2,185 per year.

The study has further estimated that about 17% of the household education costs consist of payment to schools (in the form of fees). According to the study, spending on "Educational Materials" (textbooks, exercise books, papers, pens/pencils) accounts for about 41% of the expenditure/costs; and about 40% of expenditure is accounted for by 'Other Supporting Costs' (school dress, school bag, foot wear, and tiffin money). Private tuition accounts for about 2% of the expenditure. The findings of the study indicate that there are significant costs involved in the provision of 'Educational Materials' and 'Other Supporting Items'. The KEF Study indicates also that school dress, and other school materials could be quite expensive items for the parents.

### **c. Cost of Appearing in SLC Examination**

Compared to the cost of attending the school for secondary education, the actual costs of appearing in the SLC examination are modest: Registration Fee of Rs. 100 at Grade 9, and Application Fee of Rs. 200 at Grade 10. For students who leave their homes to appear in the SLC examination in Centers situated in towns, there is additional cost of lodging and boarding for about two weeks, depending on the standard of accommodation and food chosen by the students.

The KEF study Nepal : Cost Sharing Research in Education (KEF, 2000) has estimated that the sample households (in the sample districts) spent 4.3% of the total household income on primary education, and further 2.8% on secondary education as stated earlier.

## **3.7 Present Government schemes to reduce the Cost to parents (Secondary Level Education)**

There are a number of scholarships for girl students studying at the secondary level. These are:

- Local School Girls Scholarship : This scholarship is awarded to about 150,000 girl students annually (at rate of Rs. 600, 1000, 800, 900, and 1000 per year for Grade 6,7,8,9,10 students respectively)
- Upgrading scholarships for girl students staying in the 18 Feeder Hostels: Girl students residing in hostels get free lodging as well as Rs. 1,800 to Rs. 1,050 per month as stipend. In all, 360 students benefit from this scheme. Some of these hostels are now being converted into lodging for the female teachers.
- Under BPEP II, the Government provided scholarship (of Rs. 1,200 per year) for selected girl students in 25 districts.

- Cash award (one time) of Rs 1,000 was given to ten girl students who topped Grade 5 examination in each of the 75 districts.
- The SESP document envisages providing scholarship to secondary students belonging to disadvantaged groups (3,000 scholarships in 10 Program Intensive districts, and 31,100 scholarships in 65 districts over the period 2003-2007). The scholarships are to be provided mainly in the form of support for dress, books, and school fees.
- The Government has a large scholarship program addressed to the Dalits (boys and girls). Part of the provision is used for secondary level students.

## 4. COST TO SCHOOLS

### 4.1 Per School Recurrent Expenditure

Schools play a crucial role in determining the examination success of students as well as their long-term life chances. Schools implement the curriculum prescribed for different levels of education and encourage them to study and prepare them for examination by regularly conducting internal assessments. Schools use material inputs and both capital and human resources for the delivery of their services to the students.

The Study on Cost Sharing Option for Quality Secondary Education in Nepal (METCON, 1999) collected data on the income and expenditure of 76 sample secondary schools (26 Rural, 25 Urban, 25 Remote Area schools) with about two-thirds of the enrolment in 8-10 Grades. The expenditure data presented in the report are used here to present an estimate of the "Costs to the schools", costs here interpreted as the expenditure made by the school for providing secondary education.

The report shows that the average recurrent expenditure per school of the 76 sample schools (average of two years 1995/96 and 1996/97) was Rs. 1.23 million. They were large regional and sub-regional variations on the average recurrent expenditure. The average recurrent expenditure per school by Rural, Urban, and Remote locations were (Table 9):

Rural: Rs 1.06 million  
Urban: Rs 1.9 million  
Remote: Rs 0.73 million

**Table 9. Recurrent Expenditure per School (1995/96 and 1996/97)**

	In Rs 1000s						
	Salary from govt.	Salary from others	Provident Fund	Adminis- tration	Teaching Materials	Extra- Curricular Activities	Others Purpose
Rural	666	109	79	16	50	9	136
Urban	826	403	114	34	91	20	418
Remote	525	58	57	13	31	4	50
National	672	190	83	21	57	11	201
Average							
%	54.4	15.4	6.7	1.7	4.6	0.9	16.3
							100.0

Source: Based on Table 3.12 of the Study on Cost Sharing Option for Quality Secondary Education in Nepal, METCON, 1999

The study also gives estimates of per student expenditure which are: Grades 1-10: Rs. 1,702 and Grades 6 to 10: Rs. 1,543.

This study observed that per student annual expenditure was Rs 3,096 for the “Best Schools”

**Table 10. Per Student Expenditure in 'Best and Worst' Schools**

School Type	Recurrent Expenditure	Capital Expenditure	(in Rs.) Total
Best Schools (7)	2,479	617	3,096
Worst Schools (6)	1,572	195	1,707

(SLC pass rate of 60% or above), and Rs 1,707 for the “Worst Schools” (SLC pass rate of 10% or less). School expenditure including capital expenditure per student in the schools is shown in the table below. Parents' share in the

expenditure per student was 26% for the "Best Schools" compared to 18% for the "Worst Schools". "Best Schools" depend less on Government for school expenditure than the worst ones (41.5% of expenditure for ones best schools compared to 78.1% for the worst ones).

## 4.2 SLC Examination related expenditure by schools

Schools devote considerable staff time and office resources for SLC examination-related works. The types of costs borne are:

- Processing of forms and papers relating to students appearing in send-up test and final SLC examination.
- Conducting preparatory classes for students (who need or seek additional help in studies).
- Costs involved in contacting the District Education Office, OCE, and other schools (for joint sent-up examination).
- Loss of teachers' teaching time while dealing with paper work and disturbance in teaching in schools (over the examination period) where SLC examinations are in operation and performing contacts relating to SLC examination.

Monetary estimates of the activities in the course of carrying out SLC examination work are not available.

## 5. OPPORTUNITY COSTS OF EDUCATION

It is generally observed that many of the poor families send their children to work to supplement household incomes. The motivation of parents in sending the children to work could be to diversify family income sources, or to meet the immediate expenditure needs of the family.

It is argued that if parents send their children to school instead of sending them to work, they incur income loss, described as opportunity costs of the children's schooling. For the poor income groups, such lost earnings could be of critical nature. The low participation of children from disadvantaged communities in education is attributed to this need of income (in cash or kind) from the engagement of children in work (in or outside homes), among other factors.

The Study Nepal: Cost Sharing Research in Education (KEF, 2000) emphasized the high opportunity costs of schooling as an important obstacle on the demand side (demand for education). The study notes that for poor families, opportunity costs are often as significant as

the direct costs (of schooling), since the children are used in household work or in family's income generation activities. At peak agriculture seasons, children are used as full time labor. High opportunity costs also lead many parents to withdraw children from schools. Schooling thus means, for poor families, an immediate loss of a helping hand or a source of income. At the same time, schooling also requires increasing expenditure to be met by the family.

There is an extensive involvement of children in work, mainly in household work, including farm-related works. The Census of 2001 shows the age-specific economic participation rate of 10-14 years population to be 28.8%. The census further shows the age-specific participation rate of 15-19 years population to be 48.9%.

There are various estimates of the opportunity costs of secondary schooling for a child. An estimate based on the data of Nepal Living Standards Survey, 1995/96, shows the opportunity cost of a 10-14 years child when attending secondary school to be Rs 44 per day. Some details of the estimate are given in Appendix 8A. Based on this estimate and, considering school opening days to be 220 days in a year and also applying the unemployment rate of 8% (of the labor force), the annual opportunities cost would amount to Rs. 8,906.

The issue of opportunity costs is particularly relevant with reference to secondary education. Changing of timing of schools and providing some financial support (scholarships) for the highly disadvantaged students have been suggested as measures to reduce opportunity costs. Doing well in education at the secondary level requires regular school attendance as well as regular home study. This will come in conflict with full time wage earning works. Some sacrifice (of earnings from child's labor) is therefore inevitable on the part of the parents. Highly motivated students can engage in full time school by doing some part-time work (where available).

The extensive use of child labor, especially in the rural areas, makes it necessary to devise schemes to reduce such costs for the parents. However, it is not financially feasible for the Government to compensate for all the opportunity costs. The Government can only provide incentive to encourage parents to send their children to schools. Already there are several schemes to provide scholarship for the secondary level students (mainly girls). Further, it is argued that opportunity costs would be substantially low because there is widespread unemployment and underemployment in the rural and urban areas of the country. Such situation would suggest lower levels of opportunity costs (of child's schooling) than reported in various studies.

## **6. GIST OF UNIT COST ESTIMATES AND THE COST OF EXAMINATION FAILURE**

### **6.1 Gist of Unit Cost Estimates**

A gist of unit cost estimates prepared by different studies as well as the present study (under the S.L.C study) is given in Annex 4 of this chapter IX. The main highlights are as follows.

- The unit cost of Government expenditure on public secondary schools was Rs. 2,160 in 2002, and 2,094 in 2003.
- The cost to parents (fees only) under the present study is Rs. 839 at the lower secondary level and Rs. 1,061 at secondary level (in public schools).

- When other costs besides school fees are considered, we have household expenditure per student. This is found to be about Rs. 2,000 (Rs. 2,019 for boys and Rs. 2,185 for girls) according to the KEF Study, for secondary level (public schooling).
- The household expenditure per student is found to be Rs. 2407 in public schools (having primary and secondary levels) in mid-1990 according to METCON study. About Rs. 1400 (58%) of this amount is paid to schools in the form of various fees (this is higher than that reported in KEF Study).
- Data collected for this study show that the total fees charged in private schools are eleven times higher than those in public Schools.
- The following generalizations are made based on the various estimates of per student expenditure (Public Schools):
- The total expenditure by a family is the sum of expenditure, textbook costs, plus several discretionary expenditures (educational materials pen, pencils, stationery, school dress, tiffin, bags, etc)
- Parents would bear the following costs (public schooling):
  - School fees, Cost per year per student (average): Rs. 1000-1400
  - Textbooks Cost per year (secondary level average): Rs. 400 - 500.
  - Other expenditures (discretionary) per student (average): Rs. 1000 and up
  - Examination Cost: Registration and Application costs: Rs. 300
  - Cost of staying away from homes for appearing in the examination: depending on standards of lodging and fooding.
- Theoretically, the total social cost of education (per student) will be the total of
  - Government cost per unit
  - Parental expenditure per student
  - School expenditure per student and
  - Opportunity costs.

Of these, we have information only on Government cost per unit and parental (household) expenditure (fees) only.

Similarly, at present, we have a very rough idea of the opportunity costs involved in a child's secondary education. As stated earlier, about 29 % of the 10-14 year children are found to be economically active (Census of 2061). Opportunity cost will be relevant for this group of population. In rural areas, children are found to be contributing to farming and related activities. However, there is widespread unemployment and underemployment in the rural areas. Thus, working out opportunity costs is difficult. Yet, it must be accepted that the survival needs of very poor families may require engagement of children in income earning works (in family settings or outside of home).

## 6.2 The Costs of Examination Failure

The number of students who fail in the SLC Examination every year is staggering. In the SLC examination of 2060, a total of 225,609 students (regular and exempted) sat in the examination out of whom 97,400 got through. Altogether 158,209 students (61.69 %) failed.

Those who have failed have been debarred from entering higher education and various types of training open to the SLC pass students. Further, they are regarded as not eligible to compete for various jobs requiring a minimum of SLC qualification. There are various social and psychological costs of the examination failures.

However, the SLC failed persons have not lost everything in life. The experience of having gone through secondary education has benefited them in the following ways:

- They have gained a higher level of literacy, awareness, and ability to communicate in writing and speech.
- They have been exposed to the knowledge of various important life skill areas.
- They are still allowed to enter various types of basic type training.

Yet, the monetary costs of failure in SLC examination are huge. Considering only the costs of the Government and households, we have the following set of costs (based on estimates of various studies). Please note that the figures are rounded.

Government Expenditure (per unit costs)	Rs. 2,100 per year
Household Expenditure (per unit costs)	Rs. 2,000 per year
School Expenditure per student	Rs. 1,600 per year (55% covered by Government grants)

(based on METCON and KEF Studies and present study)

The expenditure over a period of five years would be about Rs. 25,000 considering Government and household and school costs. These costs should be regarded as minimum. Parents also bear the cost of uniforms, educational materials, transport, tiffin, stationery and private tuition. For about 29% of the 10-14 year old children, there would be an opportunity cost of about Rs. 9,000 in a year.

More damaging than the monetary costs of failure are the psychological ones. The students who fail, take a long period of time to reconcile themselves to the idea that they have not been able to pass the examination (SLC) which their fellow students have done. They ultimately accept the reality and seek alternative ways of progressing in life.

## 6.3 Issues in Costs to the Parents

The total costs (annual) borne by the parents for their children's education in Public Secondary Schools are about Rs. 800 at Lower Secondary and about Rs. 1000 at Secondary Level, based on the sample used in the study. These fees are modest considering the market prices of several goods and services essential for living. Some Public Secondary Schools in Kathmandu do not charge tuition fees at all.

Despite the high fees charged in Private (institutional) Schools, most parents of all income levels in the urban areas are attracted towards the Private Schools because of the perceived better quality of education in these schools.

Public Schools, which are the main providers of schooling for the poor/disadvantaged groups and for rural population, have to improve their quality. Parents are motivated as much by quality as by the low costs of schooling.

## **7. OCE AS AN INDEPENDENT AND FINANCIALLY SELF SUFFICIENT ORGANIZATION**

### **7.1 Introduction**

An independent or autonomous organization means an organization that has the freedom to plan its own schedule for work and development and to take the steps necessary to realize its own freely decided aims and objectives. In the context of Nepal, an autonomous testing organization should have the power to develop and implement policies for improving school level examinations and assessment systems, as also to fulfill the basic responsibility of conducting S.L.C. examinations smoothly and fairly. Besides, an autonomous organization is expected to make the best use of resources provided by the Government (physical facilities, equipment, and personnel). Further, the organization is expected to be financially self-sufficient. This means that the organization would be able to have full access to the resources generated by the OCE (in the form of registration and application fees and other fees), and the organization would be allowed to explore other sources of income.

OCE is working under several constraints to fulfill its main responsibility of conducting the SLC Examination and publishing the results. For about six months in a year, the OCE staff are busy in SLC Examination work. During other months, too it has to perform a number of other works related to correcting names, distributing mark sheets, certificate verification, etc.

OCE has several accomplishments to its credit: managing the conducting of examinations for over 300,000 students, holding two examinations in a year, arranging for the marking of papers in a large number of centers, publishing results in a record time of 2 months, getting cooperation of REDs, DEO offices, central level organizations, and bringing publishing the SLC results. Further, it has been able to mobilize a large number of subject experts and teachers for question setting and marking functions.

Despite these achievements, it faces several problems related to management and finance. The computer facilities in the OCE and computer manpower are not adequate. The OCE is stated to be unable to distribute original certificates due to the lack of funds. The staff and available resources are not being efficiently utilized. The OCE is, moreover, occupied with a number of works related to past records, mark-sheets, and verification.

The need of an efficient organization to manage the SLC Examination and other related functions has been keenly felt. The rationale of developing OCE as an independent organization rests on the following premises:

- There will be greater efficiency in operation and staff work.

- The OCE will provide professional guidance to school level assessments for all levels of school education.
- SLC Examination will be conducted more efficiently. The quality of examinations will improve.
- The present financial shortage in undertaking research, training works, modernization of computer systems, and distribution of certificates will be resolved.
- The staff will have expertise in tests and measurements.
- More attention will be given to quality aspects in work operations.
- The assessment and evaluation-related work of the OCE will contribute to raising the quality of education in the schools.

## 7.2 Expected role of the independent OCE

- It will provide professional leadership in school level assessment and evaluation.
- It will continue fulfilling all works currently done by OCE (SLC Examination and other functions).
- It will follow the principles of decentralization scheme of the Government; and the functions of present OCE will be decentralized to REDs and DEOs in stages.
- The restructured OCE will make increased efforts to mobilize the cooperation of REDs, DEOs, and schools in effectively conducting SLC examinations. These institutions will need to be provided to adequate financial resources (from OCE's earnings from the examination fees).
- OCE will prepare and publish its annual work Program and budget.
- Research and training works will receive priority in OCE.
- A question bank will be set up and expanded.

## 7.3 Model of independent OCE

There are three organizations that can be considered as references: Nepal Administrative Staff College (NASC), Higher Secondary Education Board (HSEB), and Council for Technical Education and Vocational Training (CTEVT). NASC was established under the NASC Act, 1982; HSEB was established under the HSEB Act, 1989, and CTEVT was established under the CTEVT Act, 1988.

The main features of these organizations are:

- They have an autonomous status. They can develop and implement their own policies keeping in view the national development priorities.
- They receive annual grants from the Government, not tied to staff salaries and allowances.
- They have their own staff and personnel regulations.

- They generate incomes (mainly from fees). NASC earns also by doing consultancy works.
- NASC works under the policy guidance of a Governing Board (headed by Minister, Ministry of General Administration). There is also an Executive Committee. HSEB functions under the policy guidance of HSE Board (headed by Minister, MOES). CTEVT Council (headed by Minister, MOES) provides policy guidance to CTEVT.

## 7.4 Financial Implication of an independent OCE

**Government Funding:** It can expect to have only a small annual grant from Government. It will have to meet all salary expenses and expenditures related to conducting SLC examination from its own resources.

**Finance Statement:** IT will be required to prepare and make public its income (by sources) and expenditure (by categories) for each fiscal year.

**Annual Plan and Budget:** It will have to prepare its annual plan and budget, giving details of operations to be conducted (including SLC Examination), and budget estimates (sources of income and categories of expenditure).

**Fee Collection:** It will introduce a new financial management system to ensure that all the fees (related to SLC Examination) collected in the schools and DEO/RED offices are duly deposited in its account, properly maintained, and audited annually.

**Resource Generation:** It will review its sources of income, change fee rates as appropriate, introduce charges on services provided, and extend the various types of services (related to assessment) to the educational institutions.

**Fiscal Decentralization:** It will discuss with the Department of Education, Regional Education Directorates, District Education Offices, and other related institutions (schools) regarding the level of funding support needed by RED, DEO, and schools for performing works related to SLC examination.

Further, based on the amount and nature of work burden on REDs' and DEO resulting from decentralization of SLC-related tasks, OCE will provide materials and equipment support to REDs and DEOs.

## 7.5 Financial Implications for the Government

The Government will hand over the premises of the present OCE and all the equipment and materials to the restructured OCE. The physical facilities and equipments will be valued in monetary terms before the handover. The upkeep and maintenance of the facilities and equipment will be the responsibility of the new management.

The Government will provide a small annual grant to the OCE, particularly for improvements in examination system. No salary-related grants will be made.

The Government will enforce the requirement of annual auditing of the OCE finances through a registered firm/ Auditor General Office.

## 7.6 Risks

It is likely that the OCE, once it becomes autonomous, will be inclined to raise its fees (registration, application for examination), and also to introduce other charges **fritz** services. A regulatory mechanism to keep the fees within reasonable limits will be necessary.

Further, extensive preparatory work (detailed feasibility study, discussion on proposal of change, change process, linking with decentralization process, and financial management) has to be done before the actual change over.

## 7.7 Financial Feasibility of independent OCE

### Present income and expenditure

At present, OCE is earning more than its expenditure in a year. In 2060/61, its income was estimated to be Rs. 115.8 million compared to its estimated expenditure of Rs. 91.9 million, indicating a surplus of income over expenditure. The 'surpluses' are accumulated in the total revenue of the Government (for present status of income and expenditure of OCE, see Annex 3).

### Additional work

An independent OCE is expected to do the following works besides accomplishing the conducting of annual SLC examinations.

- Distribution of original certificates
- Setting up of a question bank
- Research works
- Training for central, regional, and district-level personnel
- Maintenance of OCE physical facilities
- Upgrading of the computer equipment and facilities.

OCE will have to meet increased expenditure on account of the following as well:

- Higher rates of remuneration for the examiners
- A higher level of funding for the REDs, DEOs, and examination centers
- A higher level of expenditures to cope with increased number of students taking the SLC examination (average increase of 11% per year in the number of candidates in 2057 and 2060 B.S.).

### Expenditure Needs

Considering the above prospective increases in expenditures, it seems plausible to project 25% increase in OCE expenditure for 2062/63 over the level of 2061/62. This increase is consistent with the increase in budgetary allocation for OCE – 35% increase in 2060/61 and 16% in 2061/62 (an average of 20% for the years).

## Resource Generation

As stated in the section on OCE finances, two kinds of fees – the registration fee, and application fee-account for over 95% of the OCE income. A 25% increase in the rates of these fees will bring in nearly the same extent of increase in OCE income.

## Potential Sources of Income

### 1. Major sources

- a. Board Affiliation Fee
- b. All the secondary schools (public and private) have to seek official affiliation with the independent board (restructured OCE). An affiliation fee has to be paid to be board.
- c. Registration Fee
- d. Students will pay for registration at Grade 9. A fee, to be decided by the Board, has to be paid by each student to appear in the SLC examination to be held by the Board.
- e. Application Fee
- f. Students will pay on application at Grade 10. The rate of the fee will be determined by the Board.
- g. Re-Totaling Fee
- h. Re-Totaling fees will be determined by the Board.

### 2. Other Sources

- a. Sale of question papers of the past year in a book form, and also development (and sale) of model questions sets.
- b. Sale of edited answer papers (anonymous).
- c. Charges on services like verification of SLC certificates, provision of mark-sheets (of the past years), changes in age, names, etc.
- d. Printing press earnings after a printing press is installed in the OCE.
- e. Rental income from the provision of OCE space and facilities for seminars and meetings after improvement of the existing OCE physical facilities.
- f. Charges on training organized by OCE on the request of an educational institution on "Tests and Measurement".
- g. Income from publication: marking schemes, Annual SLC Results document, analytical reports on SLC results, rules for conducting the SLC Examination .
- h. Income from consulting services on tests and measurement.
- i. Earnings from the investment of surplus incomes in banks.

A number of income sources mentioned above such as training activities, consulting activities, and publication of analytical reports are dependent on the major upgrading of professional capabilities of the staff of OCE and hiring of expert services from outside. Similarly, earnings from printing can be realized after a security press is installed in OCE and printing works are efficiently managed.

The restructured OCE (Board) will depend on the major sources mentioned above for a major proportion of its income as at present. A small percentage increase in registration and application fees has the potential of generating a large volume of income resources.

## **7.8 Conclusion**

An independent OCE (Board) is financially feasible. The financial autonomy given to the OCE will enable it to revise its fees and to explore new sources of earnings. Besides, the OCE is expected to be more cost conscious, since it will have to meet all its expenditure (staff salaries, payment for services of experts, examiners, examination center operation expenses, payment to DEOs and REDs), as well as expenses for improving the physical facilities in OCE from its own income.

## **CHAPTER X: DETERMINANTS OF STUDENT PERFORMANCE IN THE SLC EXAMINATIONS: EVIDENCE FROM SURVEY \***

### **1. INTRODUCTION**

High student failure rates in SLC examinations and disparities in performance are two national issues that raise discussion in the Nepali news media and other public forums every year before and after the SLC examinations (Onta, 2005). The SLC examinations have been routinely criticized for their lack of technical quality, the way exam papers are, and the way examinations are administrated under varying conditions in different centers and parts of the country. While these discussions have raised issues of critical relevance, they are often based on anecdotal evidence rather than rigorous analysis. Some of the studies conducted so far purporting to identify shortcomings (CERID, 1996), suggest that the lack of properly trained test developers and insufficient emphasis on testing the analytical and problem solving skills of students has resulted in test questions that are weak in terms of reliability and validity, and the examinations tend to test the ability to recall rather than the ability to creatively apply the knowledge students have acquired to analyze and solve problems. These studies also point out that one factor affecting the results, is the exam marking process. In the main, these studies have tended to be piecemeal in nature, focusing mainly on narrow sets of factors that might potentially influence the performance of students in the SLC examinations and on describing the factors without necessarily establishing the link between these factors and student performance. Hence, they have not helped much in providing a complete understanding of the underlying reasons that lead to the enormous wastage in the secondary education. While the poor quality of test papers and grading practices might partially explain the poor performance of some students, for example, they do not explain why some students perform better than others even though, they face the same quality test papers and grading practices. Similarly, the quality of school infrastructure might partly explain the performance gap between students from different schools, but not the differences in performance between students from the same school.

There are, clearly, a host of socio-economic, cultural, and institutional factors that could be contributing, either individually or collectively, to the persistently high failure rates in the SLC examinations. Hence only a comprehensive research study that simultaneously looks at a broad set of potential performance determinants can provide an in-depth understanding of the reasons behind the poor student performance in the SLC examinations. A study to determine the various factors that influence student performance in the SLC examinations was carried out under the SLC Study. This study 'Determinants of Student Performance in the SLC Examinations' is a serious attempt in this direction. It is expected that an in-depth understanding of the determinants of student performance in the SLC examinations will be very valuable for both policymakers and researchers in developing viable and effective solutions to the existing problems in the secondary school education of Nepal. The insights from a study like this should

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\* This chapter is based on the report 'Determinants of Student Performance in the SLC Exams: Evidence from Survey', prepared by Dr. Saurav Dev Bhatta for the SLC Study team.

help policymakers in making evidence-based decisions that make the most difference. This study is significant from an academic perspective as well.

The main objective of the study ‘Determinants of Student Performance in the SLC Examinations’ was to determine the various factors that influence student performance in the SLC examinations. More specifically, it attempted to answer why some students perform better than others in the SLC examinations by analyzing the relationship between a host of potential determinants of performance and student performance using data collected through a nationwide survey of schools and students. Although there are many potential factors that could influence student performance in SLC examinations, not all such factors are relevant from a policy perspective. The focus in this study was, therefore on factors that are amenable to manipulation through Government intervention. In particular, the analysis carefully looked into the relationship between school resources and student performance and identified resources that are especially relevant for improving student performance.

## 2. THEORETICAL FRAMEWORK

Most studies on the determinants of student performance recognize that there are a variety of school and non-school factors that could potentially affect student outcomes. Their emphasis on particular sets of factors, however, is different depending on the research tradition being followed. Studies using educational production functions focus on the relationship between resource inputs and student outcomes while often treating the school as a black box. School effectiveness research, on the other hand, focuses on “breaking open” the black box and studying the internal school processes as well. But this second line of research has largely neglected to adequately account for the role of school resources in determining student performance (Levacic and Vignoles, 2002). ‘Determinants of Student Performance in the SLC Examinations’ tries to integrate elements of both research traditions by using augmented education production functions that incorporate a number of variables emphasized in the school effectiveness framework.

The basic model linking student outcomes with various determinants of outcomes in school effectiveness research is given in Figure 1.<sup>1</sup> It says that school inputs, teacher inputs, student inputs, and family inputs along with the national, community, and school contexts act through the school process to determine student outcomes. The context can also have a direct impact on outcomes and various inputs, while inputs can themselves be altered as a result of feedback from the school process.<sup>2</sup> Within this framework, school context represents a variety of contextual variables including the school governance structure and socio-economic characteristics of the student body. The socio-economic characteristics of the local community are represented by the community context and both school and community contexts are nested in the national context. Student inputs represent not just the effort a student puts into the learning process, but also her prior knowledge and other characteristics. The socio-economic characteristics of the student’s family and their inputs into the student’s academic life are included among the family inputs.

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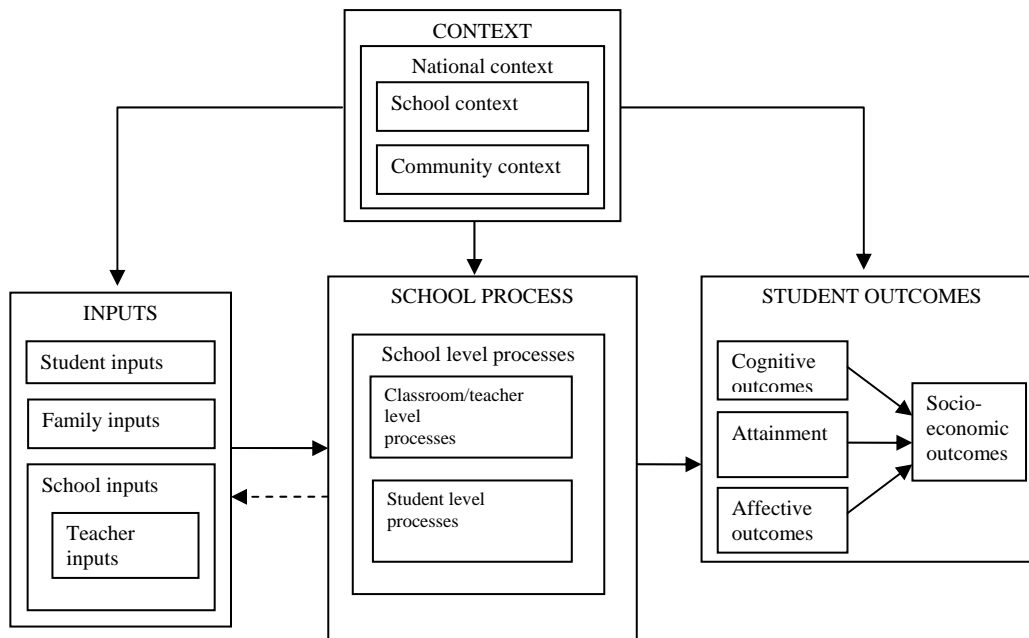
<sup>1</sup> The model presented in Figure 1.1 draws from the models used by Scheerens (2004), Levacic and Vignoles (2002), and Ridker (1997).

<sup>2</sup> Although not shown here, student outcomes can also have a feedback effect on inputs, school context, and school processes. This reverse relationship will not be studied in this report.

School inputs refer primarily to school expenditure and physical plus human resources of the school, while teacher inputs represent the qualifications and characteristics of the teachers. School processes are grouped into three categories: school-level processes which deal with the overall school environment and administrative structure, classroom/teacher level processes which focus on instructional approaches and teaching quality, and student level processes reflecting the learning approach of the student. It is assumed that the school-level conditions can enhance the effectiveness enhancing conditions at the classroom/teacher level and student level (Scheerens, 2004).

Four categories of student outcomes are identified in Figure 1. The first category—cognitive outcomes—refers to academic achievement and is typically measured using test scores. A related, though different, group of outcomes is attainment. The duration of school enrollment, the highest Grade achieved, and academic qualifications are the important outcomes in this category.<sup>3</sup> Affective outcomes, on the other hand, refer to social skills, behaviors, and attitudes towards learning. These three types of outcomes, which may be viewed as proximal outcomes, largely determine the status of the student in the world of work. Hence, Figure 1 shows arrows leading from the first three outcomes to the fourth outcome category, namely, socioeconomic outcomes. Work skills, employment status, and earnings are some of the indicators of socioeconomic or post-school outcomes. This model assumes that the school process, which is affected by both inputs and context variables, has an impact on all four types of student outcomes.

**Figure 1: Determinants of Student Outcomes in the School Effectiveness Framework**



<sup>3</sup> It might be pointed out that while academic achievement can be used as an indicator of the quality of education, attainment is only an indicator of quantity.

Traditional educational production function-based studies, while largely consistent with the school effectiveness framework presented in Figure 1, typically do not include school level and classroom/teacher level process variables among the determinants of student outcome (Levacic and Vignoles, 2002). The augmented educational production function used in the current study attempts to overcome this limitation by incorporating key variables from most of the different boxes depicted in the figure. In the economics field, a production function is basically a mathematical expression of an input-output relationship showing the maximum amount of output that can be obtained from a given set of inputs. Similarly, an educational production function models educational outcomes as a function of different categories of explanatory variables under the assumption that the resources represented by the explanatory variables are being used efficiently.

While the school effectiveness framework in Figure 1 is quite comprehensive in its inclusion of determinants of student outcomes, it could nevertheless be criticized for not including aspects related to the technical processes involved in the exam and the quality of test items. Similarly, when it comes to exam marking, inadequate training or negligence on the part of the graders and the resulting unreliability in marking can also influence the scores of students. But since all the students taking the exam in any particular year face the same exam quality issues and exam marking conditions, the *differences* in performance across students cannot be attributed to these factors. Furthermore, the impact of marking unreliability on individual exam scores can go in both directions—it can either help or hurt the student. In other words, there is no systematic relationship between marking unreliability and exam outcomes. Hence, neither of these two factors—test quality and marking practices—is included as a determinant of student outcome in the above framework. But since these factors can have an impact on the entire batch of students taking the examinations in any particular year, they have been indirectly accounted for in this study by including the exam year as one of the context variables. Cultural and gender biases in question content and wording can also have a differential impact on student performance between genders and across ethnic groups. This type of relational analysis, however, is beyond the scope of the current study.

The relationship between student outcomes (the dependent variable) and the different sets of performance determinants (the explanatory variables) are analyzed using student-level data.

### 3. VARIABLES USED IN THE STUDY

#### Dependent Variable

The dependent variable in this study is student outcome. The specific indicators of performance used in this study are as follows: (a) *SLC score*: aggregate average score, as well as subject-wise scores of the student in her most recent SLC examinations; (b) *SLC pass/fail status*: whether or not the student passed the SLC examinations. The rationale behind using these two different types of indicators is that while the first indicator allows us to analyze the relationship between SLC scores and the determinants of performance, the second enables us to understand how changes in the determinants are associated with the *probability* of passing the SLC examinations.

#### Explanatory Variables

The determinants of performance can be grouped into three broad categories—context variables, inputs, and school process variables. For details on these categories, please refer to

Annexes 9, 10, 11, 12 and 13 of Chapter X of this report and ‘Determinants of Student Performance in the SLC Examinations’

## 4. SURVEY METHODOLOGY

The data were gathered through a nationwide survey of families schools students, head teachers , and teachers, divided into four components: (i) questionnaire design, (ii) sample design, (iii) field work, and (iv) data entry and management.

For details, please refer to the study report ‘Determinants of Student Performance in the SLC Examinations’.

### 4.1 Sampling

Recognizing the magnitude of the task, the terms of reference for this study proposed a sample size that was adequately large for the purpose at hand. More specifically, it recommended that the survey cover approximately 450 schools and 22,500 students, i.e., around 10% of the secondary schools in the country and 50 students (on average) from each of the sample schools. In order to ensure the representativeness of the sample while making the survey practically feasible, a multi-stage, stratified random sampling approach was used to select schools and students. The representativeness of the sample was also enhanced by including SLC students from multiple years in the sample. But keeping in mind the increasing difficulty of tracing students the further back in time we went, the sample was limited to the SLC batches of 2002, 2003, and 2004. Fifty percent of the sample (11,250 students) consisted of students from the 2004 batch and the remaining sample was split equally between the years 2003 and 2004.

The first step in the design involved developing a scheme for grouping the schools into collectively exhaustive and mutually exclusive categories—or strata—such that each category would be relatively homogenous and the samples taken from these categories would be representative of the larger population of schools in terms of both performance and the major determinants of performance<sup>4</sup>. Details of the stratification scheme and the allocation of schools across the different strata are provided in the following two subsections. In the next step, the sample of 450 schools was selected through a two-stage sampling process where the selection of districts within each stratum took place in the first stage followed by the selection of schools within each sample district in the second stage. The final step involved specifying the number of students that should be selected from each school and selecting the sample students in these schools. It should be pointed out that while the selection of schools and determination of student sample size for each school was done by the Team in Kathmandu, the selection of students in each school was done by the field researchers themselves according to specific guidelines provided by the Team.

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<sup>4</sup> The sample design adopted in this study follows the general approach used in household income/consumption surveys where the basic sampling frame consists of households rather than individuals. The idea is to treat schools as “households,” students as “family members”, and use available lists of schools as the sampling frame from which the sample of schools is selected. SLC class size in this design is equivalent to household size in income/consumption surveys and therefore plays a crucial role in the selection of students.

For details on the Stratification Scheme, see the report 'Determinants of Student Performance in the SLC Exam'.

### Selecting Sample Schools

A two-stage approach was taken to select the sample of schools. In the first stage, districts were randomly selected from each eco-development region according to the scheme presented in Table 1.

**Table 1. District Selection Scheme**

Number of Districts in Region	Sample Selection Rule
3 or fewer	Select 1 district
4 to 7	Select 2 districts
8 to 10	Select 3 districts
11 or greater	Select 4 districts

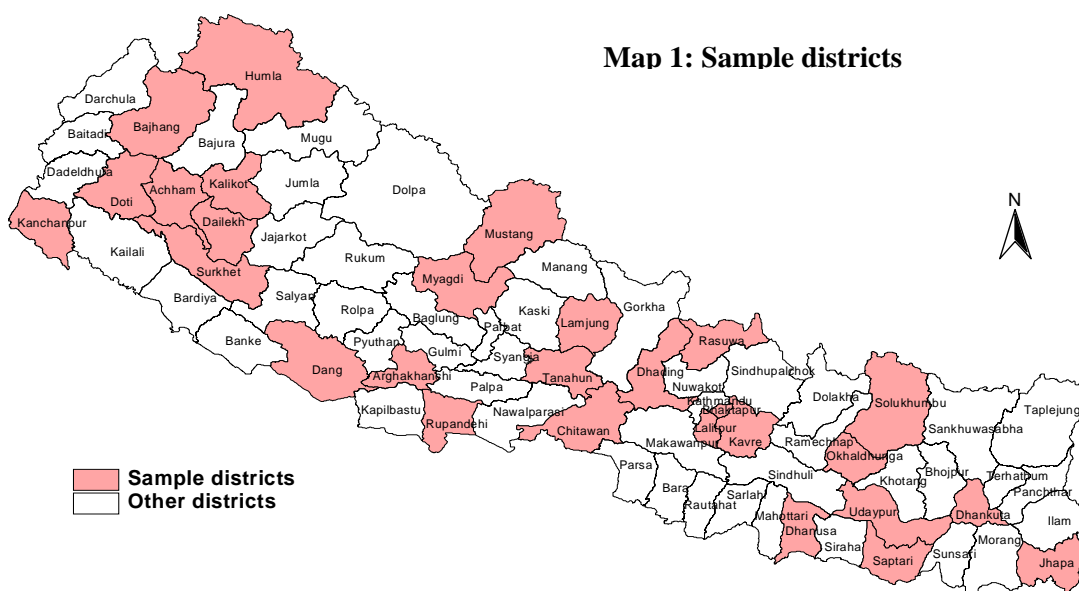
In the case of Kathmandu Valley, however, two districts were selected to account for the disproportionately large number of schools in this region. The 28 sample districts selected through this process are shown in Table 2 and the map in the following page.

**Table 2. Sample Districts in Each Geographical Stratum**

Development region	Ecological Region		
	Tarai	Hill	Mountain
Eastern	Jhapa, Saptari	Dhankuta, Okhaldhunga , Udayapur	Solukhumbu
Central (no K. V.)	Dhanusha, Chitwan	Dhading, Kavre	Rasuwa
Western	Rupandehi	Arghakhanchi, Lamjung, Myagdi, Tanahun	Mustang
Mid-Western	Dang	Dailekh, Surkhet	Humla, Kalikot
Far-Western	Kanchanpur	Achham, Doti	Bajhang
Kathmandu Valley		Bhaktapur, Lalitpur	

Once the districts in each geographical stratum were selected, all the schools in the sample districts were listed and grouped by school type and school size. Based on this grouping, the proportion of each type and size of school in the sample districts was determined. Finally, for each geographical stratum, the total sample schools were allocated across the sample districts according to the computed proportions.

The actual selection of schools in each district is the last step of the school selection procedure. This is done by listing the schools in each type and SLC class size category in the district and randomly selecting the desired number of schools from each category. The number of sample schools in each district is given in Annex 8.



### Selecting Students within Schools

According to the modified sample frame, there were a total of 16,368 regular SLC students<sup>5</sup> who appeared in the 2004 examinations from the sample schools. Hence, selecting 11,250 students from the 2004 batch meant selecting 68.7% of the SLC candidates for that year<sup>6</sup>. The number of SLC students from 2004 that should be selected from each sample school was obtained by multiplying the school's 2004 SLC class size by this percentage. The required sample size for each of the earlier two years was simply half the number computed for 2004.

The selection of individual students was done in the field itself. The sample selection process in each school began with the compilation of separate lists of SLC candidates for the three years of interest. As some of the students taking the SLC examinations were repeat or “exempted” students, the lists for the three years were first compared to eliminate double listing of students. For example, if a student who took the SLC examinations in 2002 was listed in 2003 as well, the entry in the earlier year was deleted. The student lists for 2003 and 2004 were compared and modified in a similar manner. As a last check, the modified lists for 2002 and 2004 were compared to eliminate double counting of repeat students who might have waited a year before sitting for the examinations again. And students who were listed as absent in the school's SLC roster were also removed from the lists. Before the lists were finalized, however, it was necessary

<sup>5</sup> The ideal sampling frame would have included information on not just the “regular” SLC students, but also on the number of repeat or “exempted” students. But information on “exempted” students in each school was not available in the school-level dataset provided by the OCE.

<sup>6</sup> This fraction is known as the sampling fraction or deflating factor.

to delete the names of those students with whom it would simply be impossible to meet for an interview.

Given that the vast majority of SLC candidates fail the examinations, randomly drawing a sample of students directly from the above lists could potentially result in an overrepresentation of poor performance students. Hence, the students in each of the three final lists were grouped into three categories—good, fair, and poor—according to their SLC performance, and samples were selected separately from each of these categories. The “good” and “fair” categories included students who passed in the first and second divisions, respectively. Students who either failed or passed in the third division were placed in the “poor” category. Multiplying each year’s required sample size by the proportion of total students in each category yielded the number of students that needed to be selected from each performance category for that year. Finally, the required number of students in each performance category was selected by first sorting the students within each category by their first names and proceeding down the sorted list sequentially.<sup>7</sup>

### **Selection of Teachers and Families**

As indicated in the questionnaire design section, the respondents in this survey also included families, teachers, and head teachers of the SLC candidates. Ideally, the family of each SLC candidate in the sample should be interviewed. Because of time and resource limitations, however, it was decided that the number of families in the sample would be limited to 25% of the student sample (approximately 5,625 families). The families were selected from the list of the sample students according to the proportions of sample students in the various performance categories.

The number of secondary school teachers differs widely from school to school. And since there was no information on the number of teachers in the available sample frame, it was not practical to specify, beforehand, the number of teachers that should be sampled from each school. Rather, the field researchers were instructed to interview all the secondary school teachers in each school so long as the number did not exceed twelve. If there were more than twelve teachers in the school, then the twelve teachers that were selected should represent as many subjects as possible. Using this procedure, a total of 2,406 teachers were interviewed in the survey. The number of head teachers surveyed was, naturally, equal to the number of schools in the sample.

## **4.2 Fieldwork**

Three categories of field researchers were invited to participate in the survey: field coordinators, assistant field researchers, and junior field researchers. A total of 174 field researchers (73 field coordinators and 101 assistant field researchers) were recruited in Kathmandu through this process. Another 277 junior field researchers were recruited locally by the field coordinators in the different districts. A training program was organized to thoroughly familiarize the field researchers with the study and instruments and give them all the information necessary for conducting the survey in a reliable and efficient manner. The training included sessions where

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<sup>7</sup> This is a valid random selection approach since performance, ethnicity, gender, and most other variables of interest to this research are unrelated to the first names of students. Sorting the students by last name, on the other hand, would lump students of specific ethnicities together and increase the chances of excluding certain groups.

the participants were introduced to the basics of FGDs and required to practice conducting FGDs in small groups.

Fieldwork took place in two phases. The first phase involved surveying schools in only a few districts to gather first-hand knowledge of the reality in the field. This experience enabled the team to determine whether or not it would be feasible to conduct the second phase of the survey in the remaining sample districts. Accordingly, 70 schools in eight remote and/or conflict-prone districts across the nation were surveyed between September 15, 2004 and October 14, 2004. The feedback obtained from the first phase survey was very encouraging. In spite of the tense political situation, the field researchers were able to successfully complete the survey in seven of the districts within three weeks.

### **4.3 Data Entry and Management**

The data entry task was contracted out to a professional data entry company through a competitive bidding process. A major task preceding data entry was the coding of open-ended questions. Before the questions could be coded, however, the lead researchers had to develop codes for the answers to these questions. After all the open-ended questions had been coded, the questionnaires were sent to the data entry company. The data were entered using a custom-made data entry software developed by the Team's data manager in close consultation with the SLC Study Team's lead researchers. The company's data entry team consisted of 50 entry operators, one system administrator, one database manager, and six quality control operators. Before beginning with the data entry, the SLC Study Team's data manager conducted a one-day training workshop for the entry operators to thoroughly familiarize them with the data entry software and point out potential errors they could make.

## **5. OVERVIEW OF STUDENT PERFORMANCE IN THE SAMPLE**

This section presents an overview of the SLC performance of students in our sample. Beginning with a discussion of the average performance for the entire sample, it goes on to analyze the differences in student performance across some key variables. As mentioned earlier, the survey was able to gather data on approximately 88% (19,896) of the 22,500 students in the proposed sample. But the records of 914 respondents had to be dropped because of missing student performance information—the most important variable in our study—thereby leaving only 18,982 student records in the dataset.<sup>8</sup> The discussion below deals with the performance of these 18,982 students.

### **5.1 SLC Performance of the Entire Sample**

Table 3 summarizes the SLC performance of all the students in the sample. It may be noted that that pass rate of 51% in the sample is somewhat higher than the pass rates computed using data

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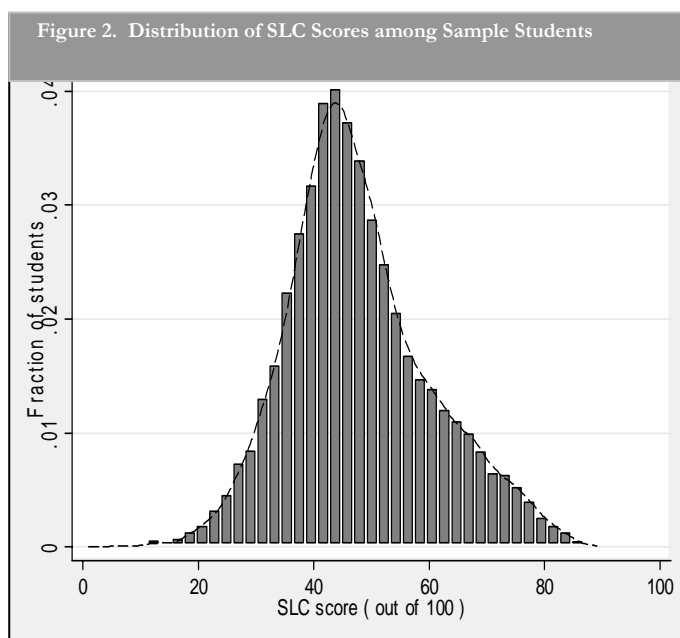
<sup>8</sup> Thus the effective response rate for the survey was 84%. It should, however, be clarified that while the dataset includes the SLC scores for 18,982 students, many of the other variables in the dataset have missing observations.

from the OCE (see Bhatta, 2004).<sup>9</sup> Hence, the student sample in this study appears to be slightly biased in favor of successful SLC candidates. But this bias should not have a significant effect on the results of the regressions in the next chapter since the multitude of explanatory variables included in the model account for most of the major factors affecting student performance.

**Table 3. SLC Results for Sample Students, 2002-2004**

	SLC Year			Total
	2002	2003	2004	
Total SLC candidates	3,553	4,696	10,733	18,982
Total SLC candidates (%)	100	100	100	100
Students who failed (%)	47.65	48.74	48.77	48.56
Students who passed (%)	52.35	51.26	51.23	51.44
Third division (%)	4.98	5.62	6.50	6.00
Second division (%)	28.45	28.13	28.29	28.28
First division (%)	18.91	17.5	16.44	17.16
Average score (out of 100)	48.30	48.09	47.65	47.88
Public school candidates (%)	76.98	77.04	80.58	79.03
Private school candidates (%)	23.02	22.96	19.42	20.97

Number of schools in sample: 432



Another interesting piece of information in Table 3 is the distribution of successful SLC students over the different pass categories. The figures indicate that among the successful candidates, only a small minority (12%) passed in the third division. Most of those who passed secured either first or second division scores. And although not shown in this table, 72% of the first division students were from private schools whereas only 5% of the third division holders were private school students. Considering that approximately 79% of the sample students are from public

schools,<sup>10</sup> the low percentage of high performing students in public schools is an alarming indication of the academic plight of the majority of Nepali youth.

<sup>9</sup> For example, the SLC pass rate computed using OCE data for 2004 is 46%. The OCE figures should be viewed as the true values since they have been computed using SLC performance data for *all* the students taking the SLC exams. The deviations of the sample pass percentages from the OCE results are probably due to the difficulties faced by the field researchers in locating students who had failed the SLC exams.

<sup>10</sup> This percentage is virtually identical to the percentage of public school students computed using OCE data (see Bhatta 2004).

Recall that study on Student Performance uses two indicators of student performance, namely, the pass/fail status of the student and the average score secured by the student in the SLC examinations. The above discussion focused only on the first indicator. The rest of the chapter will focus primarily on the second indicator—the average SLC score for the students in the sample. Table 3 shows that the average score for the sample is only 48 out of 100, a figure that cannot be considered encouraging even when we account for the fact that examiners have traditionally tended to put an implicit cap on the maximum score in some of the SLC subjects.

Although the sample's average score gives an indication of the performance of the sample students, it does not give any information about how performance varies across students. It is, therefore, instructive to look also at the distribution of SLC scores among the sample students. The frequency histogram in Figure 2 shows the fraction of students (Y axis) that falls under different score categories (X axis). It shows that a large number of students have scores between 40 and 50, and the rest of the scores are distributed almost symmetrically around this range. Clearly, there is a very small percentage of students with scores in the higher ranges.<sup>11</sup>

## 5.2 Differences in Student Performance across School Types, Genders, and Ethnic Groups

In order to gain a better understanding of how SLC performance varies across students, it is useful to categorize students into different groups, study the performances of the different groups separately, and look at the performance differences across these groups. This section discusses the differences in student performance across school types, genders, and ethnicities.

As mentioned earlier, approximately 79% of the students in the sample are from public schools. It is, therefore, likely that the results seen in earlier are dominated by the performances of public school students. Table 4 presents the average scores and pass rates for public and private schools separately.

**Table 4. Mean SLC Scores and Pass Rates by Gender and School Type**

Label	% of students	Mean score	CV of score	Pass rate (%)
Total	100.00	47.880	0.260	51.44
Public	79.03	44.156	0.221	41.74
Private	20.97	61.914	0.185	88.02
Difference (Pvt.-Pub)	-58.06	17.758*	-0.036	46.27
Critical difference		0.354		
Female	44.77	46.228	0.258	45.81
Male	55.23	49.218	0.258	56.01
Difference (M - F)	10.46	2.990*	0.000	10.20
Critical Difference		0.354		

\*Statistically significant at the 5% level.

As might be expected, the pass rate for private schools (88%) is much higher than the pass rate for public schools (42%). Similarly, the average score for private schools is 18 points higher than that for public schools and the difference in scores is statistically significant at the 5% level.<sup>12</sup> Another

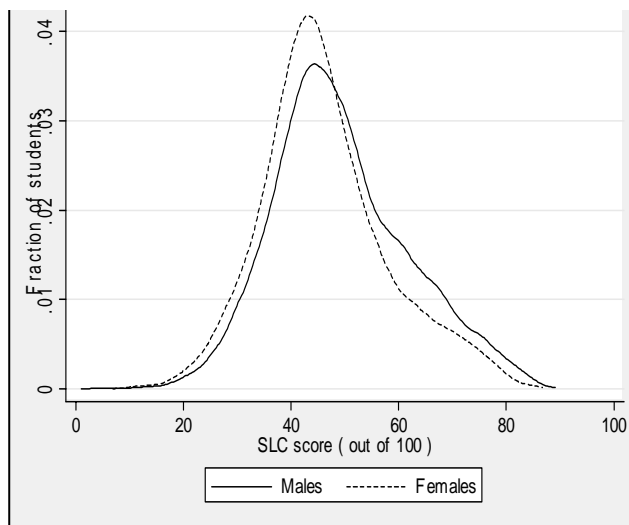
<sup>11</sup> It turns out that around 50% of the students scored between 39 and 55, and less than 1% scored over 80.

<sup>12</sup> Note that the table also presents the “critical difference” in scores. The difference in scores is considered statistically significant, if it is greater, in absolute terms, than the critical difference. If a result is statistically significant, it means that the result holds not just for the particular sample at hand, but for the population as a whole. For example, the private-public difference in scores is statistically significant since it is greater than the corresponding critical difference.

interesting observation can be made from the figures in the fourth column of the table. The coefficient of variation (CV) is an indicator of the dispersion of data points. Hence, the numerical values in the fourth column show the extent to which SLC scores vary across students. The higher CV for public schools compared to private schools, therefore, indicates that there is a greater variation in performance among public school students than among private school students.

Table 4 also presents information on the gender gap in SLC participation and performance. As shown in the table, the SLC candidates in the sample consist of 55% males and 45% females. And while 56% of the male candidates passed the SLC examinations, the pass rate for females is around ten percentage points lower at 46%. Interestingly, although the absolute difference in average SLC scores between males and females is relatively small (three points), it is statistically significant at the 5% level. Also note from the CV column that the variation in SLC scores among females is very similar to the variation among males.

Figure 3. Distribution of SLC Scores – Male vs Female Students



The distributions of SLC scores for males and females are shown in Figure 3. Although the locations of the two curves are not drastically different from each other as in the case of private versus public schools, the distribution for males is clearly to the right of the distribution for females. Again, this indicates that males generally have higher scores than females and that the percentage of males in any high score range is always higher than the percentage for females. Finally, observe that the shapes of the two distributions are very similar, providing visual evidence of the similarity in CV values between males and females.

The disparity in performance across ethnic groups is another important dimension of the existing disparities in SLC performance. Table 5 summarizes the mean SLC scores and pass rates for the six different ethnic groups. First, observe that the sample is completely dominated by Brahmins,<sup>13</sup> Chhettris, and Newars—the three socio-economically and politically dominant groups in Nepal. Brahmins and Newars, in particular, are highly over-represented in the sample, while Dalits—the most oppressed and marginalized people in the country—are highly underrepresented. For example, although Brahmins comprise only 13% of the national population (Dahal 2003), the percentage of Brahmin SLC candidates is over 34%. Similarly, the percentage of Newar SLC candidates in the sample is also more than two times their percentage in the national population, while that of Dalits is less than one-fourth their representation in the national population.

Newars are distinctly ahead of the rest of population in terms of pass rate. The second and third highest pass rates are for Brahmins and Chhettris, respectively. This is an interesting finding considering that Brahmins are generally viewed as the dominant ethnic group, especially in the

<sup>13</sup> Unless stated otherwise, the term “Brahmins” refers to Hill Brahmins only.

area of academics. And as might be expected, the socio-economically disadvantaged Dalits have the lowest pass rate. Janjatis and Others have the second and third lowest pass rates, respectively.

**Table 5. Mean SLC Scores and Pass Rates for Different Ethnic Groups**

Ethnicity	No. of Students	% of students	Mean Score	CV of Score	Pass Rate (%)
Brahman	6,509	34.29	48.331	0.234	52.44
Chhettri	3,896	20.52	47.320	0.245	49.44
Newar	2,546	13.41	54.998	0.252	70.07
Janjati	2,768	14.58	45.052	0.259	43.93
Dalit	439	2.31	43.692	0.235	39.41
Others	2,824	14.88	44.616	0.292	44.37
Total	18,982	100.00	47.880	0.260	51.44

Note: The term "Brahman" denotes Hill Brahman only.

Newars are distinctly ahead of the rest of population in terms of pass rate. The second and third highest pass rates are for Brahmans and Chhetris, respectively. This is an interesting finding considering that Brahmans are generally viewed as the dominant ethnic group, especially in the area of academics. And as might be expected, the socio-economically disadvantaged Dalits have the lowest pass rate. Janjatis and Others have the second and third lowest pass rates, respectively.

**Table 6. Pairwise Comparison of SLC Scores between Different Ethnic Groups**

(Mean Score)	(48.33)	(47.32)	(54.99)	(45.05)	(43.69)
<b>Ethnicity</b>	Brahman	Chhetri	Newar	Janjati	Dalit
(47.32)	-1.0107*				
Chhettri	0.47762				
(54.99)	6.6673*	7.678*			
Newar	0.55117	0.6009			
(45.05)	-3.2784*	-2.2677*	-9.9457*		
Janjati	0.53505	0.58614	0.64748		
(43.69)	-4.6391*	-3.6283*	-11.306*	-1.3607*	
Dalit	1.1627	1.1871	1.2185	1.2113	
(44.61)	-3.7144*	-2.7037*	-10.382*	-0.43597	0.9247
Others	0.53131	0.58273	0.6444	0.63066	1.2097

\*Statistically significant at the 5% level.

Note : In each cell, the top figure shows the difference in mean scores (row-column) and the bottom figure shows the critical difference

The average SLC scores for the different ethnic groups also exhibit the same pattern except that now the performance of Janjatis is better than that of Others.<sup>14</sup> Before discussing the differences

<sup>14</sup> The student's mother tongue is another related variable that could influence her SLC performance. Data indicate that the average score of students whose mother tongue is Nepali (48.3) is approximately 1.5 points higher than that of non-native Nepali speakers with the difference statistically significant at the 5% level.

in SLC scores among the various ethnic groups, it is worthwhile to point out that the CV of score is the lowest for Brahmins, which indicates that the scores vary the least among members of this ethnic group. Setting aside the Others group, which does not really represent a single ethnicity, the group with the largest variation in performance is the Newars. Hence, while Newars have the best scores on average, their intra-group performance variation is also the greatest. The differences in SLC scores among the different ethnic groups are presented in Table 6. The pairwise comparisons shown in the table indicate that there are statistically significant differences among all pairs of ethnic groups except for the following pairs: Dalits and Others, and Janjatis and Others. And the difference is the greatest between Newars and Dalits.

Figure 4. Distribution of SLC Scores: Hill Brahmins vs Dalits

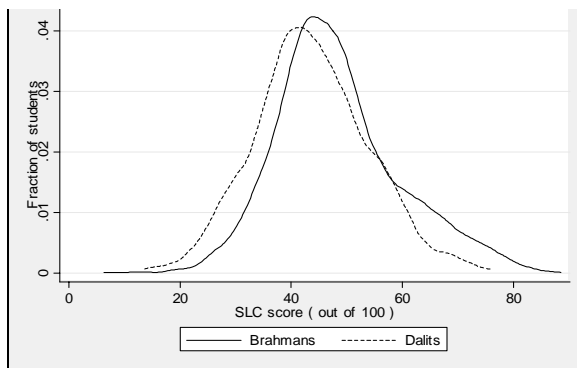
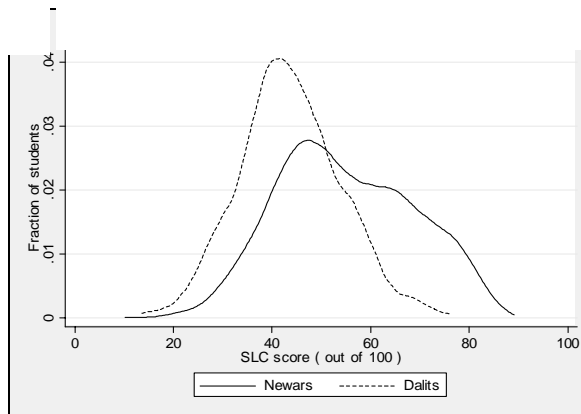


Figure 5. Distribution of SLC Scores: Newars vs Dalits



Figures 4 and 5 compare the distribution of scores for Dalits with those of Brahmins and Newars, respectively. In each case, the curve for Dalits is clearly to the left of the other ethnic group. Hence, not only is the average performance of Dalits generally lower, but the percentage of Dalit students in any high score range is always lower than the percentages for the other two groups. The graphs also indicate that the difference in the percentage of students in the higher score ranges is particularly high when Dalits are compared with Newars. Also note that the shorter and fatter shape of the distribution for Newars provides further evidence of the larger variation in performance among members of this group.

### 5.3 Differences in Student Performance across Space

Past research (Bhatta, 2004) and summary data published by OCE (OCE, 2002) indicate that there are notable differences in SLC performance across space, namely across the various ecological, development, and eco-development regions of Nepal. This section describes the performance differences across these spatial units in our sample. In addition, it also analyzes the differences in performance between district headquarters and the periphery, and between bazaar areas and elsewhere. In the discussion that follows, note that Kathmandu Valley is treated separately in recognition of its distinctly higher economic status compared to other regions.

Table 7 presents the number and performance of students across the three ecological regions plus Kathmandu Valley. As might be expected, the sparsely populated Mountain region has the smallest percentage of SLC candidates. This is followed by Kathmandu Valley, which has a disproportionately large percentage of candidates (13.4%) compared to its share of the national population (7.1%) (Pantha and Sharma, 2003). The ranking of the remaining two regions in

terms of the percentage of SLC candidates basically follows the population distribution pattern for the national population

**Table 7. Mean SLC Scores and Pass Rates for Different Ecological Regions**

Eco. Region	No. of Students	% of Students	Mean Score	CV of Score	Pass Rate (%)
Mountain	929	4.89	44.538	0.186	43.27
Hill	7,542	39.73	44.954	0.232	43.48
Tarai	7,974	42.01	47.453	0.259	50.41
Valley	2,537	13.37	59.142	0.226	81.36
Total	18,982	100	47.880	0.260	51.44

Observe that Kathmandu Valley is far ahead of the other regions in terms of pass rate. Compared to a pass rate of 81% for Kathmandu Valley, the pass rate in the next best performing region—the Tarai—is only 50%. Interestingly, there is very little difference in the pass rates between students

from the Mountain region and the Hill region. The average SLC scores for the different regions also exhibit the same ranking, with Kathmandu Valley in lead with a distinctly higher score. But as shown in Table 8, the pairwise comparison of scores across the ecological regions reveals that the difference between the Hills and the Mountains is not statistically significant at the 5% level. It must be pointed out, however, that although these two regions have similar average scores, the CV of score is much higher for the Hill region. Clearly, the disparity in SLC scores among the students within the Hill region is much greater than the disparity within the mountain region.

**Table 9. Pairwise Comparison of Mean SLC Scores between Ecological Regions**

(Mean Score)	(44.538)	(44.954)	(47.453)
Eco. Region	Mountain	Hill	Tarai
(44.954)	0.41504		
Hill	0.78836		
(47.453)	2.9145*	2.4995*	
Tarai	0.78601	0.36418	
(59.142)	14.604*	14.189*	11.689*
Valley	0.86947	0.52037	0.51681

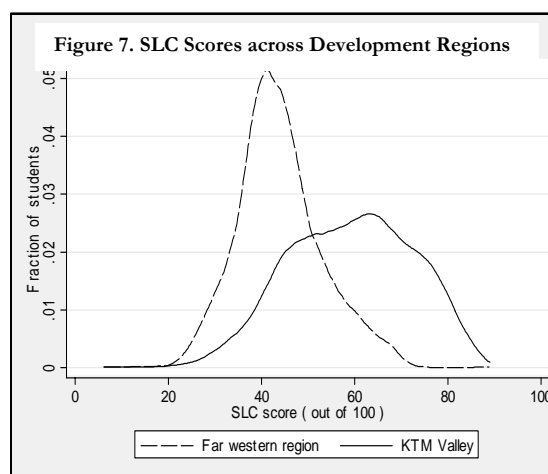
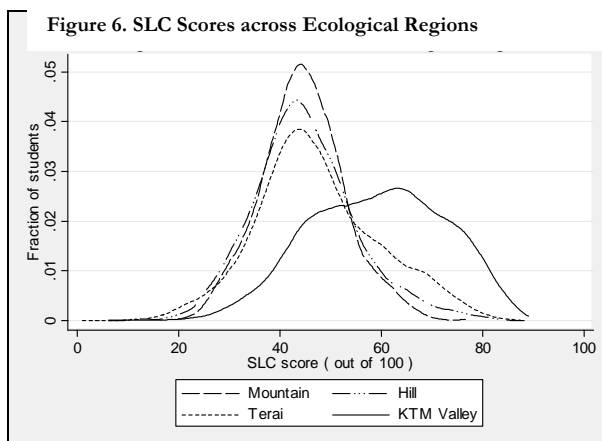
\*Statistically significant at the 5% level.

Note : In each cell, the top figure shows the difference in mean scores (row-column) and the bottom figure shows the critical difference.

Figure 6 shows the distributions of SLC scores in the three ecological regions and Kathmandu Valley. Notice that the curve for Kathmandu valley is similar in shape to the curve for Newars in Figure 7. This is not surprising considering that the majority of the Newars live in the Kathmandu Valley and constitute a major portion of the Valley's population. Furthermore, like the curve for Newars, the distribution for Kathmandu Valley is to the right of the other curves and is shorter and fatter in shape. The implications of these characteristics of the

Valley curve are the same as those discussed earlier for Newars. As for the other regions, the distributions for the Mountains, Hills, and the Tarai get progressively shorter and fatter, confirming the increasing intra-regional variation in scores shown by the CV of score.

The SLC performance of students across the five development regions is presented in Table 9. It shows that the percentage of sample students increases progressively from west to east, with the Far Western region and Eastern region having the lowest and highest number of students. Again, this pattern is consistent with the distribution of population in the nation. In terms of pass rate, the Western Region—the region with the highest per capita income in the nation (CBS, 2004), shows the best SLC performance, and the region hit hardest by the Maoist insurgency, the Mid-Western Region, shows the worst performance. Surprisingly, the Far Western Region has a higher pass rate than the economically better-off Eastern Region.



**Table 9. Mean SLC Scores and Pass Rates for Different Development Regions**

Dev. Region	No. Students	% of Students	Mean Score	CV of Score	Pass Rate (%)
Far West	1,203	6.34	43.913	0.210	43.47
Mid-West	1,436	7.57	44.828	0.251	35.17
West	4,457	23.48	48.617	0.213	54.25
Central	4,628	24.38	46.714	0.254	48.47
East	4,721	24.87	44.212	0.265	42.62
Valley	2,537	13.37	59.142	0.226	81.36
Total	18,982	100.00	47.880	0.260	51.44

Although the Western Region continues to rank at the top in terms of average SLC scores as well, the ranking of the remaining regions changes when this measure of performance is used. But the overall pattern of performance is clearer in this case—the two regions in the middle of the nation have high average scores, and the scores get progressively lower as we move further away from the middle. Furthermore, as can be seen from the pairwise comparison of scores in Table 10, the scores in the three "peripheral regions" (East, Mid-West and Far-West), are not significantly different from each other at the 5% level. But the score in each of these three regions is significantly different from the high-performing Central and Western Regions. Note that Kathmandu Valley, as usual, is a clear outlier in terms of both pass rate and average SLC score. The distributions of SLC scores in Kathmandu Valley and in the worst performing region (Far West) are presented in Figure 7. The implications of the differing shapes and locations of the two curves are again similar to the implications discussed earlier for the ecological regions.

Similarly, the SLC performances of students across the 15 eco-development regions plus Kathmandu Valley are summarized in Table 11. As this division of the nation is basically the intersection of the ecological and development regions, the distribution of sample students across the regions in Table 11 follows the patterns as shown earlier. More specifically, the percentage of sample students generally decreases from north (Mountains) to south (Terai) and from west to east.

**Table 10. Pairwise Comparisons of Mean SLC Scores between Development Regions**

(Mean score)	(43.913)	(44.828)	(48.617)	(46.714)	(44.212)
Dev. Region	Far West	Mid-West	West	Central	East
(44.828)	.91474*				
Mid-West	0.8813				
(48.617)	4.7035*	3.7888*			
West	0.7326	0.6842			
(46.714)	2.8007*	1.886*	-1.9028*		
Central	0.72972	0.68111	0.47321		
(44.212)	0.29911	-0.61563	-4.4044*	-2.5016*	
East	0.72823	0.67952	0.47092	0.46642	
(59.142)	15.229*	14.314*	10.526*	12.428*	14.93*
Valley	0.78932	0.74462	0.56078	0.55701	0.55507

\*Statistically significant at the 5% level.

Note : In each cell, the top figure shows the difference in mean scores (row-column) and the bottom figure shows the critical difference.

**Table 11. Mean SLC Scores and Pass Rates for Different Eco-Development Regions**

Eco. Development Region	No. of Students	% of Students	Mean Score	CV of Score	Pass Rate (%)
1. Far Western Mountain	269	1.42	45.868	0.182	62.45
2. Far Western Hills	437	2.30	41.666	0.200	34.32
3. Far Western Tarai	497	2.62	44.831	0.222	41.25
4. Mid-Western Mountain	113	0.60	42.352	0.167	18.58
5. Mid-Western Hills	740	3.90	41.534	0.209	25.95
6. Mid-Western Tarai	583	3.07	49.489	0.263	50.09
7. Western Mountain	32	0.17	53.320	0.145	68.75
8. Western Hills	3,187	16.79	47.317	0.211	53.00
9. Western Tarai	1,238	6.52	51.842	0.205	57.11
10. Central Mountain	363	1.91	45.157	0.177	41.05
11. Central Hills	1,869	9.85	45.827	0.243	44.57
12. Central Tarai	2,396	12.62	47.642	0.268	52.63
13. Eastern Mountain	152	0.80	40.485	0.180	27.63
14. Eastern Hills	1,309	6.90	40.983	0.244	31.70
15. Eastern Tarai	3,260	17.17	45.683	0.268	47.70
16. Kathmsndu Valley	2,537	13.37	59.142	0.226	81.36
Total	18,982	100.00	47.880	0.260	51.44

Before moving on to discuss the differences in performance across subjects, let us briefly look at how performance varies according to two other location factors—whether or not the sample school is in the district headquarters, and whether or not it has easy access to a permanent bazaar and motorable road. These community factors could have an impact on student performance, especially in the context of the ongoing conflict. Table 12 summarizes the performance of students for the different location types. First, observe that an overwhelming majority of the students (74%) live outside the district headquarters. And the pass rate of this majority is just 46%, around 10% below the 66% pass rate of the students living in the district headquarters. The average SLC scores in these two locations are also quite different. More

specifically, the average score of students from outside the district headquarters is 6.5 point lower than that of the district headquarters students. Furthermore, this difference is statistically significant at the 5% level.

**Table 12. Mean SLC Scores and Pass Rates by Location**

Location	No. of Students	% of Students	Mean Score	CV of Score	Pass Rate (%)
Total	18,982	100	47.880	0.260	51.44
Outside district headquarters	13,981	73.65	46.165	0.253	46.28
In district headquarters	5,001	26.35	52.672	0.251	65.89
Difference			6.5064*		
Critical Difference			0.39097		
Total	18,099	100	47.953	0.261	51.70
Not near bazaar & motorable road	6,299	34.8	43.769	0.220	41.48
Near bazaar & motorable road	11,800	65.2	50.187	0.265	57.15
Difference			6.4178*		
Critical Difference			0.37187		

\*Statistically significant at the 5% level.

Note : In each cell, the top figure shows the difference in mean scores (row-column) and the bottom figure shows the critical difference.

One may recall that access to a permanent bazaar and motorable road is an indicator of urban amenities available in the area. Interestingly, over 65% of the students live in areas that have these minimum urban facilities. It must, however, be emphasized that these two characteristics alone are not adequate for categorizing an area as urbanized. There is clearly a very large difference in SLC pass rates (16%) between these two types of areas. The difference in average scores is also relatively large (around 6.4 points) and statistically significant at the 5% level. These results suggest that some of the inter-eco-development region differences in scores might partly be a consequence of the differences in urban amenities across these regions.

## 5.4 Student Performance in Different Subjects

This Study on Student Performance in SLC focuses mainly on student performance in the overall SLC examinations rather than on student performance in individual subjects. But it is not possible to gain a complete understanding of the determinants of SLC performance without looking at individual subjects as well. Based on summary statistics published by OCE (2002) in the past, it would be reasonable to conclude that the performance of students in the SLC examinations varies considerably across subjects. Qualitative evidence based on discussions with students and teachers, as well as quantitative evidence based on OCE data indicate that students have historically found some subjects (Mathematics, English, and Science) more challenging than others.

The pass rates and average SLC scores for the overall SLC examinations as well as for individual subjects are presented in rows 3-5 of Table 13. Note that, as expected, the pass rates for Mathematics, English, and Science are lower than the pass rates in other subjects. Interestingly, although the pass rates in Nepali and Social studies are relatively high, the average *scores* in these subjects are in the low range.

This can most likely be explained by the grading practices in these particular subjects—while exam markers have no problems giving passing scores to deserving students, they rarely assign scores above 90 even to the best students. Note that Mathematics is at the bottom of the list in

terms of both average score and pass rate. The low score in Mathematics is particularly troubling since it is possible for students to secure close to a perfect score in this subject.

**Table 13. Mean SLC Scores for Different Subjects**

Student Group	All Subjects	Nepali	English	Math	Science	Social	HPE
All students							
Pass rate (%)	51.53	92.44	76.19	63.01	81.51	89.33	98.08
Score	47.93	44.48	45.11	37.09	49.54	43.22	62.02
CV of score	0.260	0.265	0.386	0.581	0.301	0.288	0.189
Gender							
Female							
Pass rate (%)	45.81	91.78	73.85	56.68	78.83	87.14	97.95
Score	46.23	43.93	43.57	33.46	47.53	41.64	61.11
CV of score	0.258	0.267	0.392	0.607	0.302	0.295	0.190
Male							
Pass rate (%)	56.01	92.98	78.10	68.17	83.69	91.13	98.19
Score	49.26	44.92	46.36	40.02	51.18	44.49	62.76
CV of score	0.258	0.263	0.379	0.551	0.296	0.279	0.188
School Type							
Public							
Pass rate (%)	41.74	90.97	70.71	56.15	77.81	87.03	97.66
Score	44.16	42.27	39.10	31.71	45.49	40.74	59.26
CV of score	0.221	0.257	0.327	0.571	0.272	0.281	0.180
Private							
Pass rate (%)	88.02	98.31	98.06	90.53	96.35	98.53	99.75
Score	61.91	52.75	67.70	57.30	64.78	52.54	72.38
CV of score	0.185	0.218	0.199	0.374	0.211	0.220	0.133

Another observation worth highlighting is the relatively high score in each of the three subjects with a practical component, namely English, Science, and HPE. The high scores in these subjects are most likely due to the uniformly high scores assigned to students in the practical component of the examinations in these subjects.

The coefficients of variation in the various subjects also provide interesting information on the performance of the students. As can be seen, the CV for Mathematics is distinctly higher than that in other subjects. The implication of this finding is that this subject with the lowest pass rate is also the subject with the largest variation in scores among students. Also notice that the performance varies a lot across students in the other two difficult subjects—Science and English—as well. The least variation in school performance is in HPE, followed by Nepali and Social Studies.

There are a couple of additional interesting observations that can be made from the first five rows of Table 13. The first is that while the pass rates in individual subjects are relatively high (they range from 64 % in Mathematics to 99 % in HPE), the overall SLC pass rate is much lower (52%). Most likely, this difference between pass rates in individual subjects and overall SLC pass rate is related to the fact that a student receives a failing mark in the overall SLC examinations if she fails in any single subject. In other words, the failure rate in the SLC examinations would look less alarming if there were a system of certification in individual subjects instead of in the overall SLC examinations.

The second observation is related to the average performance of students in HPE. The pass rate of 98% in this subject is distinctly higher than the pass rates in the other subjects. Furthermore, the variation in pass rates across students is the lowest in this subject, as indicated by its coefficient of variation 0.189. Also note that the average score in this subject is around 25% higher than the score in Science, the subject with the second highly scores. These figures clearly indicate that the difficulty level across subjects is not uniform suggesting a need to reexamine the course contents of the various subjects.

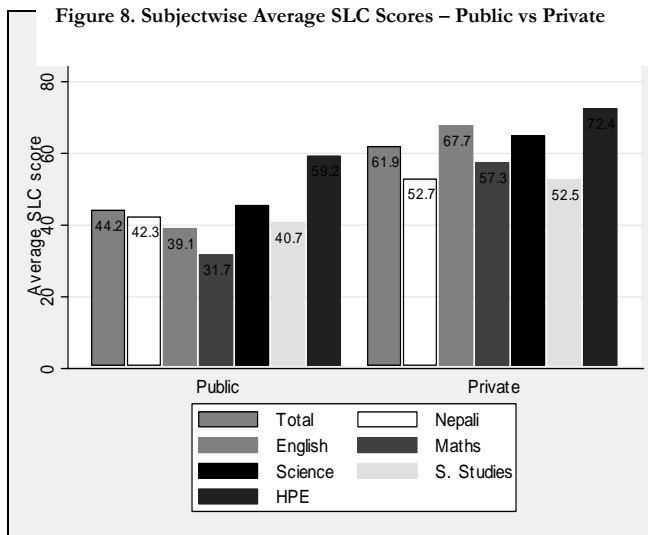
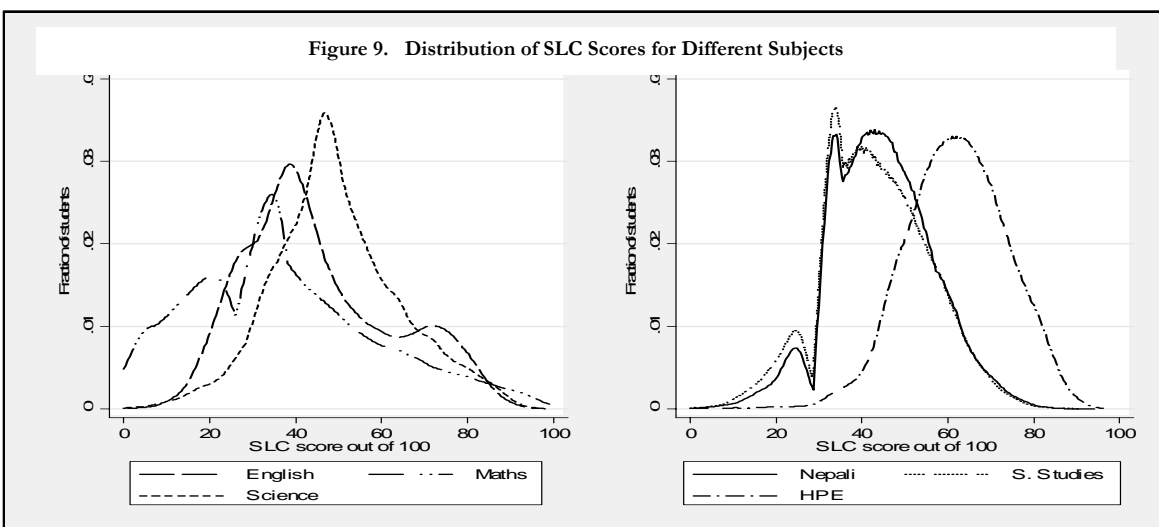


Table 13 also presents information on the subjectwise performance of males versus females and public vs. private school students. Note that the performance of females is poorer than that of males in each subject in terms of both pass rate and average score. And the gender gap in performance is especially high in Mathematics. Furthermore, the variation in scores across females is greater than the variation across males as indicated by the higher CV values for the former. The differences between private and public schools exhibit the same pattern seen for males and females. More

specifically, the performance gap between public and private schools is in favor of the latter in each subject. And again, the gap is particularly large in Mathematics. These differences in subjectwise scores between public and private schools can also be seen clearly from Figure 8.

The distributions of scores for the six subjects are shown in Figure 9. The curves in this figure are basically consistent with the information presented in Table 13. Note that the curves for English and Maths are clearly skewed to the right, indicating a concentration of student scores in the low range (high failure rate). The curve for HPE, on the other hand, is heavily skewed to the left. The relative spreads of the curves are also consistent with the CV figures in the table.



Two particularly interesting observations can be made from Figure 9. First, note that the curve for Mathematics is distinctly higher than the curves for the curves for English and Science in the highest score range (e.g., above 95), even though Maths lags far behind other subjects in terms of average score and pass rate. This observation provides some evidence in support of the argument that while a student can get up to a perfect score in Maths, there are implicit caps on the maximum scores for Science and English. Second, observe that there are dips in the curves for Maths, Nepal, and HPE in the pass score (32) range while the curves for the remaining three subjects are smooth in this range. One potential explanation for the dips in the first three subject curves is the practice of awarding grace marks to help borderline students pass the examinations. Judging from the jumps in these curves, it seems that a large percentage of the students who would otherwise have failed are awarded borderline passing marks, either at the discretion of the marker or later through the official policy of awarding grace marks. As for the remaining three subjects, each of which has a practical component, it can be argued that the practice of generally awarding high scores in the practical component (which is graded separately from the theory component) results in a smoother distribution of scores for these subjects.

The results discussed in this chapter suggest that the SLC performance of students does indeed vary significantly across school types, genders, ethnicities, and school locations. Hence, the evidence provided here supports the theoretical framework, which identifies school type, gender, ethnicity, and school location as potential determinants of student performance. The next section will further analyze the relationship between these factors and student performance, taking into account other intervening variables as well.

## **6. RELATIONSHIP BETWEEN SLC PERFORMANCE AND DETERMINANTS OF PERFORMANCE**

The primary goal of this section is to analyze the relationship between student performance and the various determinants of performance. As a first step in this analysis, we present the descriptive statistics for the performance determinants used in this study. Then—the most important section in this chapter—presents the OLS and Logistic regression results that show the relationship between aggregate SLC performance and the various factors. The approach taken here involves starting with a relatively simple regression model with only a few determinants and progressively adding different sets of determinants to ultimately construct the final and most comprehensive model.

### **6.1 Overview of the Determinants of Student Performance**

The discussion here focuses on the descriptive statistics for these variables. As might be expected from any dataset of this size, there are missing observations in many of the variables. And since the missing observations in different variables are associated with different individuals, the number of individuals that need to be dropped when performing the regression analyses increase with the number of variables included in the regressions. In other words, the descriptive statistics for these variables differ according to the regression models being used. Annex 1 presents the descriptive statistics of the determinants, but only for those individuals included in the most comprehensive regression used in this study.

The second and third columns of Annex 1 list the means and standard deviations of the various performance determinants for the whole sample. The next four columns present the same information for successful and unsuccessful SLC students separately. As school inputs and school process variables are the most interesting factors from a policy perspective, they are the first two groups listed in the table. Most of the figures in Annex 1 are self-explanatory. Furthermore, a number of variables presented here have already been discussed earlier. Hence, only some of the variables in Annex 1 will be discussed below. Figures that either need further clarifications or are particularly interesting from a policy perspective will be given special attention.

The first group of explanatory variables deals with school and teacher inputs. The data indicate that, on average, approximately Rs. 3,930 are being spent annually on each student in the sample. The majority of the sample schools, however, actually have far lower expenditures, especially in the case of public schools.<sup>15</sup> The figures for the next variable indicate that the average student-teacher ratio in secondary school is relatively low at 37 students per teacher. But observe from columns (4) and (6) that there is a substantial difference in both expenditure per student and student-teacher ratio between the samples for successful and unsuccessful students. Similar differences can be observed for most of the other variables as well, indicating that there is a correlation between these variables and performance in the SLC examinations.

Continuing with school resources, note that, on average, students have to wait a total of 20.5 days (total delay for Grades 9 and 10) after the school year has begun before receiving their full sets of textbooks. Furthermore, the average wait for the weaker students is 25 days, an 11 day extra wait compared to the stronger students. Interestingly, however, there is little difference between the two groups of students in terms of the next variable *Pukki buildings*—in both cases around 90% of the students studied in schools with Pukki secondary school buildings. So it is unlikely that this indicator of physical infrastructure has a significant impact on student performance. But there is a substantial difference between these two groups of students in terms of the adequacy of library facilities and science labs. While less than 29% of the weaker students enjoy access to a proper library, around 41% of the stronger students have adequate library facilities. The percentage of students in schools with adequate science labs is dismally low—only 13%. The percentage is even lower for the weaker students. The remaining school input variable listed in the table is *Grade 10 class size*. Considering that the average class size is 78 students, the difference in class size between the two student groups is not very large.

When it comes to teacher inputs, the figures for all the variables are quite striking. First, observe that, on average, secondary school teachers have substantial teaching experience (14.5 years). Furthermore, there is virtually no difference in teaching experience among the teachers of the two student groups. These figures indicate that lack of teaching experience is not a problem at the secondary school level and that this variable most likely cannot even partly explain the differences in performance across students. The quality of the experience, however, might be questionable. But this aspect of experience is not captured by our data. The mean for the next variable shows that approximately 58% of secondary school teachers have B. Ed. degrees. Interestingly, the percentage of B.Ed. teachers is higher for the *poor* performance student group than for the stronger students, indicating, at best, the irrelevance of this degree in effective teaching. The statistics for the teacher training variables are equally surprising—the poorly

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<sup>15</sup> The average annual expenditure per student for over 75% of the public school students is less than Rs. 3,200.

performing students appear to have faced “better” trained teachers than the other group. This apparently strange result might be partly explained by the fact that teachers in private schools—the schools with better SLC performance—are not required to have B.Ed. degrees and generally have limited access to the different training programs.

Among the school process factors, the summary statistics for the academic policy variables are particularly interesting. Observe from the *Maximum failures allowed* variable that, on average, even students who fail one to two subjects are promoted to higher Grades in secondary school. But the lower mean for the stronger student group indicates clearly that the promotion policy is more stringent in schools with more successful students. Similarly, the students with better performance in the SLC examinations are tested more often (12 times per year) than weaker students (8 times per year). The academic policy variable that stands out the most, however, is homework requirement policy. On average, only 46% of the students are from schools where regular homework assignments are given. And this figure is substantially different for the two groups of students suggesting that homework policy might be playing an important role in the students' learning process.

As for the other school process variables, it might be pointed out that there is very little difference between the two groups of students in the mean for the variable *Head teacher effectiveness*, suggesting an absence of a relationship between this variable and student performance. The average score of around 2.8 (on a scale of 1 to 4) coupled with the very small standard deviation for this variable indicates a relatively uniform tendency among respondents to rate the head teacher favorably. Interestingly, the teachers for around 33% of the students report that they use an interactive teaching approach in the classroom. And this percentage is higher for the better students. Similarly, the average teaching load faced by teachers and the average number of weeks of instruction reported by schools are also slightly higher for these students. But note that the average teaching load for the whole sample is only 3.45 hours per day suggesting that most teachers are not overburdened with teaching load.

One of the issues raised by secondary school teachers is that the current SLC course is too vast to be properly covered in the 9<sup>th</sup> and 10<sup>th</sup> Grades. This claim is supported to some extent by the data which indicate that, on average, only 93% of the course is completed by schools before the SLC examinations. And the course completion rate is lower for the weaker student group.

Among the student characteristics variables, the performance differences among students from different ethnic groups and between the sexes have already been discussed in earlier section. Now let us look at three student characteristics dealing with the study habits of the student. The first is the percentage of school days missed in Grade 10. Observe that there is a noticeable difference in the means for this variable between the stronger and weaker students, with the latter missing around 7.6% of the school days compared to 5.7% in the case of the former. The second is the average number of hours spent by the student on her studies during the six months preceding the SLC examinations. The mean for this variable is relatively large—around 5.2 hours per day. And as expected, the figure is larger for the stronger students. The mean for the third variable in this category, *Read magazines regularly*, indicates that only around 19% of the weaker students read magazines and newspapers regularly compared to 31% for the stronger students. There is also a substantial difference between the two student groups in terms of their academic ambition. While around 50% of the stronger students expect such a master's or higher degree, only 33% of the weaker students have such expectation.

Observe that there are noticeable differences between the two student groups in terms of the variables dealing with the students' situation during the examinations as well. And all of these differences are in the expected direction. For example, while 29% of the weaker students had to prepare their own food during the exam period, only 15% of the stronger students had to do so. Similarly, around 17% of the weaker students report being sick during this period compared to just 13% among the stronger students.

All of the family input variables also have mean values that differ between the two student groups in the expected direction. In particular, note that there is a Rs. 12,000 difference in annual family expenditure between the weaker and stronger students. Similarly the mean wealth for the stronger student group is higher by around Rs. 690,000 compared to that for the weaker group. These figures suggest that a family's economic background is indeed an important determinant of performance. The number of SLC graduates in the family and the number of books at home are also higher for the better students. Finally, observe that the amount of time students have to spend on household chores daily is only 1.8 hours. But the weaker students report spending almost 40% more time on household chores than the stronger students.

The next set of variables in Annex 1 represents the national, community, and school contexts. Focusing on the school-related context variables, first observe that the average school size is 731 students and that it is larger for the weaker student group. The second interesting observation is the difference in the mean for the variable *No. supervision visits* between the two student groups. While the average number of school supervision visits per year by various Government officials is 10.2 for the weaker student group, the comparable figure for the other student group is only 9.7. But the lower number of visits for the stronger student group might actually be related to the fact that many of the better students are from private schools—schools where such visits seldom take place. The number of PTA meetings, however, is larger for the latter student group although, on average, there are only around 2 such meetings per year in both cases. The differences in the other context variables between the successful and unsuccessful student groups are also in the expected direction. For example, compared to the unsuccessful student group, the successful group has a higher HDI, suggesting that the community's socio-economic status has a positive influence on student performance. The figures for the other community context variables indicate that successful students come from more urbanized and centrally located areas.

The discussions about student performance in the previous section and about the various determinants in this one suggest that the factors listed in Annex 1 might indeed be related to student performance. It should be noted, however, that the observed relationships between the factors and student performance in these discussions are based on analyses that look at one factor at a time. Such an approach to analyzing the relationship between each factor and performance fails to account for the influence of other factors that might also be related to performance. Hence, it is not possible to draw conclusions regarding the existence of relationships between performance and the various determinants based on Annex 1 alone. One efficient way of controlling for the influence of other intervening factors while analyzing the relationship between any single factor and student performance is using a multiple regression model. The following two sections use multiple regression techniques to analyze the relationship between performance and the various factors.

## 6.2 Relationship between Aggregate SLC Performance and Various Performance Determinants

### OLS Regression Results for Aggregate SLC Performance

Annex 2 presents the Ordinary Least Squares regression estimates. A number of alternative specifications of the model are presented in the table so that readers may judge the robustness of the conclusions reached. The average SLC score (out of 100) of the student is the dependent variable in all regressions shown in the table. If an explanatory variable has a statistically significant association with student performance, then the estimated coefficient for that variable is marked with one, two, or three asterisks depending on the significance level.<sup>16</sup> The associated p-value<sup>17</sup> is given in parentheses next to the coefficient. The standard errors used in the computations of the p-values have not only been corrected for heteroscedasticity, but they also take into account the stratification and clustering used in the sample design. Note that the sign and magnitude of the coefficient associated with any explanatory variable indicate the direction and strength of the variable's relationship with student performance.

#### ***Basic Model: Relationship between School Inputs and Student Performance***

Model (1) in Annex 2 is the most parsimonious specification and includes only school input factors as explanatory variables. The most important implication of the results from this regression is that school inputs do matter! In particular, observe that the coefficient on the log of expenditure per student is positive and statistically significant at the 1% level, which indicates that increasing the expenditure per student has a positive impact on student performance. More specifically, the coefficient value of 2.68 says that, on average, a one hundred percent increase in expenditure per student is associated with a 2.68 point increase in SLC score, assuming there are no changes in the other school inputs. Similarly, the table also shows that student-teacher ratio has a statistically significant (at the 5% level) negative relationship with student performance. Hence, there is a possibility that increasing the number of teachers can have a positive impact on student performance.

The other variables that are statistically significant either at the 5% or 1% level are delay in textbook delivery, existence of an adequate library, and percentage of teachers who have taken the 10-month SEDU training. As expected, delay in textbook delivery is associated with lower score in the SLC examinations, while an adequate library appears to help raise the score. Recall that, on average, students have to wait for 20 days (combined wait in Grades 9 and 10) before they have access to the full set of textbooks. Hence, the negative impact of the delay in textbook delivery is a serious problem. Similarly, since only 40% of the students find their libraries adequate, the lack of proper library facilities is negatively affecting the majority of students. But perhaps the most interesting policy-related result is the negative relationship between performance and the percentage of teachers who have taken the 10-month SEDU training. One explanation for this negative association might be the absence of teachers in the school while the

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<sup>16</sup> The significance level is an indicator of the confidence we have in the observed result—the smaller the significance level, the more confident we can be that the observed result is not just due to pure chance. For example, if a coefficient is statistically significant at the 5% level, it means that there is less than 5% chance that the result we observed is due to pure luck. In other words, we can be at least “95% confident” that there is indeed a relationship between the associated explanatory variable and the dependent variable.

<sup>17</sup> A coefficient is significant at the X% level if its p value is smaller than X. For example, the pvalue of a coefficient must be smaller than .05 for the coefficient to be significant at the 5% level.

teachers are on training. Another potential explanation for the insignificant or negative impact of training might be the failure of teachers to effectively apply the skills gained from the training to the classroom. Although not statistically significant, observe that the coefficient on the average number of days teachers spend on short-term training is also negative. Again, the explanation for this counter-intuitive result might lie in the loss of teaching days associated with training and in the ability of teachers to translate knowledge into practice.

There are two other factors that have a statistically significant, albeit weak, relationship with student performance: “pukki” buildings in secondary school and the existence of an adequate science lab. A school’s physical facilities generally do not seem to have a significant association with student performance in the literature. Perhaps the result observed here can be attributed to the fact that the 10% of schools that do not have “pukki” buildings are also the most disadvantaged schools in other aspects. So we should expect the relationship between building type and performance to be insignificant when we account for other factors as well.

The results of this first regression are interesting not only for the significant relationships they show but also for the relationships they don’t show. In particular, note that the class size in Grade 10 does not seem to matter—a result that is consistent with the evidence found in the international literature. Similarly teacher turnover, average teaching experience of the teachers and the fraction of teachers with B.Ed. degrees also do not have statistically significant associations with performance. Note that the model also includes the squared teaching experience as an explanatory variable to account for potential non-linear relationships between experience and performance. But the coefficient on the squared term is also insignificant. The insignificance of the B.Ed. degree indicated in this regression raises questions about the quality and relevance of the training being delivered to future teachers by the Faculty of Education at the university level in Nepal. And the insignificance of teacher turnover suggests that the lack of continuity suffered by students as a result of teacher turnover is perhaps not very important.

The regression results discussed above have given some interesting insights into the relationship between school inputs and student performance. But they have to be viewed with caution since the model does not control for other important factors that could affect student performance. Furthermore, observe that the adjusted- $R^2$  of the model is only 0.168 indicating that the variations in school inputs can explain, at most, only 16.8% of the variation in student performance. But if the statistically significant coefficients in Model (1) continue to remain significant even when other variables are included in the regression, then our confidence in the observed relationships would be much stronger.

### ***Refining the Model: Adding School Process Variables***

The regression in Model (2) is a refined version of Model (1). Apart from the variables in Model (1), this new model also includes a set of school process factors among the explanatory variables. Note that now the absolute values of the significant coefficients of all the variables from Model (1) are smaller than before. This is to be expected since the school process variables can now explain some of the performance differences across students that were earlier being picked up by the school input variables alone. Also observe that the addition of school process factors has greatly increased the explanatory power of the regression as indicated by the substantially higher adjusted- $R^2$  of Model (2).

Looking at individual variables, the coefficient on the log of expenditure per student and the delay in textbook delivery are again statistically significant at the 5% level, indicating that these variables are significantly associated with student performance even when school process factors

are taken into account. But the variables representing building type, library facilities, and science lab facilities no longer show a significant relationship with performance. Also note that the coefficient on student-teacher ratio is now significant only at the 10% level. The coefficients on the variables dealing with teacher training are also significant only at the 10% level.

Among the school process variables, note that the only school-level variable—head teacher effectiveness—is not significantly related to performance. Most of the other school process variables in this regression, however, do have a statistically significant relationship with performance in the expected direction. For example, the results indicate that, on average, an increase in the annual weeks of instruction by one week is accompanied by a 0.21 point increase in SLC score, assuming the other factors in the regression are unchanged. As for school academic policies, the greater the number of subject failures allowed for class promotion, the poorer the performance in SLC examinations. On the other hand, requiring students to do home assignments regularly and testing them frequently seems to help their performance. More specifically, there is a 1.8 point difference in score between students required to do homework assignments regularly and students not required to do so.

It is interesting to note that the regression shows a positive and statistically significant association between interactive teaching style and SLC scores, a finding that supports modern teaching approaches. It may be recalled that only around 33% of the SLC students are exposed to this teaching style. The coefficient on average teaching load, on the other hand, is statistically insignificant. And as might be expected, the SLC course completion rate has a positive and significant relationship with performance. Recall that the average course completion rate is only 93%. And it turns out that only around 30% of the schools (most of which are private schools) are able to complete the whole course before the SLC examinations. Hence, an overwhelming majority of SLC students have been suffering from the inability of their schools to complete the course in time.

Note that the regression also includes two “interaction” variables: the product of instruction time and class size, and the product of course completion rate and family expenditure. The interaction term between instruction time and class size is included here since there is some evidence in the literature that the effect of additional instruction time is smaller when classes are small than when they are large (Coates, 2003). But although the coefficient for this variable has the expected negative sign, it is statistically insignificant. The second interaction variable basically tests the hypothesis that the negative impact of low course completion rate is greater on students from economically worse off families since they are less able to afford academic assistance at home. And, indeed, the negative sign on this statistically significant coefficient indicates that the effect of improved course completion rate is smaller when family expenditure is larger.

The last set of explanatory variables in this regression represents the highest degree expected by the student at the time she was taking the SLC examinations. As mentioned earlier, it reflects the student’s attitude towards academics and is the sole indicator of student-level school process in our model. The positive and significant coefficients indicate that, on average, a student who ultimately expects to get a Bachelors, Masters, or higher degree has a better performance than a student who expects to get an SLC degree only. In particular, the average score of students expecting a Masters or higher degree is around 6.3 points higher than students who do not have ambitions beyond SLC. And judging from the progressively smaller coefficients on Bachelors and Intermediate degrees, it would be reasonable to say that the influence of academic ambition increases with the height of the ambition. Interestingly, the coefficient on “No idea” is statistically significant and second only to the coefficient on Masters degree in terms of

magnitude. The reason for this is most likely due to the fact that since around 35% of the students in this category are from private schools, they are likely to perform well on average. In contrast, among the students choosing Intermediate/+2 as their ultimate goal, only 10% are from private schools. Similarly only 12% of the students whose ultimate goal is to get a Bachelors degree are private school students.

### ***Refining the Model: Adding Student Input Variables***

Model (2), while comprehensive in its treatment of school factors, does not take into account the influence of student and family-related variables on student performance. Regression results upon adding student factors among the explanatory variables are given by Model (3). Again, the adjusted- $R^2$  value shows that there is a substantial increase in the explanatory power of the regression in moving from Model (2) to Model (3). In terms of the statistical significance of school input and process variables, there is a remarkable consistency between Models (2) and (3). Except for the variables dealing with teacher training, the coefficients of all other variables that were significant in Model (2) remain significant in Model (3) as well.

The main difference between the results of the two models is that now the library variable and average teaching load of teachers are statistically significant at the 10% level. Recall that the existence of an adequate library had a significant association with student performance in Model (1) as well. While the observed positive relationship between average teaching load and student performance looks counter-intuitive at first glance, the explanation may lie in the limited number of hours teachers are required to teach on average. Although teachers are overloaded with teaching responsibilities in some schools, the average teaching load in our national sample is only 3.45 hours a day. Furthermore, the data show over 75% of the teachers teaching for less than 3.75 hours each day. In other words, the vast majority of the teachers are not overloaded with teaching responsibilities. Hence, it appears that, on average, an increase in the teaching load can help increase the instruction-time without hurting teaching quality, thereby creating a better learning environment for the students.

Most of the student input variables in Model (3) show a statistically significant relationship with student performance. The negative coefficient on student age indicates that, on average, older students perform poorly compared to younger students. This might partly be due to of the relatively old school-going population in rural and remote areas. The positive and significant coefficient of 1.8 on sex indicates that, on average, the performance of males is 1.8 points higher than that of females even after accounting for the various school factors and other student characteristics included in the regression. This result suggests that the explanation behind the poorer performance of girls may lie elsewhere, as for example, in the cultural practices of the family that put girls at a disadvantage. The relative performance of girls will be discussed further later in the chapter.

The next student characteristic included in this model is the ethnicity of the student. It is represented by five dummy variables which allow us to compare the performance of each of these five ethnic groups with that of Brahmins and provide potential explanations for the inter-ethnic differences in performance. Observe that the coefficient on Chhetris is not statistically significant, indicating that the difference in SLC performance between Brahmins and Chhetris is not significant once the school factors and other student characteristics are taken into account. The performance for Newars, on the other hand, is significantly better than that of Brahmins, albeit only at the 10% significance level.

Interestingly, note that the coefficient on Dalits is statistically insignificant in regressions (3) through (6), even though the results in an earlier section clearly show Dalits lagging behind all the other ethnic groups not only in terms of enrollment but also in terms of SLC scores. This finding suggests that while the socio-economic disadvantages (including overt discrimination) faced by Dalits are most likely contributing to their disturbingly low enrollment rate in secondary school, such disadvantages do not have a significant impact on the Dalits taking the SLC examinations. In fact, their poor performance in SLC examinations can be largely explained by the different school- and student-related variables included in Model (3). Although it is not clear why ethnicity itself is not a significant determinant of performance in the case of Dalits, one explanation might be that the few Dalits who make it to the SLC examinations are a self-motivated select crowd that has learned to deal with the mainstream society's discriminatory behavior against them.

Another interesting finding regarding ethnicity is the significant negative association between Janjatis and performance. The results indicate that, on average, the SLC score of a Janjati student is 1.3 points lower than that of a Brahman student, even after controlling for the other variables in the regression. Clearly, school and student factors alone do not explain why the performance of Janjatis is poorer. Also note that, on average, the performance of the "Others" group is also below that of Brahmans. But since the "Others" group includes all ethnicities not included in the other five groups, the observed difference does not give us any valuable insights into the inter-ethnic performance disparities in the nation. Note that since ethnicity accounts for differences in mother tongue as well, the coefficient on the variable *Language* is statistically insignificant.

The following six variables in the model deal with the student's study habits, educational background, and peer influence. Interestingly, all six variables have a statistically significant relationship with student performance. As might be expected, the greater the number of school-days missed, the poorer the performance. On the other hand, there is a positive relationship between SLC score and the number of hours spent studying each day. More specifically, a one hundred percent increase in the number of study hours is associated with a .475 point increase in SLC score. One implication of this finding is that while more hours of studying positively influences test scores, the impact of an increase in the number of hours a student spends studying diminishes as she spends more and more time on her studies. Another interesting finding is that a student who reads magazines and newspapers regularly has a higher score than a student who does not do so. As the variable *Read magazines regularly* is an indicator of reading habit, the above finding highlights the importance of reading habit in the learning process. Peer influence also seems to play an important role in determining a student's SLC performance as indicated by the statistically significant coefficient on *No. of friends passing SLC*.

At first glance, we would expect that the next variable, which shows the total number of months spent on private tuition and coaching in Grades 9 and 10, to have a positive association with student performance. But since weaker students tend to invest more time on private tuition and coaching classes, it is not surprising that the coefficient on this variable is negative. Furthermore, as coaching/tuition classes are often built into the teaching schedule of private schools and are not always identified as tuition/coaching classes, the collected data tend to understate the time spent on tuition and coaching for private school students compared to public school students. This too could be an explanation behind the negative association behind tuition/coaching classes and student performance. The next variable, *No. of Grade repetitions*, is negatively associated with performance. This finding is consistent with the findings in the international literature as well.

The variables dealing with the student's personal situation during the examinations too have a statistically significant relationship with student performance. A student who is able to commute daily to the exam center from her own home should have an advantage over students who live farther away. And, as expected, the coefficient on the variable *Commuted daily* is indeed positive. On the other hand, a student who has to spend time preparing her own food during the exam period has a lower score compared to other students. According to the survey data, over 76% of the students who have to prepare their own meals during the exam period come from homes that too far from the exam center to enable them to commute daily. Hence, it is clear that the current practice of conducting the SLC examinations in a limited number of exam centers is placing many students from rural areas at a severe disadvantage. Finally, observe that the health status of the student and the language she uses for writing the examinations are also significantly related to her performance. The negative coefficient on the variable *Sick* shows that the SLC score of a student who is sick during the examinations is lower than that of other students. And writing the examinations in Nepali (rather than in English) seems to have a negative impact on SLC scores. This result is consistent with the opinions of students, teachers, and SLC test examiners reported earlier.

### ***Refining the Model: Adding Family Input Variables***

Model (4) extends Model (3) by adding family input variables among the explanatory variables. Notice that there is only a small increase in the adjusted- $R^2$  of the regression as a result of this addition. The regression results obtained in this case are highly consistent with those from Model (3)—all the coefficients that were statistically significant in Model (3) continue to remain significant in Model (4) except for the coefficient on the interaction between course completion and family expenditure. In other words, most of the school and student factors that had statistically significant relationships with student performance in the previous model have statistically significant coefficients in this model as well.

Altogether, six out of the eight family input variables included in this regression have statistically significant relationships with student performance. Contrary to expectations, however, the distance of the school from the student's home and the student's living arrangements (whether she is living with both parents or not) do not seem to be related to performance. But the coefficient on the remaining family demographics variable, *Family size*, is significant. Its value of  $-.245$  indicates that a unit increase in family size is associated with a  $.245$  point decrease in SLC score.

Recall from our earlier discussion that students from families with stronger economic backgrounds can be expected to perform better in SLC examinations. The coefficients on both indicators of economic status—*Family's annual expenditure* and *Family's wealth*—are positive and significant as expected. Note that both variables are expressed in log form to account for their potential non-linear relationships with student performance. So the annual expenditure coefficient of  $.414$ , for example, says that each 100% percent increase in annual family expenditure is accompanied by a  $.414$  point increase in SLC score. As a 100% increase in expenditure for a poor family amounts to a much smaller sum than a 100% increase in expenditure for a rich family, the above coefficient value indicates a diminishing marginal effect of expenditure on student performance. The same is true for the relationship between wealth and student performance.

The next two variables deal with family's educational background and academic environment at home. Again, it may be recalled that the number of SLC graduates in the family is an indicator of the aggregate educational achievement of the family. And as expected, the regression results

clearly show that this variable is positively and significantly related to student performance. Similarly the number of books at home is an indicator of the academic environment in the family. The positive and significant coefficient on this variable suggests that academic environment at home also plays a role in determining the SLC scores of students. The last variable, *Hours spent on household chores*, is negative and statistically significant indicating that those students who have to spend more time on household chores have lower scores. It is worth emphasizing that, on average, girls in our sample spend around 2 hours on household work each day compared to just 1.6 hours in the case of boys. Hence, it is clear that the lower performance of girls can be partly explained by cultural practices that place the burden of household work primarily on the females.

### ***Refining the Model: Adding Context Variables***

Model (5) is the final and most comprehensive specification used in this analysis. Observe that the inclusion of context variables has raised the adjusted- $R^2$  from .475 to .531, thus increasing the explanatory power of the regression to 53.1%.<sup>18</sup> A total of 15 context variables representing all three nested boxes in the theoretical framework are included in this model.

The school and teacher input variables that continue to show a statistically significant relationship with student performance in this regression are expenditure per student and delay in textbook delivery. Among the school process variables, only homework assignment policy, average teaching load, and the highest degree expected by the student are significant. The variables representing time on task and other academic policies no longer exhibit a statistically significant relationship with performance. Interestingly, like in Models (1) and (2), the coefficient on the average number of days teachers spend on short-term training is again statistically significant and negative. Altogether six of the variables that were significant in Model (4) become insignificant in Model (5). As for the student input variables, all the variables that were significant in Model (4) are also significant in Model (5), except for two variables dealing with the student's situation during the examinations: *Commuted Daily* and *Sick*. And apart from the variable representing the family's wealth, all other previously significant family input variables are significant in Model (5) and as well.

It can be inferred from the increased adjusted- $R^2$  and the relatively large number of changes in the significance of variables when moving from Model (4) to Model (5) that the context variables play an important role in determining the performance of students. The proxy for national context used here is the SLC batch of the student, which is represented by two variables: *SLC Year 2003* and *SLC Year 2004*. The positive and statistically significant coefficient for *SLC Year 2004* indicates that, on average, the candidates taking the SLC examinations that year had higher scores than students from the 2002 batch.

Among the community context variables, the human development index has a positive and statistically significant association with student performance, as expected. In other words, the socio-economic conditions of the community constitute a significant determinant of student performance. More specifically, an increase of 0.1 in HDI value is associated with a two-point increase in student SLC score. Recall that a straightforward comparison of performance between

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<sup>18</sup> It should be pointed out that an adjusted- $R^2$  value of .51 is relatively high in comparison to many student-level regressions in the literature. The adjusted- $R^2$  in Wossman (2000), for example, range from .18 to .22 only. Similarly, the regressions analyzing the achievement level of grade 5 students in EDSC (1999) have adjusted- $R^2$  values in the range 0.20 to 0.33.

students from district headquarters and elsewhere reveals a statistically significant difference in favor of district headquarters. But as can be seen from the results in Model (5), this difference becomes insignificant once we account for the other determinants of performance. The same is true for the difference in average SLC scores between locations that have a bazaar plus easy access to motorable roads and other less accessible locations. The coefficient on the remaining community context variable—number of private schools in the vicinity—too is not statistically significant.

Moving on to the school context, observe that both learning environment variables—*Quite Neighborhood* and *School Size*—included in the model have a positive and statistically significant relationship with performance. While the explanation behind the better performance of students from schools located in a quiet neighborhood is straightforward, the positive coefficient on school size needs more explaining. Within the Nepali context, larger schools are typically more secure financially and have a greater political clout that enables them to draw upon both private and Government resources more easily. Furthermore, most of the bigger schools are located in bazaar areas that have easy access to motorable roads,<sup>19</sup> giving them greater access to resources. Hence, it is reasonable that the average SLC scores of larger schools should be larger.

Among the school governance structure variables, the number of supervision visits by different officials and the number of PTA meetings per year do not seem to have an effect on student performance. The insignificance of the coefficient on supervision visits in Model (5) raises questions about the way such visits are conducted currently.<sup>20</sup> Serious thought needs to go into making supervision visits more relevant. Similar questions can be raised regarding how PTA meetings might be made more worthwhile.

The other school governance indicator in the regression is school type, represented by two variables: *Public, not fully funded school*, and *Private school*. The coefficients on these two variables allow us to compare the performance of these two types of schools with that of fully Government-funded public schools. The statistically insignificant coefficient on *Public, not fully funded school* indicates that, on average, the difference in performance between students from fully funded public schools and this type of public school is not significant. The average score of private school students, on the other hand, is 8.42 points higher than that of fully funded public schools on average. In other words, these results suggest that the better performance of private schools cannot be fully explained by the differences in the various factors (school, teacher, and student input factors; school process factors; and context variable) included in the model. Hence, there must be some other unique characteristics associated with private schools that enable them to educate their children better. Most likely, these characteristics are school process variables that were not properly captured by the relatively crude indicators of school processes used in our model.

The next set of school context variables in the model deals with the socio-economic characteristics of the student body. More specifically, they show the percentages of four types of disadvantaged students in the school. Hence, we would expect each of these four variables to have a negative relationship with student performance. Interestingly, however, the coefficients

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<sup>19</sup> While the average school size in locations with bazaars and easy accesses to motorable roads is 849 students, the average size of schools located in other less accessible areas is only 572 students.

<sup>20</sup> It might be pointed out that the correlation coefficient between student performance and the number of supervision visits is actually negative (-.021) and statistically significant at the 1% level. As shown in Model (5), however, the significance of this association disappears when other factors are taken into account.

on *Dalits/Janjatis*, *Non-Nepali Speakers*, and *Extremely Poor* are statistically insignificant. But the coefficient on *Girls* is negative and significant as expected, indicating that, on average, a student from a school with a higher percentage of girls has a lower score than students from a school with a lower percentage of girls.

The last context variable 2, *Exam room adequacy*, is a composite index representing the adequacy of the exam room in terms of furniture, light ventilation, space, quietness, and drinking water availability. As might be expected, this variable has a positive and statistically significant relationship with student performance, indicating that students taking the examinations in rooms with inadequate basic facilities are at a disadvantage compared to other students. In addition to these context variables, Model (5) also includes 15 dummy variables representing the 16 eco-development regions. The purpose of this set of dummy variables is mainly to control for inter-regional differences in SLC performance.

### ***Refining the Model: Adding Indicator of Prior Knowledge Base***

As discussed earlier, a student's prior knowledge base is also an important potential determinant of performance. Model (6) attempts to take this factor also into account by including the student's performance in Grade 9 among the explanatory variables. It should be pointed out, however, that Grade 9 scores of students are based on tests designed, administered, and graded by their individual schools. Hence, these scores are actually not comparable across students from different schools. In other words, the Grade 9 score is only a crude indicator of a student's prior knowledge base. Furthermore, as the survey was able to gather Grade 9 performance data from only 25 of the 28 sample districts for just 5,250 students, the Model (6) results are most likely highly biased and valid only for the sample at hand. As a consequence, this study views Model (5) instead of Model (6) as the final model even though the latter is, in theory, more comprehensive in its inclusion of determinants of performance.<sup>21</sup>

The Model (6) results are largely consistent with those for Model (5). The determinants that have statistically significant relationships with performance in both models are listed in Table 14. Among the school input variables, expenditure per student and delay in textbook delivery continue to have a statistically significant relationship with performance. The average number of days teachers spend on short-term training, however, is no longer significant. As for the school process variables, only one classroom-level variable is significant, namely the highest degree expected by the student. As before, a student who plans to get at least a Masters degree has a higher score than students with lower academic ambitions. The teaching style and average teaching load of teachers do not have significant relationships with performance in this regression.

A large number of student input variables continue to show a statistically significant relationship with performance in Model (6). For example, *Sex* and *Janjati* are again significant, as are *School days missed*, *No. of friends passing SLC*, and *No. of Grade repetitions*. And as might be expected, the student's *Grade 9 score* has a positive and statistically significant relationship with performance. But surprisingly, the variables dealing with study habits and tuition/coaching classes are no longer significant, perhaps because of their strong correlations with Grade 9 scores. Among the

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<sup>21</sup> Observe from the increase in the adjusted- $R^2$  that the inclusion of grade 9 results in the model substantially increases the explanatory power of the regression. But as mentioned above, the results cannot be generalized to the larger population of SLC students since they are based on a biased sample.

indicators for the student's situation during the exam, only *Prepared own food* continues to have a significant relationship with performance.

**Table 14. Factors with Statistically Significant Coefficients in Model (5) and Model (6)**

School input/process	Student	Family	Context
Spending per student (+)	Age (-)	Family size (-)	Exam room adequacy (+)
Delay in textbook delivery (-)	Ethnicity (- for Janjatis)	Hours spent on household chores (-)	School size (+)
Highest degree expected (+)	Sex (+ for males)	No. of SLC graduates in family (+)	School type (Pvt. school) (+)
	School days missed (-)		
	No. of Grade repetitions (-)		
	No. of friends passing SLC (+)		
	Prepared own food during exam (-)		

Note: + denotes positive and – denotes negative relationship with student performance

*Family size*, *No. of SLC graduates in the family*, and *Hours spent on household chores* are the family factors that remain significant. And of course, the family's economic status also has a significant role with performance, although now it is *Family's wealth* rather than *Family's annual expenditure* that makes a difference. Among the context variables, observe that now the number of private schools in the vicinity has a statistically significant negative effect on performance. This points to the possibility that the benefits private schools bring from the competition they provide are perhaps overwhelmed by their tendency to divert family resources away from public schools where the majority of the students study. The other context variables with statistically significant coefficients are *School size*, *Private school*, and *Exam room adequacy*. Interestingly, the percentage of non-Nepali speakers among the student body now has a negative and statistically significant relationship with performance.

### ***Relative Importance of the Different Factors and Policy Implications***

Before proceeding to discuss the regressions using pass/fail status as the measure of student performance, let us briefly take a second look at Model (5)—the final and most important model for this study. Observe that apart from the regression coefficients associated with each variable, the results also include the corresponding standardized coefficients. Recall from the discussion in Chapter 2 that the standardized coefficients in a regression can be compared with each other to give an indication of the relative importance of the different explanatory variables. Such comparisons can be especially important from a policy perspective. Annex 3 ranks the statistically significant variables from Model (5) according to the magnitude of the standardized coefficients and indicates whether or not they can be manipulated through policy intervention.

The school context variables school type (Private school) and school size have the strongest effect on student performance. The implications of the statistical significance of Private school have already been discussed in the earlier subsection. The next eight variables in the ranked list contain two other context variables as well, namely, the district HDI and the year the student took the SLC examinations (SLC year 2004). Hence, context variables are clearly very important

determinants of student performance. Following school type and school size are two student-related variables representing peer influence (Number of friends passing SLC) and past academic performance (No. of Grade repetitions), respectively. Two other student variables, Sex and Ethnicity (Janjati), also make it to the top-ten list. The family background variable No. SLC graduates in family, also ranks quite high. The only school resource or school process variable among the top ten factors is the highest degree expected by student (Masters +), which although listed under school process, could also be simply viewed as a student factor. Hence, like in many other studies in the international literature, the above results imply that student characteristics and family background play a relatively more important role than school factors in determining student outcomes.

Let us now focus on the policy variables. These variables are identified by the symbol P in column (4) of the table. Note that apart from Sex and the ethnicity variable Janjati, all the other variables marked “P” can be influenced by policy intervention. But these two variables have, nevertheless, been included in this list to highlight the fact that while Government policy cannot, of course, influence the gender or ethnicity of a person, it can nevertheless bring about a change in the disadvantages faced by students on account of their gender or ethnicity.

As can be seen from the table, Sex clearly has the strongest relationship with performance among the 12 statistically significant policy variables. As mentioned earlier, the statistical significance of this variable implies that the poorer performance of girls cannot be explained by the gender differences in the other variables included in the regression. Hence, there is a strong possibility that their lower performance is a consequence of the differential and discriminatory treatment they face in society, both at home and at school. For example, while our analysis controls for the differences between boys and girls in the amount of time spent on household chores, it does not take into account other cultural norms and behaviors that can have a negative impact on the academic lives of female students.

Note that, apart from females, Janjatis are also a population group whose SLC scores are statistically significantly lower than those of the dominant population group. As in the case of females, the poorer performance of Janjatis persists even when we control for a host of school and out-of-school factors in the regressions. Hence, the explanation for their poorer performance, too, probably lies elsewhere, as, for example, in the negative differential treatment by the dominant groups in society and in certain intra-cultural characteristics that might not be conducive to academic work. The main policy implication of these findings is that while general interventions aimed at improving the economic status of communities and increasing the resources of schools might be enough to bridge the performance gaps between other population groups, such policies will not be adequate in the case of girls and Janjatis. Targeted policies aimed specifically at girls and Janjatis are necessary to bring the performance of girls and Janjatis at par with the performance of boys and other ethnic groups, respectively.<sup>22</sup>

It must, however, be emphasized that the same policy prescriptions apply to Dalits as well, even though the performance gap between Dalits and Brahmans becomes statistically insignificant after accounting for the different factors in the regression models. The argument in support of targeted assistance for Dalits is based on the participation rate of this group in the SLC examinations. The percentage of Dalits in the study sample is very low (only 2.3%)—many times

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<sup>22</sup> It would, of course, be necessary to make a distinction between relatively privileged and underprivileged Janajati subgroups when devising intervention measures.

lower than their proportion in the national population—indicating that the vast majority of Dalits are deprived of the opportunity to get a high school education. The regression results only focus on the limited number of Dalits who do get the opportunity to sit for the SLC examinations, and do not take into account the effects of negative differential treatment and discriminatory behavior on the Dalit students who could not progress to the 10<sup>th</sup> Grade. Given that discriminatory behavior against Dalits is far more severe and blatant than the behavior against other marginalized population groups, it is very important that the Government increase its efforts to help Dalit students at all level of schooling.

Among the remaining 10 variables that can be influenced through Government intervention, *Homework required* has the strongest relationship with performance. Recall that currently, only 46% of the students are exposed to regular homework in their schools. The percentage for public school students is even lower. Hence, the Government could significantly help in improving the SLC performance of students by making it *feasible* and mandatory for schools to continuously assess student achievement through regular homework assignments. The other school-related statistically significant policy variables include *Average teaching load*, *Spending per student*, *Average short training days*, and *Delay in textbook delivery*.

The finding that Spending per student is positively associated with performance means there are grounds to argue in favor of increasing the overall spending on schools in the nation. The specific areas that should be targeted for increased budgets, however, cannot be determined from the current study. As discussed earlier, the positive association of average teaching load with performance implies that teachers are working more seriously in schools where the teaching load is reasonably intense. Given that the current average teaching load is not very high, this result suggests that there is a need to redistribute teaching load across public school teachers more equitably.

The main policy implication of the negative association between Average short-term training days and performance is that the Government needs to seriously reevaluate its current emphasis on short-term training if the training programs cannot ensure the effective transfer of material delivered in the training halls to the classroom. The final variable in this category, Delay in textbook delivery, is an indicator of the administrative inefficiency and neglect on the part of the Government in ensuring timely delivery of the most essential educational materials to schools and communities. Since the delay in receiving textbooks has a significant negative impact on student performance, playing a proactive role in ensuring speedy delivery of books to all schools is a straightforward way for the Government to help students perform better.

Among the remaining five policy variables, three (School days missed, Nepali medium, and Family's annual expenditure) represent student/family characteristics. Note that the number of school days missed depends largely on the student's personal circumstances, family attitude towards education, and the student's interest in learning. But there is no doubt that a strict attendance policy in school and increased interaction of the school's staff with the students' families can reduce absenteeism among students. The negative association between the Medium of exam and student performance suggests the need to further standardize the grading practices among examiners. As the majority of the students write their examinations in Nepali, the tendency of examiners to Grade English medium papers more leniently puts the vast majority of the students at a disadvantage.

As is clear from the positive coefficient on Family's annual expenditure, the performance of students is better among the economically better off families. While income transfers to poor

families are outside the scope of education policy instruments, the above finding suggests that the Government should either consider increasing financial assistance to needy students or decreasing the cost of education to public school students in general. The latter approach to compensating for income differentials across families would basically require the Government to increase their funding to schools. At this juncture, it should be reemphasized that the significant positive association between HDI and performance also points to the important role of economics in determining student performance. Recall that HDI has a stronger relationship with performance than any of the twelve factors identified as policy variables. Hence, it is clear that policies aimed at enhancing the academic performance of students cannot be designed in isolation; they must go hand in hand with poverty alleviation programs and other policies that seek to raise the socio-economic status of communities.

The remaining two policy variables deal directly with the student's experience during the exam period. The more important among these is *Exam room adequacy*. Clearly, the current minimum requirements for exam rooms are either not adequate or are not being properly enforced for ensuring that all students have a level playing field, at least, while taking the examinations. As this is partly due to the scarcity of resources, the first step in remedying this situation would be to revise the extremely small budget the Government currently allocates for conducting the examinations. The second remaining variable is *Prepared own food*, which, as discussed earlier, is an indicator of the difficulties faced by many rural students who have to find temporary accommodations around the exam center during the exam period. Given the current security situation in the country, an argument can indeed be made in support of restricting the number of exam centers in the nation. But if the center-periphery inequities in Nepal are not to be perpetuated, the Government must seriously think about ways to assist this category of students with accommodations.

The above discussion has focused only on the policy variables that were statistically significant in Model (5). Note, however, that there are a number of other policy variables that were consistently significant in regressions (2) through (4). The coefficients on these variables became statistically insignificant only upon the addition of context variables in regression (5). Hence, from a policy perspective, it can be argued that these consistently significant policy variables should also be given some attention. The variables in this category are: *Adequate library*, *Hours of instruction per week*, *Maximum failures allowed 9 & 10*, *Number of times tested in 9 & 10*, *Interactive teaching approach*, *Course completion rate*, and *Commuted daily*. Note that except for the last variable, all of these factors are school process variables, suggesting that what goes in the school is very important in determining a student's performance. The signs and statistical significance of these variables have already been discussed earlier. Hence, only a few comments will be added here.

First, observe that, apart from homework policy, a school's academic policies regarding evaluation and promotion are also equally important determinants of performance. The regression results show that frequent testing and strict promotion policies have a positive influence on student performance in the SLC examinations. Second, the results provide evidence in support of the view that the current SLC curriculum is too vast to be covered in the allotted timeframe, and that differences in student performance across students can be partly explained by the differences in course completion rates. Perhaps the positive association of *Hours of instruction per week* with performance is also related to the vastness of the course. Given that only around 30% of the schools are able to complete the course on time, a reevaluation of the SLC curriculum is in order. Third, these results also indicate that the traditional, strictly-lecture formats used in classroom teaching need to be changed. Hence, both university programs in

education and training programs available to teachers should actively promote an interactive teaching approach in the classroom. Finally, note that while the physical infrastructure of schools does not have a significant association with performance, it does not mean that basic school facilities are not important. In particular, this study finds evidence that proper library facilities can have a positive impact on student achievement. Unfortunately, investment in libraries has not been considered a policy priority in the education sector of Nepal.

### Logistic Regression Results for Aggregate SLC Performance

Recall that the dependent variable in this case is the pass/fail status of the student. As explained earlier, the method of Maximum Likelihood has been used to estimate these models. Unlike in the previous Section, where we started with a basic model and progressively added new sets of factors to obtain the final model, only two models are discussed here—one that includes all the factors except for Grade 9 scores and another that includes Grade 9 scores as well. The two models are presented in Annex 4. Observe that models (1) and (2) in Annex 4 are identical to models (5) and (6) in Annex 2, respectively, in terms of the explanatory variables. The coefficients of these regressions indicate how changes in each of the explanatory variables is associated with the *probability* of passing the SLC examinations, assuming all the other factors remain unchanged.

Let us first focus on Model (1). Among the school and teacher input variables, Spending per student continues to show a statistically significant relationship with performance at the 1% level. As this is the most comprehensive school input variable, it is possible to conclude that, on average, higher school inputs are associated with a higher probability of passing the SLC examinations, assuming that the other factors do not change. More specifically, the marginal effects column indicates that, on average, increasing the spending per student by 100% increases the probability that a student passes the examinations by 5%.<sup>23</sup> Similarly, the coefficients on two school process variables—Regular homework required and Highest degree expected—are again statistically significant. Recall from the earlier subsection that homework policy is the most important variable that can be influenced by public policy. Thus the finding in the current regression provides further evidence in support of this important policy variable. As for the effects of the academic ambition, a student whose ultimate aim is to get a Masters or higher degree has a significantly bigger probability of passing the SLC examinations than someone who does not see herself advancing beyond SLC. The same is true for a student who ultimately plans to obtain either a Bachelors degree or is undecided.

Compared to school-related variables, a distinctly larger number of student input variables have a statistically significant relationship with the probability of passing the SLC examinations. As before, the coefficients on *Age* and *Sex* are significant. And all at the variables dealing with study habits, educational background, and peer influence are significant except for *Months of coaching/tuition*. Also note that the exam-related variable *Sick* is also significant now whereas only *Prepared own food* and *Nepali medium* were significant in Model (5) of Annex 2. Interestingly, however, none of the ethnicity variables are significant in the current regression. As for Family inputs, the two variables indicating the family's economic status are no longer significant. On the other hand, it is interesting to note that two context variables indicating the community's

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<sup>23</sup> The assumption here is that the student possesses the mean values of each of the factors in the regression.

locational characteristics, *District headquarters* and *Permanent bazaar+motorable road*, are now significant.

The addition of *Grade 9 score* in Model (2) increases the number of significant coefficients compared to Model (1); otherwise, the results are largely consistent with those obtained in Model (1) in this table and Model (6) in Annex 2. But there are, nevertheless, some surprises. For example, it shows that the probability of passing the examinations is higher for students whose schools have “pukki” buildings, indicating the importance of physical infrastructure. Similarly, students from public schools that are either not funded by the Government or are only partly funded have a higher probability of passing than students from fully funded public schools. But as explained in the discussion on Model (6) of Annex 2, the results of Model (2) in Annex 4 are based on data from a biased sample and cannot, therefore, be generalized to the population of SLC students.

**Table 15. Factors with Statistically Significant Relationships with Performance in Model (5), Annex 2 and Model (1), Annex 4**

School Input/Process		Student	Family	Context
Spending per student (+)		Age (-)	Family size (-)	HDI (+)
Regular homework required (+)		Sex (+ for males)	Hours spent on household chores (-)	School size (+)
		Read magazines regularly (+)	No. of SLC graduates in family (+)	Private school (+)
		Regular study hours per day (+)		SLC year 2004 (+)
		School days missed (-)		
		No. of Grade repetitions (-)		
		No. of friends passing SLC (+)		
		Prepared own food during exam (-)		
		Nepali medium (-)		

Note: + denotes positive and – denotes negative relationship with student performance

The main purpose of the above discussion was to show that most of the results obtained in Annex 2 are robust to changes in the indicator of student performance. And, indeed, the results for Model (1) and Model (2) are quite consistent with each other and with those obtained for Model (5) and Model (6) in Annex 2. But many of the coefficients that were significant in Annex 2 are no longer significant in Annex 4. One explanation for this change in the significance of the coefficients is that now we are using pass/fail status of the student as the dependent variable instead of a continuous variable representing the score in the SLC examinations. Since pass/fail status is a dichotomous variable that can only take values 1 and 0, there is less variability in the dependent variable when using this indicator of performance. And this loss of variability in the dependent variable means that it is now more difficult to observe some of the relationships that exist between the explanatory variables and student performance. The variables that have statistically significant coefficients in both Annex 2 (Model (5)) and Annex 4 (Model (1)) are listed in Table 15.

### 6.3 Relationship between Subjectwise SLC Performance and Various Performance Determinants

Annex 5 presents the regression results for each of the six compulsory subjects. The dependent variables in the six models shown in Annex 5 are the SLC scores obtained by the student in individual subjects. And as can be seen from the “Variable” column of the table, all six models use the same set of explanatory variables included in Model (5) of Annex 2. Note that since the existence of a science lab is not relevant for subjects other than science, the explanatory variable *Adequate science lab* has been included only in the Science regression.

The discussion in this section will focus on verifying the robustness of the results. Hence, rather than attempting to explain the details of each regression model separately, it will primarily discuss the common findings across the six subjects and between Annex 2 and Annex 5. But it will, nevertheless, point out some of the more interesting differences in regression results among the different subjects and provide explanations for the observations. The descriptive statistics of the subject-specific explanatory variables used in the regressions presented in Annex 5 are given in Table 16.

In order to identify relationships that are consistent across the subject-wise regressions, the following criteria are used. If an explanatory variable has a statistically significant relationship with performance in all six models, the relationship is considered very stable. If the results are consistent across four or five regressions, such results are considered stable. And a variable whose coefficient is statistically significant in only three of the six models is viewed as having a weakly stable relationship with performance.

Observe that there are altogether twenty-seven variables that show some kind of stable relationship with student performance across the subject-wise regressions. These variables have been listed in Annex 6, grouped according to the degree of stability in the relationship. Among these twenty-seven variables, eleven have highly stable relationships, seven have stable relationships, and nine have weakly stable relationships with performance. Furthermore, as indicated in the fourth column of this table, all except three of these variables have statistically significant coefficients in Annex 2 as well. Hence, there is strong evidence that these variables are important determinants of student performance in the SLC examinations.

There are altogether eight school-related variables. Six of these are school input and process factors while the remaining two (*School size* and *School type: Private school*) are school context variables. But as mentioned in the earlier discussions, the three variables indicating the highest degree expected by the student can be viewed as general student characteristics rather than school/student process variables. Hence, in effect, the subject-wise regressions in Annex 5 indicate that consistently significant determinants of performance include five school factors. On the other hand, there are thirteen (excluding *highest degree expected*) student and family factors that play a significant role in determining the performance of students. Furthermore, seven of the eleven variables with a highly stable relationship with performance are student and family variables. Judging from their relatively large standardized coefficients, it would be reasonable to infer that student and family factors are the most important determinants of student performance.

The remaining six factors are national and community context variables, which also include two variables—*District headquarters* and *Non-Nepali speakers*—that were not significant in regressions (4) and (5) of Annex 2. The first variable, while dealing with the location of the student’s school, is also related to the exam conditions faced by the student. As students from district

headquarters can take their examinations in centers within commutable distance, they do not have to suffer the disadvantages faced by students from peripheral areas who need to find accommodations around the exam center. Hence, although the variable *Prepared own food* is no longer consistently significant in Table 16, the difficulties faced by students from peripheral rural areas are partly reflected in the significant coefficient on *District headquarters*. The statistical significance of the second variable, *Non-Nepali speakers*, says that students from schools with larger percentages of non-Nepali speakers have lower scores on average. As might be expected, this variable is not significant in the two subjects that do not require strong Nepali language skills, namely English and Mathematics.

**Table 16. Descriptive Statistics for Subject-Specific Variables**

Variable	Nepali		English		Math		Science		Soc. studies	HPE		
	Mean	S.d. Dev.	Mean	S.d. Dev.	Mean	S.d. Dev.	Mean	S.d. Dev.	Mean	S.d. Dev.	Mean	S.d. Dev.
Teaching experience (years)	16.17	7.83	15.05	8.25	12.75	6.51	11.81	6.38	16.71	7.90	15.43	7.84
Teachers with B.Ed. Degrees (%)	0.77	0.42	0.78	0.42	0.57	0.49	0.49	0.50	0.70	0.46	0.66	0.47
Teachers with 10-month SEDU training (%)	0.09	0.28	0.12	0.33	0.17	0.38	0.17	0.37	0.12	0.32	0.12	0.32
Average short-term training days	3.44	7.32	3.64	4.95	3.80	5.75	3.77	7.04	4.17	8.21	4.20	6.48
Teacher turnover (%)	0.13	0.22	0.12	0.21	0.11	0.16	0.13	0.23	0.12	0.22	0.13	0.22
Regular homework required	0.69	0.46	0.86	0.35	0.87	0.34	0.77	0.42	0.73	0.44	0.82	0.38
Interactive teaching approach	0.39	0.49	0.56	0.50	0.45	0.50	0.29	0.46	0.30	0.46	0.24	0.43
Teaching load (hours per day)	3.46	0.60	3.46	0.62	3.55	0.53	3.50	0.63	3.50	0.63	3.52	0.61
Course completion rate (%)	96.22	6.71	93.95	8.12	91.28	9.59	89.88	10.89	94.20	9.30	95.81	8.99
Months of coaching/tuition	0.35	1.25	2.27	2.55	3.27	3.12	1.83	2.57	0.23	1.02	0.13	0.73
Number of observations	9,185		9,688		9,242		8,924		8,680		8,442	

(S.d. = Standard Deviation)

In discussing the common results for the subject-wise models, it should also be pointed out that thirteen of the explanatory variables are statistically *insignificant* in all six regressions. The more interesting among these variables include *Grade 10 class size*, three variables representing teacher qualifications and training (*Teaching experience*, *Teaching experience squared*, and *Teachers with B.Ed. degrees*), one academic policy variable (*Maximum failures allowed in 9 & 10*), and one variable related to the accommodation difficulties faced by some rural children (*Commuted daily*). Among these variables, those dealing with teacher qualifications and experience in Annex 5 are subject-specific rather than general school-level variables. Hence, although the coefficients on these variables were insignificant in the aggregate SLC score regressions of Annex 2, there was a possibility that they would be significant in at least some of the subject-wise regressions. It is, therefore, surprising that these factors have a statistically insignificant relationship with performance in the subject-wise regressions as well. The last two factors—*Maximum failures allowed in 9 & 10* and *Commuted daily*—are, on the other hand, statistically significant in the

aggregate score regression of Model (4), Annex 2. Their lack of association with performance in any of the subject regressions is, therefore, also a somewhat unexpected result. Also note that, as in Annex 2, variables *No. of supervisions visits* and *No. of PTA meetings* are insignificant in all the subject-wise regressions, providing further confirmation of their irrelevance in enhancing the academic performance of students.

As mentioned earlier, a total of eleven explanatory variables are statistically significantly related to performance in all six subjects. Since all of these variables have a significant relationship with performance in the aggregate SLC regressions of Annex 2 as well, further discussion on their relationship with performance is not necessary. The rest of the section will, therefore, focus on variables that are related with performance in some subjects and not in others. In particular, it discusses the specific subjects in which these variables show a statistically significant relationship with performance and highlights the results that need further clarifications.

The first such result is the relationship between *Spending per student* and student performance. Although this indicator of general school resources is significant in the aggregate SLC score regressions as expected, it is significant only in the English regression in Annex 2. It is not clear why this variable is not significant in the other subject-wise regressions. But note that the signs of the coefficients for these variables in the other subjects are also positive as expected.

Another interesting relationship is that between school facilities and performance. While *Pukki buildings* and *Grade 10 class size* are statistically insignificant in all six regressions, library facilities are significant in the regressions for three subjects, namely Nepali, English, and Social studies. It should be noted that these are social science and humanities subjects where general reading outside the narrow confines of the textbooks can help students to achieve a greater understanding of the subject matter. It is, therefore, not surprising that the existence of an adequate library is positively associated with SLC scores in these three subjects. But it is surprising that the availability of an adequate science laboratory is not related to higher scores in Science. This apparently strange result might perhaps be due to the practice among schools of awarding uniformly high marks in the practical component of Science. This practice essentially makes the existence of science lab largely irrelevant from the perspective of securing higher scores in the practical component of SLC examinations. At the same time, insignificance of the coefficient on this variable implies that the theory portion of Science does not adequately test the student's understanding of practical issues in Science.

Among the teacher input factors, the insignificance of variables dealing with teaching experience and teacher qualifications has already been pointed out earlier. But it is interesting to note that the coefficients on teacher training variables (*Teachers with 10-month SEDU training* and *Average short-term training days*) are negative and statistically significant in the Math regression. The coefficient on *Teacher turnover* is also negative and significant for this subject, while it is insignificant in the other five regressions. These findings might be related to the fact that since Mathematics is the most difficult subject for the majority of students, the loss of instruction time associated with teacher training and lack of continuity in instruction due to teacher turnover have the greatest impact on this subject. Also note that the variable *Interactive teaching* too is significant only for Math.

Setting aside the student-level school process variables and *Course completion rate*, none of the other school process variables are statistically significantly related to performance in more than two of the subject-wise regression. This finding, too, is unexpected considering the importance of a number of these variables in the aggregate SLC score regressions. In particular, note that

*Number of times tested in 9 & 10* and *Regular homework required* has a statistically significant relationship with performance only in English. *Teaching load*, on the other hand, is significant only in the Social Studies regression.

Finally, it is useful to highlight some findings related to three of the students' personal characteristics, namely ethnicity, study habits, and coaching/tuition lessons. Observe that the coefficient on *Janjati* is statistically significant in all the regressions except for English and Math. This finding suggests that Janjatis might be more at a disadvantage in subjects that require strong Nepali language skills than in other subjects. Another finding of interest is the relationship of *regular study hours per day* with performance. This variable has statistically significant coefficients only for the Math and Science regression—two of the three subjects students generally find most difficult. Hence, it seems that student effort plays an especially strong role in determining the performance of students in the more challenging subjects.

The findings in this section support the findings presented in the earlier one. In particular, almost all the variables that show some kind of stable relationship with performance in the subject-wise regressions show a statistically significant relationship with performance in the aggregate SLC score regressions of Annex 2 as well. And most of the variables with significant coefficients in less than three subjects are also significantly related to performance in either Model (4) or Model (5) of Annex 2. It is, therefore, clear that the associations between the various factors and student performance discussed in this chapter are relatively stable relationships that largely reflect the reality we are trying to study.

## 7. CONCLUSIONS AND POLICY IMPLICATIONS

The Study on Student Performance in SLC has conducted a comprehensive analysis of the relationship between student performance in the SLC examinations and various performance determinants using data from a nationwide survey of students, families, schools, head teachers, and teachers. Challenging the notion that the historically poor performance of students in the SLC examinations can be explained in a straightforward manner by simplistic arguments based on anecdotal evidence, it has provided convincing evidence that a host of school-related, student-related, home-related and community-related factors are associated with student outcomes. More specifically, it has shown that while the community context and the student's personal and family characteristics collectively constitute the major determinant of student performance, many school inputs and school processes also play an important role in determining student outcomes. Furthermore, it has identified a number of determinants that can be manipulated by public policy to help improve the academic performance of students. It should be pointed out that the findings presented here are largely consistent with the findings in similar studies in the international literature.

In order to produce a theoretically sound and methodologically rigorous analysis, the statistical models used in this study have been based on a framework that blends the essential elements of two established research traditions, namely production function research and school effectiveness research. The primary statistical tools employed in the analysis are Ordinary Least Squares and Logistic regression models that have been appropriately adjusted to account for the peculiar nature of survey data. But the study has also made liberal use of simple graphs, tables, and descriptive statistics to make the findings more accessible to the general reader.

The analysis of the relationship between student performance and the various determinants was performed in three steps. First, simple descriptive statistics for student performance (the dependent variable) and the complete set of determinants (the explanatory variables) were presented to highlight differences in the determinants between successful and unsuccessful SLC candidates. The findings of the descriptive analysis suggested that there was indeed a relationship between most of these factors and student performance. But as this analysis looked at only one factor at a time, it could not account for the influence of other determinants when analyzing the relationship between any single factor and student performance. Hence, in the second step, regression methods were used to study the relationship between *aggregate* SLC score and the various determinants. These regression results showed that, on average, over thirty explanatory variables were statistically significantly related to student performance even after controlling for a host of other potential performance determinants. Finally, in the third step, similar regressions were performed for each of the six compulsory subjects separately, using *subject-wise* SLC score as the dependent variable. The main purpose of this step was to provide further confirmation of the results obtained in the second step and also to identify determinants that were especially relevant for particular subjects. The findings were highly consistent with the results from the aggregate SLC score regressions. The following four sections summarize the findings of the study and present the policy implications of these findings.

## 7.1 Overview of Student Performance in the Sample

The descriptive analysis of student performance revealed that the aggregate average SLC score (out of 100) and pass percentage in the sample are only 47.9 and 51.4% respectively. The analysis also showed statistically significant differences in student performance across school types (public vs. private), genders, ethnicities (Brahmans, Chhetris, Newars, Janjatis, Dalits, and Others), and school locations. In particular, the SLC scores and pass rates for public schools, females, Dalits and Janjatis, and students from schools in peripheral rural areas are relatively low compared to the performances of other students. It also showed that the percentage of students from disadvantaged population groups (Dalits, in particular) taking the SLC examinations is far lower than their proportion in the national population. Overall, the sample evidence supports the framework of the study which identifies school type, gender, ethnicity, and school location as some of the potential determinants of student performance.

## 7.2 Overview of Potential Determinants of Performance

As mentioned earlier, the Study on Student Performance in SLC also briefly looked at the descriptive statistics of all the potential determinants included in the regression models. The descriptive analysis indicated that, in general, there are notable differences in the mean values of these variables when students who passed the SLC examinations are compared with those who failed. In other words, they provided evidence suggesting that these variables are most likely related to student performance. The discussion in this section focuses exclusively on school-related variables.

Let us start by discussing the summary statistics for school inputs. The data indicate that, on average, approximately Rs. 3,930 are being spent annually on each student in the sample. And the average student-teacher ratio in secondary school is relatively low at 37 students per teacher. But the more important finding is that there is a substantial difference in both expenditure per student and student-teacher ratio between the samples for successful and unsuccessful students. Similarly, while students have to wait a total of 20.5 days (total delay for Grades 9 and 10) after

the school year has begun before receiving their full sets of textbooks, the weaker students wait 11 days longer, on average, than the stronger students. Interestingly, however, the data indicate that the vast majority of both groups of students studied in schools with “pukki” secondary school buildings. While this finding could be interpreted as indicating the insignificance of physical infrastructure in explaining differences in performance among students, it also suggests that perhaps building type (“pukki” vs. “kuchchi”) is not a good indicator of physical infrastructure. And that a better indicator of physical infrastructure might give a different result. At the same time, there are a notable differences between the two student groups in terms of two other school inputs- adequacy of library facilities and adequacy of science labs.

The descriptive statistics for teacher inputs are also equally interesting. For example, the average teaching experience for teachers in the sample is an impressive 14.5 years and the two groups of students appear to have faced teachers with comparable years of teaching experience. The data on teacher qualifications, on the other hand, actually show a higher percentage of B.Ed. teachers and “better” trained teachers for the *poor* performance student group compared to the other group. As mentioned earlier, this surprising finding can perhaps be partly explained by the fact that teachers in private schools—the schools with better SLC performance—are not required to have B.Ed. degrees and generally have limited access to the different training programs. Similarly, larger teacher absenteeism among public school teachers due to training commitments and other reasons could also be contributing to this surprising result.

The final set of school-related factors analyzed in this study includes proxies for school processes. The most interesting among these factors are the academic policy variables representing Grade promotion policies and performance assessment policies. The summary statistics for these variables indicate that while Grade promotion policy is more stringent in schools with more successful students, schools generally have rather liberal promotion policies (students who fail one to two subjects are usually promoted to higher Grades in secondary school). As for performance assessment policies, the statistics for homework requirement policy stand out the most. Although teachers, educators, policymakers all recognize the importance of homework in the learning process, data show that, on an average, only 46% of the students are exposed to regular homework assignments. As might be expected, this figure is substantially different for the two groups of students. Two other interesting results related to the school processes should also be mentioned here. The first is the finding that around 33% of the students have been exposed to an interactive teaching approach, and that this figure is higher for the better performing student group. The second is the statistics on course completion rate. Data indicate that, on average, students end up taking the SLC examinations even though their schools are able to complete only 93% of the course. The situation is worse for the weaker student group.

### 7.3 Relationship between the Potential Performance Determinants and Student Performance

The evidence presented earlier suggests that the factors under consideration are indeed related to student performance. But it is not possible to draw firm conclusions regarding the relationship between any single factor and student performance without controlling for the influence of other intervening factors. As mentioned earlier, this study has used multiple regression methods to account for other intervening factors in analyzing the relationship between student performance and the various determinants. This section summarizes the main findings of the regression analyses.

The potential determinants of performance considered in this study can be grouped into the following broad categories: school input and process factors, student factors, family factors, and context variables. Among the more than 70 variables representing these categories of factors, 29 have statistically significant<sup>24</sup> relationships with *aggregate* SLC performance. Most of these relationships continue to remain statistically significant in the subject-wise analyses of the determinants of performance. Interestingly, only seven of these factors are school input and process factors. On the other hand, eleven are student-related factors and five are family factors. The remaining six are context variables. Furthermore, when the variables are ranked according to their relative impacts on performance, only one school factor makes it to the top-ten list. The top three include two context variables and one student variable. While these findings imply that that non-school factors are more important than school factors in determining the performance of students in the SLC examinations, it should be pointed out that the two top ranking context variables, school type and school size, are indicators of *school* context. Hence, the overall school environment clearly plays a very significant role in determining a student's learning outcomes.

The factors that show a statistically significant relationship with student performance in the final aggregate SLC score regression are summarized in Annex 7. The directions of their relationships with performance are indicated in parentheses. Note that there are a number of significant factors in each of the four categories of variables show in the table. The entries in the table are self-explanatory.

**Table 17. Statistically Significant Factors in the Final Aggregate SLC Score Regression**

School Input/Process	Student	Family	Context
Spending per student (+) <sup>p</sup>	Age (-)	Family size (-)	Exam room
Days spent on short-term training by teachers (-) <sup>p</sup>	Sex (+ for males) <sup>p</sup>	Family's annual expenditure (+) <sup>p</sup>	adequacy (+) <sup>p</sup>
Teaching load (+) <sup>p</sup>	Ethnicity (- for Janjatis) <sup>p</sup>	Hours spent on household chores (-)	HDI (+) <sup>p</sup>
Regular homework required (+) <sup>p</sup>	Read magazines regularly (+)	No. of books at home (+)	Quiet neighborhood (+)
Delay in textbook delivery (-) <sup>p</sup>	Regular study hours per day (+)	No. of SLC graduates in family (+)	School size (+)
Highest degree expected (+)	School days missed (-) <sup>p</sup>		School type (Private school) (+)
	Months of coaching / tuition (-)		SLC Year 2004 (+)
	No. of Grade repetitions (-)		% of girls in school (-)
	No. of friends passing SLC (+)		
	Prepared own food during exam (-) <sup>p</sup>		
	Nepali medium (-) <sup>p</sup>		

Note: The + denotes positive and – denotes negative relationship with student performance; P denotes policy variable.

It must be reemphasized that the subject-wise regression results too largely support the findings presented above. However, there are a few interesting findings from the subject-wise regressions that are not captured in Annex 7. The first is the relationship between library facilities and student performance. The results show that adequate library facilities are positively associated with performance, but only in the case of Nepali, English, and Social Studies. The implication of this finding is that library facilities play a particularly important role in helping students to gain a better understanding of the subject matter in the social sciences and humanities. The second finding of interest is the positive relationship between course completion rate and SLC performance in three of the six subject-wise regressions. Considering that schools, on average, complete only 93% of the SLC course, it is clear that a large number of the students are not fully

<sup>24</sup> At the 10%, 5%, or 1% level.

prepared at the time of the examinations. The third interesting finding from the subject-wise regressions deals with the performance of Janjatis. Their performance is statistically significantly lower than that of Brahmins in all the regressions except for English and Math, suggesting that they might be facing linguistic and cultural disadvantages in subjects that require strong Nepali languages skills.

## 7.4 Policy Implications

Among the various factors that have statistically significant relationships with student performance, the ones that can be influenced by policy intervention are identified by the symbol “P” in Table 17. The findings summarized above suggest that Government activities aimed at influencing these policy variables can help to bring about an improvement in the average performance of students taking the SLC examinations.

### Policy Variables Related to the Student’s Demographic Characteristics

Recall from the previous discussion that the gender of the student has the strongest relationship with performance among the 13 statistically significant policy variables listed in Table 17. The statistical significance of this variable implies that the difference in performance between girls and boys cannot be explained by the other performance determinants considered in this study. Hence, it is likely that the lower performance of girls is a consequence of the differential and discriminatory treatment they get in society, both at home and at school. As in the case of females, the poorer performance of Janjatis also continues to persist even when we control for a host of school and out-of-school factors. These findings suggest that general Government interventions aimed at improving the economic status of communities and increasing the resources of schools are not adequate for bringing the performance of girls and Janjatis at par with the performance of boys and other ethnic groups, respectively. In other words, *targeted* policies aimed specifically at girls and Janjatis are needed to bridge the performance gaps discussed above. It should be emphasized, however, that Janjatis are a highly heterogeneous group that includes some relatively privileged ethnic groups as well. Hence, policies targeted towards Janjatis should focus on those Janjati groups that are socio-economically disadvantaged. In other words, there is a need to review current gender and ethnicity-based incentive schemes that view both poor and well-off members of these population groups as deserving candidates.

As discussed in earlier, the same policy prescriptions apply to Dalits as well. In fact, the need for assistance targeted specifically towards Dalits is even greater since this most deprived population group faces blatantly discriminatory behavior from all other population groups in society. But note that the academic problems faced by Dalits are reflected more in their disturbingly limited presence in the SLC examinations than in the performance of the select group of Dalits that get the opportunity to sit for the examinations. It is highly likely that the discrimination and negative differential treatment Dalits face in school is at least as important as their low economic status in explaining their low enrollments in not just secondary school but also in earlier Grades.

### Policy Variables Related to School Characteristics

Among the remaining policy variables, homework policy has the strongest relationship with performance. While most educators and policymakers recognize the importance of homework assignments in helping students to learn the subject matter, our sample data show that only 46% of the students are exposed to regular homework in their schools. Furthermore, the practice of assigning and grading homework regularly is less common in public schools than in private

schools. Hence, these findings indicate the need for policies and programs that will make it not only mandatory but also feasible for schools to incorporate regular homework assignments in their teaching schedules. While not listed in Annex 7, variables dealing with promotion and testing of students are also significant determinants of performance in a number of regressions performed in this study. Hence, there is some evidence that more frequent testing and less liberal promotion policies can also help to improve the performance of students.

The other school-related statistically significant policy variables include average teaching load, spending per student, days spent on short-term training, and delay in textbook delivery. Recall that while the positive association between average teaching load and performance looks surprising at first glance, this finding can be explained by the fact that, on average, the teaching load for secondary school teachers is not very high. Hence, it points to the need for redistributing teachers across schools and classes to equalize teaching loads rather than decreasing the number of hours teachers are required to teach. Furthermore, it also indicates that small increases in teaching responsibilities could, on average, help to increase the instruction-time without hurting teaching quality.

As indicated in earlier, spending per student is a proxy for the overall inputs going into the school. The positive association between this variable and performance is in line with the findings in the international literature and supports the argument for increasing the overall amount of Government funding going into schools. This finding suggests that the Government should not reduce its funding commitments to schools even as it moves towards handing the management of schools over to communities. The negative association between short-term training and student performance, on the other hand, calls into question the Government's current emphasis on short-term training. Even if the training packages are of high quality in terms of content, the ultimate test of their effectiveness is student performance. Whether the negative association between training and student performance is due to loss of instruction days while teachers are away on training or due to the inability of the teachers to translate knowledge into practice, it is clear that the existing approach to teacher training is not delivering the desired results. At the very least, the Government must take steps to ensure that teacher development does not conflict with the amount of time that should be spent in the classroom.

The last school-process policy variable listed in Table 17 is the delay students face in receiving the complete set of textbooks. Since this factor has a significant negative impact on student performance, there is distinct possibility that the Government can have an immediate impact on student performance by taking concrete steps to ensure the speedy delivery of books to all public schools in the nation.

### **Policy Variables Related to the Student's and her Family's Characteristics**

The policy variables related to the students' demographic characteristics have already been discussed. Table 17 lists four more student-related policy variables and one family-related policy variable. One such student variable is the number of school days missed by the student. As discussed in Chapter 5, although student absenteeism primarily depends on student and family factors, the school's policies also play an important role in encouraging regular attendance in school. More specifically, a strict attendance policy in school and regular interaction of the school's staff with the students' families can reduce absenteeism among students. The policy implication of the negative association between the second variable—writing the examinations in Nepali—and student performance is that there is a need to further standardize the marking scheme and grading practices among examiners. The last two student variables, exam room

adequacy and prepared own food, are related to the circumstances under which the student sat for the examinations. At the same time, they are also related to the inequalities in the nation between regions, between district headquarters and the peripheral areas, and between students with different economic backgrounds. Hence, policies for tackling these problems should be viewed as subsets of more general regional development and poverty alleviation policies.

The only family factor marked as a policy variable in Annex 7 is the family's annual expenditure. Since the positive association between this variable and student performance points to the importance of the family's economic status in determining student outcomes, it calls for the continuation and expansion of programs aimed at assisting financially weak students. After all, poverty is rampant in all segments of society and cuts across genders, ethnicities, and regions. Hence, this finding means that along with providing assistance to students on the basis of their gender and ethnicity, it is also very important to have programs that provide targeted assistance to poor students regardless of their gender and ethnic origin.

### **Policy Variables Related to the Community Context**

As a final note on the policy implications of the findings summarized in Annex 7, it should be pointed out that the important role of economics in determining student outcomes is also indicated by the significant positive association between HDI and student performance. Viewing this finding alongside the finding that a student's personal and home characteristics are, at least, as important as school factors in determining student outcomes, it would be reasonable to conclude that policies aimed specifically at improving the SLC performance of students must go hand in hand with other more general human development policies. In other words, the policies designed to improve student performance must be located within the context of plans and programs aimed at improving the quality of education, empowering marginalized population groups, alleviating poverty, reducing inter-regional inequalities, and speeding up the economic development of the country.

## CHAPTER XI: CASE STUDY OF EFFECTIVE AND INEFFECTIVE SCHOOLS\*

### 1. INTRODUCTION

A case study of high performing “effective schools” and low performing “ineffective schools” was carried out under the SLC Study to describe and explain the real life of individual case schools. One of the objectives of the study was to identify recurring patterns of behaviors that constitute ‘best practices’ or ‘causes and effects’ of school performance with reference to SLC examination results.

Altogether twenty eight schools (14 effective and 14 ineffective) were covered in the case studies. Case schools were identified and selected based on School Efficiency Measures (SEM) that utilized the following criteria:

- number of student appearing in the SLC examinations
- pass percentage , and
- percentage of students passing in the first, second, and third divisions.

Those with the highest SEM were treated as ‘effective’ and those with the lowest SEM as ‘ineffective’ schools. Three years of SEM values were considered for reasons of consistency in school performance.

For details on he objectives and methodology, please refer to ‘Case Study of Effective and Ineffective Schools’.

### 2. SUMMARY OF FINDINGS AND DISCUSSIONS

Undertaking the cases of 14 ‘effective’ and 14 ‘ineffective’ schools in their contexts, the case study analyzed various aspects of school effectiveness influencing student performance in the SLC examinations. Within the framework of the study, eight clusters of issues with the corresponding primary research questions were addressed using multiple sources of qualitative data. The eight clusters that reflected the emerging trends of school effectiveness study were- physical facilities and school environment; leadership; quality and adequacy of teaching force; student motivation to learn and succeed; teaching learning environment; school culture and climate; external support; supervision and patronage; and claims, concerns and issues about student performance in the SLC examination.

Analysis and interpretation of the data focused on a number of questions. Why is it that some schools are performing reasonably well while many others are not only performing poorly but are also struggling to justify their own existence and survival? What are the factors that influence the results? What are the factors that inhibit or facilitate school effectiveness in terms of the SLC

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\* This chapter is based on the report ‘Case Study of Effective and Ineffective Schools’ prepared by Dr. Bhawani Shankar Subedi for the SLC Study team.

examination results? What actually happens in the classrooms? Is teaching geared towards student learning and performance? Does this process follow any findings from research on effective teaching? How do students participate? Do they contribute to overall learning and their own achievement? Are the teachers committed and enthusiastic? How are 'corporate identities' and 'school cultures' established or maintained? How is the school leadership influencing effective teaching and learning? Do teachers make self assessment based on students' learning and subsequent achievement? How do students perceive their own success or failure? Are parents concerned about the extent of success or failure? How do school management committee members react to the situation? Are they doing enough for improving the results? What are the factors that discriminate good and bad performance in terms of results? Is good performance rewarded? Is bad performance punished? What are the evidences or instances that support or discard the realities of the schools?

The issue of the high rate of failure in the SLC examinations has definitely posed a tremendous loss of opportunities in human resources development in Nepal. Additionally, the ongoing conflict in most parts of the country has further increased frustrations and doubts among the youth population. The condition of most of the proposed secondary schools has been found miserable. Permissions to run secondary level classes were given without adequate preparations. Absence of subject teachers; secondary schools without a single qualified teacher; teacher absenteeism; inavailability of labvisuals, textbooks, and courses never completed were some of the findings for the incredibly high rate of failure in the SLC examinations.

These case studies identified factors leading to 'high' as well as 'low' performance of schools and their results in the SLC examinations. Analyses of statements, narratives, and other field data have been utilized to arrive at findings, conclusions, and recommendations. Recommendations include strategies to enhance school effectiveness by promoting those factors that lead to higher rates of success in the SLC examinations. Likewise, conditions and factors that lead to higher rate of failure have also been identified and strategies have been recommended for eliminating or at least reducing the effect of such inhibiting factors.

The summary of findings and discussions has been clustered according to the study themes and key research questions. This section of the report presents a synthesis of the findings from the study of 28 case schools. Most of the data included in this synthesis are selfexplanatory about the causes and effects of high or low performance of the schools in terms of results. Stakeholders' perspectives about both the effective and ineffective schools present a manifestation of grounded realities of the case schools in particular, and the secondary schools of Nepal in general.

## 2.1 Physical Facilities and Environment of the School

Physical comfort and environmental conditions are often considered as essential elements for students' learning and subsequent performance. However, there is no conclusive evidence even in the related international literature on the relationship between school resources and student performance despite a multitude of studies on the determinants of student performance. This study attempts to examine 'How conducive is the physical and environmental condition of the school to learning and performance.' This aspect is found relatively inadequate in both the effective and ineffective schools in the context of Nepal. Even schools producing 100 percent pass rates in SLC do not have adequate physical facilities. The following illustrative quotes, observations, and statements of students and their teachers reinforce the finding:

*"We have only one toilet. We are as many as boys. Many boys can go at a time. But we have to queue up."*

A girl student of class 9, age 16 in an interview

*"We do most of the practical experiments on the blackboard. Only some experiments on magnet and the structure of plant and animal cells observation in microscope are done in the lab."*

A science teacher with class 10 students in a classroom

*"We have only one toilet. We are as many as boys. Many boys can go at a time. But we have to queue up."*

A girl student of class 9, age 16 in an interview

*"We do most of the practical experiments on the blackboard. Only some experiments on magnet and the structure of plant and animal cells observation in microscope are done in the lab."*

A science teacher with class 10 students in a classroom

*"As far as the school could do, it has rendered the commitment and service to us. Keeping 100 students in one section and teaching is the worst aspect of this school. The class is like a crowd of people in the jatra."*

A Grade 10 student (male), age 17 in an interview

*"We have the need as well as the interest to split them into small sections, but we do not have the needed rooms and teachers. A small class is easy to teach, feasible to observe the activities, and manageable to control".*

Teachers in a focus group discussion

In some effective schools, despite their excellent results in the SLC examinations, physical facilities are not found conducive to learning and student performance. Science lab and library facilities either do not exist or are not in put to use. The access denied to students is another problem. The following observations reflect this reality:

*The school has a library in its newly constructed room. There are few books. Only teachers get access to the library and computers. The school does not have budget to keep a librarian.*

Researcher's observation notes

*There were a number of science instruments kept unutilized. Students said that they make use of it. The science teacher often takes them to the laboratory for practical classes.*

Researcher's remarks from an observation

Likewise, low performing school environment exhibits a lack of physical and environmental factors conducive to learning and performance. The most of the cases, schools do not have adequate resources to support teaching and learning whereas many others have not been doing enough to maintain and use the facilities available in their premises. The following observations, for example, support this finding:

*People and livestock move freely through the school compound during the school hours. Outsiders watch from windows during class hours. Students rush to the jungle for toilet during the tiffin time.*

Researcher's observation note

*One wooden cupboard containing some textbooks, guidebooks, story books, and Hindu religious books were lying in a corner of the office room. Only teachers had access to it. Students are not allowed to use the library facility.*

Researcher's observation note

*Majority of the students were in sandals and some of the students especially of lower classes were bare-footed.*

Researcher's observation note

In some other cases, stakeholders such as students, school management committees, and teachers expressed their frustration about the poor physical facilities of the school. Instead of taking initiatives they exhibit a tendency to blame others, especially the Government, for not providing them with adequate resources. The proposed schools in worse condition. All this indicates lack of ownership and commitment of the stakeholders in improving the school environment. The following statements support this finding:

*"The school looks like a shed for the goats; The environment for learning does not exist in the school."*

Grade 10 students of a proposed secondary school in a focus group discussion

*"The school looks like a shed for the goats; The environment for learning does not exist in the school."*

Grade 10 students of a proposed secondary school in a focus group discussion

*"The Government should take care of the school. It is surprise to have poor results in such a school run solely by the villagers."*

Chairperson of the VDC in an interview

*"We have no resources to purchase the materials needed for the school proposed, and the Government does not provide the materials for the lab".*

A science teacher of a proposed secondary school

In the absence of minimum physical facilities and resources, schools cannot operate effectively. However, findings from this study also suggest that the abundance of physical facilities and high performance of the school are not directly proportional. The findings from previous research works and literature related to school effectiveness studies both support this finding of the current study in the context of Nepal, too. Quite frequently schools with minimum physical facilities and infrastructures have been found producing excellent results in the SLC examinations.

## 2.2 School Leadership

The role of effective leadership in schools' effectiveness is clearly a complex concept. Previous studies have maintained that head teacher leadership to be the most critical success factor that alone can make or ruin the school. This study equally counts on the role of the school management committee (SMC), especially of the chairperson of the committee. Whilst effective leadership includes direct effects on students through a head teacher's own teaching role or involvement with students, teachers, and parents directly, it is important to remember that truly effective leadership involves maximizing the indirect influences of others in the drive to achieve high performance. Head teacher leadership involves micropolitical skills, coalitionbuilding, psychotherapeutic interventions in school cultures to remove any 'sick' relationship patterns, and manipulation of performance standards or success factors, all devices used by effective head teachers as school leaders.

*"Since the Headmaster is solely responsible for demonstrating good performance of the students and teachers, he should not be under SMC's pressure. We have never persuaded him to recruit our supporters".*

SMC Chairperson of an effective public school in an interview

*"The headmaster and teachers have taken the school matters very well. They understand our spirit. They are self disciplined."*

Father of a graduate who passed SLC with distinction last year

*"Our Head knows well enough how to exercise administration".*

Teachers of an effective school in a focus group discussion

'How effectively is the school leadership contributing to students' learning and success?' This was one of the important research questions included in this study. Head teachers of effective schools are found relatively more stable, firm, confident, and result-oriented. All their time, effort, and energy is geared towards student achievement and positive social image of the school. Such head teachers of high performing schools have won the trust and confidence of other stakeholders, too. The following statements directly quoted from some other stakeholders support the findings about the critical role of the head teacher. For example:

*"I seldom face any pressure in my work in School."*

A head teacher's remark in an interview

*"The teachers are loyal to their jobs and we have more trust on the headmaster."*

Mother of a class 9 student talking to the researcher in a tea shop near the school

*"If the pillar (miyo) is good, other things become good themselves. If the ploughman is efficient, ploughing becomes effective. The headmaster is able to do so".*

Teachers describing the headmaster in a focus group

*"Let the headmaster supervise the school. Why do we supervise?"*

Chairperson of the school management committee (SMC) in an interview

*"Head Sir has done a wonderful contribution to bring this school at this stage".*  
*"The headmaster and teachers have taken the school matters very well. They understand our spirit. They are self disciplined."*

Father of a graduate who passed SLC with distinction last year

*"Our Head knows well enough how to exercise administration".*

Teachers of an effective school in a focus group discussion

On the contrary, head teachers and school management committees (SMCs) of other type of schools are found behaving in a very different way. Lack of trust and confidence, accountability, and discipline and unclear intents are likely to have made those schools literally 'ineffective'. Blaming each other for nonperformance and poor performance have been traced as a recurring patterns of behavior.

*"He can not give right decision on right time. He changes his decision immediately after somebody presses him. Without any information he sometime goes out and comes late from the Tarai and Simikot in the name office of work".*

SMC chairperson expressing his frustrations about the head teacher

*Maoists punished the former head teacher on charges of sex abuse, biased ness, misuse of school budget, and conspiracy.*

Teachers and students accepted the first three as true (researcher's note)

Head teachers of some of those schools, on the other hand, do not seem to accept the fact that their leadership can be an inspiration to students and teachers. Preconceived notion that the head teacher cannot influence to get much done is prevalent. For example:

*"Active leadership alone is not sufficient for good results. There are so many causes behind school performance". "Head teacher alone cannot do much."*

Head teacher of a low performing school

Refuting the head teacher's claim that SMC chairperson and its members are politically motivated and are not concerned about school improvement, the chairperson defends:

*"Had they not been active, it would still remain a primary school."*

SMC Chairperson talking about SMC members.

Frustrated head teacher with a clear lack of commitment and accountability characterized some of the low performing schools. Frequent transfers from one school to another, low motivation

to perform high, lack of credibility among teachers and the community are identified as some of the prominent factors that contributed to lack of firm and stable head teacher leadership in the case of ineffective schools. Thus, findings indicate that the initial proposition about the theme on school leadership as stated in the design of this study ('a firm and stable school leadership is a precondition for students' learning and success in the examination') holds true.

## 2.3 Quality and Adequacy of Teachers

How committed are the teachers to their profession and to the achievement of learners? This fundamental question prompted the search for answers from the perspectives of the actors in their own contexts. Findings pertaining to this study theme undoubtedly revealed major differences between effective and ineffective schools. What happens in high performing schools? How do teachers work or are made to work? Here is what happens in the case of effective schools.

*"It is not the headmaster or school administration who is to get credit for success. Teachers' whole hearted support and positive working attitude were behind the success of the school".*

Teachers in a focus group discussion brainstorming about their own 'commitment and collegiality'

*"Since they (teachers) are qualified and recruited by DEO through certain procedures, there is no reason to suspect them. It is the school setting that makes a teacher good or bad".*

Head teacher's confidence and logic about his trust

*"Teachers do not involve themselves in politics in this school"*

A headmaster and assistant headmaster talking about teachers in a wrap-up meeting with the researcher

*"The mathematics teacher is a bit harder.*

We must listen to her very well. She also asks questions if she finds us less attentive." Class nine students in a focus group

Teaching and learning geared towards students' performance has been found a typical characteristic of effective schools. Findings from previous research on effective teaching recognize 'teachers' as the most powerful factor influencing student achievement. This study also identified and explored 'quality and adequacy of the teaching force' as one of the major themes. This included not only the number of teachers but also their qualification in the subject and commitment to teaching. Interestingly, incredible discrepancies were traced between effective and ineffective schools in terms of the quality and quantity of teachers placed in the schools by the Government, and by the local communities in the case of proposed secondary schools. High performing schools do, in fact, expect high and they achieve what they expect from teachers as well as from the students and parents. Statements below capture most of the reality of effective the schools in this regard.

*"If you want to be a good teacher, you should lead. If you go ahead, others will follow you"*

A head teacher's expectation of other teachers in a public school

*"My hands are for giving awards, I am fortunate enough that I do not have to punish the teachers from my hands".*

A teacher quoting the SMC chairperson what she heard in last year's schools annual day

*"Generally at the time of appointment itself, we are very keen about the performance of that person's commitment to teaching. We give orientation as well, therefore, after observation for a week we let the person continue in most cases."*

Principal of a high performing private boarding school talking about their practice of teacher selection for recruitment.

*There is no point that teachers should stay from 10 to 4 in school. You can come in your time, teach well, and go. It is a tradition in our school. We have not informed it to DEO formally but the SMC and the community know it very well".*

Head teacher

*"Two years after I started teaching in this school, I had passed the Public Service Commission examination for the post of a bank accountant. Many people persuaded me to leave teaching but I could not. I find myself addicted to teaching and the school."*

A head teacher's reminiscing the past, in the course of answering a probing question about his own commitment in an interview

Low performing schools exhibit some common traits. The stakeholders of these schools share different views reflecting their way of living and thinking, and their perception of the teachers, students, and the school as a whole. This, in fact, constitutes the public image of the school.

Indifference to self and blaming others for low performance or non-performance are overtly expressed by the stakeholders. Teacher absenteeism, low morale, students' irregularity, lack of discipline, indifference about school performance, and lack of accountability are some of the features that characterize these schools. The following observations and statements expressed by the actors reflect the misery about the quality and adequacy of teachers in their schools.

*There is only one secondary level teacher appointed as head teacher recently. Primary and lower secondary teachers teach at the secondary level.*

Researcher's observation notes

*"Teachers are irregular in the school and as a result, courses are not completed. All students are promoted to higher classes without considering their ability."*

Grade 10 students in a focus group discussion about the performance of the school in last year's SLC examination

*"The main problem is that students are absent most of the time due to their work at home. The course is never finished on time. Students are compelled to face the exam from the selected topics we taught."*

Mathematics teacher of a secondary school in Karnali zone.

*"The head teacher (not anyone else) should manage if a teacher is unfit".*

Mother of a class 10 student, in an informal talk.

Likewise, students and some parents have terrible stories about the teachers and the school. Non-performance by local teachers has been found as one of the reasons for the low performance of schools. This questions the provision of appointing and placing teachers in their home village or town (gharpayak) as a contributing factor to make schools ineffective. The following remarks speak of the gravity of the problems that the ineffective schools are entangled with.

*The school has a library in its newly constructed room. There are few books. Only teachers get access to the library and computers. The school does not have budget to keep a librarian.*

Researcher's observation notes

*"Most teachers are local. Teachers remain absent without informing the head teacher. Many others come late. Nothing happens to the latecomer."*

A local shopkeeper whose two sons are in the school, talking to the researcher during one breakfast during field work

*"Teachers come to school drunk. They do not teach but spread terror in the class by talking nonsense and beating students. The school management committee decided to take action against those drunker during school time."*

Minutes of SMC meeting Bhadra 30, 2060 (a public school in the eastern region)

*"Mentally disordered teacher is also involved in teaching in this school. How can we expect good performance of the student from such teacher?"*

Father of a school graduate who failed the SLC last year and the year before as well

*"The math teacher sometimes made mistakes while teaching in the class. When we pointed out his mistakes, he scolded us as "are you the teacher or is it me?" rather than realizing his mistakes."*

School graduates in an informal talk in a tea shop

Teachers express their resentment and anger about Government apathy to supervision and monitoring of school activities. One actor especially refuted the provision of expensive training without post-training support system in place.

*"I oppose the Government's investment of millions of rupees in the name of teachers' training without monitoring how much is possible to apply".*

A Secondary school English language teacher in the Far West.

Some teachers have unrealistic expectations expressed in the form of ignorance or blurred hope or false assurance.

*"We (primary and lower secondary teachers) are teaching in the secondary level, with a hope to be employed (by the Government) as secondary teachers."*

Teachers with less than required qualifications.

The quality and adequacy of the teaching force is a key determinant of students' learning achievement and success in examination. The findings of this study support the argument that a reputed school with a strong team of teachers and corporate culture always produces students with higher learning and performance in the examination.

## 2.4 Students' Motivation to Learn and Succeed

Students' motivation to learn and succeed has been identified as one of the critical determinants of school performance in terms of results. Good examples and role models created by graduates of the previous batches influence the succeeding batches. High ambitions lead to high achievement. Previous studies on school effectiveness, including a nationwide comprehensive survey of schools and achievement of their students conducted by SLC study team, identified 'expectation for the highest degree of education by students' and 'role model at home or in the neighborhood' as determinants significantly influencing school effectiveness.

Taking 'students' motivation to learn and succeed' as one of the themes, this study explored answers to questions as to what happens in effective schools? How is the same behavior interpreted in the case of ineffective schools? Findings reinforced the fact that 'higher the motivation higher the level of achievement.'

Some high performing schools attempt to psychologically create motivation to learn and succeed. The following prayer recited by all students every morning in chorus exhibits this behavior:

*'Merciful God, please connect my path and mistakes, help me improve my handwriting, attention, and understanding; bless upon my efforts to be a very good student.'*

Morning prayer by students of a successful school, from researcher's notes

Students of high performing schools, who occasionally fail in the examinations, do not usually blame their teachers for their failure. On the contrary, they count on their own weakness and accept the consequences. The following observation and student statement illustrate this type of behavior:

*Students give credit of their achievement to the teachers. But they do not blame them for their bad results.*

Researcher's observation notes

*"I did not like to study, on the one hand, and, on the other, I did not remember in the examination what I had studied. Teachers made all possible efforts to help me, though".*

Student who was failed in Grade nine

The trails of the low performing schools are different. There is high drop-out rate and low achievement in the examinations, indicating a low level of motivation to learn and succeed and equally a low rate of system effectiveness, causing the school to be ineffective.

*Cohort analysis shows that out of the total 33 students enrolled in Grade 6 in 2056, only 39 percent (13 persons) reached 10<sup>th</sup> Grade in 2060 and all of them failed in the SLC. Sixty-one percent of the total enrolled students dropped out before reaching the 10<sup>th</sup> Grade.*

Situation of a school in the eastern region, from document study and researcher's note

*"Because students need to work in their houses before as well as after the school, they do not get enough time for their studies."*

SMC chairperson in response to 'Why all failed the SLC?'

However, not all the students of low performing schools are de-motivated. Some are extremely willing to learn and succeed, but they do not get adequate guidance and support.

*"Most of the classes remain off. There is not a single week in a year when all teachers are present and all classes are run. There is always someone absent."*

Students expressing their frustrations about their off task behavior in the school

This is also a clear indication of the lack of opportunity to learn and their deprivation from conditions to achieve a higher rate of success:

*Some students are eager and interested towards their education. They come to give exam after carrying manure to their fields and finishing all their daily heavy household chores.*

Notes from a school's SWOT analysis

*"A student of class nine was reading his note copy while carrying manure to the field from his home and finished his course and gave exam in the afternoon. She passed the exam without any grace mark and came third in the class."*

Teacher's remarks in response to a probing about students' motivation to learn and succeed, in an interview

High expectations and high level of motivation have been found influencing the extent of higher level of learning and success. However, the assumption or the general notion that 'students coming from elite and higher class families exhibit a higher level of motivation to learn and perform better than the poor and low caste students in the examination' is not supported by this study.

## 2.5 Teaching Learning Environment

Students' motivation to learn and succeed yields high achievement results only when the opportunity to learn and succeed is provided. Teaching and learning involve people that bring along a whole lot of human factors into the scene. This study focused on exploring 'What actually happens in the classroom?' Who learns and who does not, and why? How is the classroom politics? How do teachers behave with the students? All the efforts creating a conducive environment make for effective teaching and learning?

This study has traced some strange perceptions and behaviors of stakeholders that influence students' performance. Not all the patterns of behaviors and efforts were found supporting the ultimate goal of achieving student performance through teaching and learning practices. The following statements of events illustrate this situation:

<p><i>Most students fail in Math, Science, and English.</i> Records from document study</p>
<p><i>"New students come to this school when they fail in other schools."</i> Teachers in a focus group</p>
<p><i>"Math and English teachers give the problems in class, but we have to go to their homes for tuition for solution."</i> Class 10 students in a focus group discussion</p>
<p><i>Primary level teachers are taking class at the lower secondary levels and lower secondary teachers are taking class at the secondary level where there are few secondary teachers, all in a temporary position.</i> Researcher's school observation notes</p>

Worse events were observed and recorded during the observation and in-depth interviews with the actors of those schools. Not only the students but also the researchers were confused as to what was actually happening and why:

<p><i>While making a forty-five degree angle, as requested by the students, the teacher crossed the intersect point over the blackboard on the wall.</i> <i>Confusion of the researcher while observing a Mathematics class of class ten</i></p>
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Likewise, the lack of teaching aids in the low performing schools adversely affected teaching learning, and subsequently, students' performance in the examinations:

<p><i>No equipment and materials are available for Science practical. Teaching of English is based on translation.</i> Researcher's notes from class observation</p>
<p><i>The teacher himself became puzzled in course of explanation because he did not have any material to demonstrate what he was describing.</i> Researcher's observation of a Science class</p>

Why did most of the students they actually taught for so many years fail to pass the SLC examination? Here is what a teacher has to say. This poses another type of problem:

*"When students have to walk four hours a day to and from the school, and do all the household chores daily, how can we expect them to get good results?"*  
A secondary school teacher of English

Other types of schools exhibited a different set of practice. Some of those recurring patterns of behaviors were captured during this study. When students were encouraged to comment on their teachers and the school they were studying, they expressed some trust in teachers as well as confidence in themselves and said:

*"The reason we liked this school is the good teachers; we understand their classes".*  
Class 10 students in a focus group discussion

*"Most teachers in this school have high qualifications and abilities. They teach in colleges and private schools as well. They teach us in a good way."*  
Students of class 9 and 10, reaching consensus in a focus group of 12 students, 6 from each class

*"The teachers remind us in our class to do equally well in all subjects. They say if you are weak in one subject, you won't be able to pass successfully".*  
A class nine girl student, roll no 5, age 14

The graduates of these schools who recently passed SLC achieving pretty high scores have to say the following about the school and their teachers. These remarks could certainly encourage those teachers:

*"The main reason why we did so well was the 'teachers'. They were highly capable of teaching and always insisted on doing better in examinations".*

*"The teachers used to insist that we should do equally well in all subjects. They engaged us in practicing question papers from different schools and for different years".*  
Students who recently passed SLC in a discussion with the researcher

Public schools are not always producing poor results. Some are really high performing despite their limitations. Students who studied such public schools and passed the SLC feel no less competent than those who passed it from the private boarding schools. Their confidence was obvious as the following shows.

*"When I was in the class as a student from a Government school, the teachers as well as students coming from the private schools looked down on me. Later on, I secured top marks in most of the subjects. Everybody respects me now in my college".*  
A graduate of a public school now studying in a college

*"We have no hesitation to say we're from a Government school. We've no difficulty in understanding lessons in English medium. We're proud of the school".*  
Two students met on the road

Why do some schools perform so well and some others are actually sinking while trying to survive? When further researched, it was found out that ‘task-oriented leadership’ of the school created and maintained the following recurring practice that emerged in most of those schools achieving good results in the SLC examination:

*One of the arguments made by the students was compulsory coaching with high fee. Everyone was compelled to pay the fee whether s/he wanted to join the coaching class or not.*

Researcher’s observation note

Previous studies on effective teaching maintained that ‘the rate of success in the examination depends on the effectiveness of teaching that uses scientific methods and appropriate audiovisual aids’. This study on school effectiveness and students’ performance in the context of Nepal identified ‘relationship among high expectations, teacher commitment, and students’ confidence’ added to the above recurring practices as features of effective schools.

## 2.6 School Culture and Climate

School effectiveness studies conducted in other parts of the world (including those in Asia Pacific and South America) have concluded that ‘an effective school has a good public image of having strong values and norms that lead to higher rate of students’ learning and success in the examinations’. Though ‘school culture’ and ‘school climate’ are two features often treated differently, these two have been considered as similar but not the same concepts in these case studies of effective and ineffective schools in Nepal.

What type of school culture and climate could influence school effectiveness? What happens in the case of ‘effective’ and ‘ineffective schools’? School culture and climate consist of a wide range of practices as well as rituals that make the life of the school over a considerable period of time. These practices include celebrations, social functions, anniversaries, norms and values, institutional practices, relationships, expectations, and beliefs strongly held by different actors as ‘acceptable’ or ‘unacceptable’ patterns of behaviors. This study maintains that these recurring patterns of behaviors eventually create school culture and climate that identify the school entity with its public or social image. Some of such practices exhibited by actors in the case of effective schools are as follows:

*The founders have developed a school charter including conditions rules and regulations for school operation.*

Researcher’s observation note

*“We try hard to inculcate study habits in student, but we alone cannot do it without parents’ support. When a student comes for admission, we interview the student and the guardians besides taking the entrance test.”*

Head teacher of a successful school, in an interview

*Teachers keep an eye on students’ dress code. Those who do not follow are called up and warned.*

Researcher’s observation notes

Students, teachers, head teachers, and parents of those schools generally accept the practices or comply with the norms and values created by the school culture. For example:

*"If teachers are not convinced with the absence letter furnished by the student, then they call the guardians over the phone or invite them to school".*

A class 9 girl student (age 15) who joined school after two days' absence (in an interview with the researcher)

*"We review what is going on, discuss problem, but do not write minutes unless any serious issue arises."*

Principal, talking about teachers' monthly meeting

*"We have a different culture here. Generally, schools observe parents' day, but we observe students' week".*

Principal of a successful school, explaining her conviction

Similarly, the school management committees and parents have equally high expectations and a strong faith in these schools and the teachers working there. The following remarks of the actors illustrate this pattern of living and thinking:

*"We've conveyed our intention to the teachers very clearly. They have followed it with a good spirit." "We do not limit the teachers only to teaching. They have to look after the school as a whole; the playground, buildings, toilets, water supply, and all other facilities. This is how things work in this school".*

SMC chairperson

*"We provided every support in the school's initial years. Some of us provided furniture and others provided labour and donation".*

A member of 'parentteacher association (PTA)' of a high performing school

Most low performing schools are characterized by certain features that can be called wrong behaviours. Some undesirable practices that are repeatedly shown by some actors and not corrected on time eventually damage the school's performance and public image. Such undesirable practices, once deeply rooted in the minds, as beliefs and perceptions, of the stakeholders, are found difficult to change later. Given below are some of such terrible behaviours exhibited by some key stakeholders of such schools. For example:

*"Cheating in the examinations is common. Students complain that teachers are less strict with their favorite students than with those who are not their favorites."*

From SWOT analysis of a school

*"Sometimes they (teachers) quarrel in the office while we keep waiting for them to come to class."*

Class 9 students in a focus group discussion

*"Both teachers and student take Khaini (tobacco) together. One teacher married his student whom he was tutoring."*

Graduates of a low performing school in the eastern region

Other alarming features that characterize ineffective schools' relate to students attendance requirements, adverse effects of conflict on the operation of schools, and parents' perceptions about student learning and success. Some of these cultures are created by the school itself, and some imposed by the circumstances.

*"Students' attendance depends on seasons. It is not a new thing about this school. Absenteeism is very high."*

Head teacher of a school (only 2 students have passed SLC from the school within 5 years) in an interview

*"Students themselves should pay due attention to their study rather than teachers or parents. They do not pay attention, especially, due to their intention to become a labure (recruited in foreign labour)."*

Teacher of Economics describing students' belief about their own education

*School operates according to two parallel calendars and two national anthems in the mornings: one of the Government and another of the Maoist rebels.*

Researcher's observation

*"Parents are not always concerned about their children's education. When the exam approaches, they come to request teachers to promote them (students) to the upper Grade."*

Social Study teacher of a secondary school, in an interview

Even aware and educated parents express their frustration about the poor performance of the student and the school but share their helplessness as follows.

*"We know a lot of care should be given to them. School as well as home environment is not good for learning."*

Mother of a class 10 student

These findings indicate that several wrong behaviors are generally accepted in the case of ineffective schools. Performance standards and school norms do not exist or are not communicated in many other cases. Such behaviors eventually constitute a culture creating an image associated with the school, as a 'bad school' or 'poor school' that we identified as 'ineffective schools' in these case studies.

## 2.7 External Support, Supervision and Patronage

The Findings from school effectiveness studies are consistent in that effective schools as academic institutions tend to demand operational and institutional autonomy. What type of autonomy, support, and services could increase school effectiveness in terms of results? This study attempted to find out what happens in the case of the effective as well as ineffective schools with reference to external support, supervision, and patronage.

The supervision of schools the district education offices all over Nepal has been found defunct. Effective schools practiced supervision of teaching learning activities by the head teacher and school management committees in some cases.

*"I supervise the school. SMC meets regularly and makes decisions about the school matters. SMC chairperson visits the school regularly. Supervision from the DEO is rare".*  
Head teacher of a high performing public school located in Kathmandu.

*"I have no knowledge of the school supervisor coming to this school and providing suggestions.. The school supervisor came to us only once to observe our class last year for distributing the teacher's licence for us".*  
A secondary school science teacher

The issue of handing over the school management to the local communities received mixed reactions. Conclusions could not be drawn on the basis of these limited data. Most public school teachers took it as a threat whereas some confident head teachers considered this issue as an opportunity.

*The majority of teachers do not want the school handed over to the community. They think there will be no job security as the authority to hire and fire teachers will go to the SMC.*  
Teachers fear expressed in a focus group discussion.

*"Only those who are irresponsible feel insecure about their job".*  
Head teacher (of a high performing public school in Kathmandu) commenting on teachers' fear

Effective schools also have a system in place to reward the teachers based on results. This has been found a great incentive for the teachers to keep up or do a better job in the future.

*"We award certificates to those teachers whose students demonstrate excellent results in the S.L.C. There is no financial incentive for teachers but a few words of appreciation for their work are more powerful than any monetary reward".*  
SMC chairperson of an effective school, in an interview

Teachers (and head teachers) of those schools that could not produce good results generally blame the DEO and SMC for ignoring them and for leaving them alone. Observations from this study found out that they are in fact left alone, without timely support, and in the absence of any encouragement to perform better. This has pushed poorly performing schools toward further misery. Such grievances are reflected as resentments as follows:

*"They never come to this school except for meetings. They have never asked us about the progress of their children".*  
A Social study teacher talking about SMC of the school

*"How can students get good results amidst the tensions of terror and abduction?" "They (SMC members) are very idle. They hardly talk about problems of the school."*  
A local Lamahistorian and founder of that school showing his resentment about SMC

The findings of the study indicate that no one can think of an effective school without a confident and committed head teacher with all the necessary power and authority to function effectively, and working closely with a strong SMC that is credible and accepted by the community. In fact, handing over of schools to local communities would require certain preparations for winning the trust of the stakeholders so that the situation does not get worse. More autonomous schools produce better results, both in the public and the private school cases. School improvement plans cannot be successful also without establishing an effective system in place for regular monitoring and supervision of the school activities.

## 2.8 Claims, Concerns and Issues of Stakeholders

This study has attempted to explore and examine the types of claims, concerns, and issues raised by different stakeholders of both the effective and ineffective schools. It is found out that certain types of claims, concerns, and issues influence student performance and school effectiveness either positively or negatively. Amidst the blaming culture that was prevalent in most of the low performing schools, one actor usually blames others for poor performance. The initial proposition of the study was that ‘actors show their indifference toward the high rate of failure in the SLC examination because they are not serious about their claims, concerns, or issues.’

This study was designed to explore and understand what happens in the context of ‘effective’ or ‘ineffective’ schools? Who takes the credit? Who is accused for failure? What is accepted and what is rejected? How do the actors work together? How do different actors react to factors that influence student performance in the SLC examination?

Findings reveal the fact that low performing schools are inconsistent in their approach in dealing with several factors that influence school effectiveness. Some are external but most are internally generated factors in all such schools. In some schools, it was interesting to observe that all of the eight major aspects of school effectiveness included in this study were found negatively influencing school performance in terms of the results. Some of those alarming conditions are illustrated by the statements and observations below:

*From Grade three onwards, all the students are promoted whether they deserve ability or not.*  
Researcher’s note from school records

*“All the students are promoted due to the pressure of the parents.”*  
Head teacher of an ineffective school, in an interview

*“Confusion about fees still exist. We do not know whether we should pay or not”.*  
Father of a Grade 9 student

Likewise, some serious comments were found made about the performance of teachers by parents and SMC members:

*“Teachers only think about ‘how to get salary?’ and ‘how to kill time?’ If the evaluation of teacher is based on their performance, they will follow the right track.”*  
Parents of a proposed secondary school in the eastern region, in a meeting

*"There is no cooperation between teachers in the school due to political backing. Teachers are divided. They are loyal to one or the other political party, not to the school!"*

SMC member of a poorly performing school describing the teachers' behavior, in an interview with the researcher

One member of SMC of a low performing school expressed his regret over the poor performance of the school in a more sentimental manner as follows:

*"Nakhauta Karnali bagdo, khauta mula sukdo, nalauta Indreni phul, lauta kapal dukhdo. Kirmule samundra thundo, machhamela khando, kukura nikala katdo, bagra dhoka bundo."*

SMC member of a school in Karnali zone. (Symbolic intent: I want to do a lot for the school, but there are challenges and limitations. I regret)

Parents have their own stories, no less alarming to share. These statements show not only resentment but also anger directed towards the Government's apathy and ongoing conflict.

*"Students are afraid to go to the district headquarters to appear in the SLC examination."  
"No one is secure."*

Parents expressing their worries about their children and themselves, in a tea shop near the school

*"Government does not give us anything, does not care about this area. We are left in horror and terror."*

A female member of PTA, in an interview

The claims, concerns, and issues raised by the students are equally appealing. The following two poems written by the students of a low performing school should be sensitive enough for those who claim to have provided equity and justice to all citizens.

*"Ghar bata bidhyalaya jana dherai tada parchha; padhne lekhnne fursad chhaina; dherai bidnu parchha; Yek barsa ko mehanat hamro fail bhayema janchha, padhda fail bhayema buba amale najau padhna bhancha".*

A 10<sup>th</sup> Grade girl student from a school in Rasuwa

*"Mabi star sammako hamilai nisulka padhai chahiyo, Ani matra skishit bhai bikash garna paiyo".*

Gombo Tamang, a student of class nine

The stakeholders of schools that are producing relatively better results every year in the SLC examinations have a different set of claims, concerns, and issues about school performance and student achievement. Students, teachers, head teachers, parent, and SMC members of those

schools exhibit high expectations and high confidence. When they see their efforts yielding positive results, they become even more ambitious and encouraged to contribute more.

*“There are three actors who play a role to influence the education of students- they are teachers, parents, and students”.*

Founder teacher of a successful school

*“It’s we teachers who can decide who is to pass and who has to repeat; we decide on a case-by-case basis”.*

Secondary level teachers in a focus group

*“If the so- called good private boarding schools do this, why can’t we do this? We have to separate the spoiled potatoes in time to demonstrate better results in S.L.C.”. “Almost all of our students pass in first and second division, pass in third division is rare”.*

Assistant headmaster of a public school speaking about screening in send- up test before SLC

Similarly, the parents of students of high performing schools are found more positive towards the school and teachers. Instead of blaming, they express their commitment and in the mean time, their expectations from the teachers.

*“We can provide what the school expects from us. But they have to help our children. “What the Head sir is doing is very satisfactory and therefore we warn our children to be respectful to the teachers and the school”.*

Parents’ perspective of the teachers and the head teacher, in an interview

Students are found serious about their study and preparation for the examinations. Cheating is discouraged, even punished.

*“Examination over here is very strict. We have heard this from the examinees of the other schools. We had heard some students crying out while they were stopped from using loose papers in examination”.*

A class ten girl in FGD

The teachers of effective schools exhibit their positive image through teaching and subsequent high achievement of their students. However, they express their doubt about the fairness of the SLC examination.

*“Those teachers who have good command over the subject have no time to go for checking copy in the Controller of Examination's Office. Those who go there do not even know the answers well. How can it then be fair?”*

Mathematics teacher of a high performing public school in Lalitpur

*“S.L.C. examination is not fair. As far as I have heard, it is not fair. Even those who are unqualified have passed it”. “Able teachers should be appointed full time to examine the answerbooks of S.L.C.”*

Secondary school teachers in a focus group

Teachers also express their concern about the unfair competition between public and private schools. Putting them together and rating their performance is not justified, for example:

*"The Government does not allow the public schools to charge fees, and does not permit them extra books and teaching in the English medium. On the contrary, the private schools are left free in doing so. They are not monitored. The test paper for both the categories of schools is same. Thus, Government rewards the private schools and punishes the public ones by making them compete together. It seems that the public school has been made a container."*

English language teacher of a high performing public secondary school

In response to the provision of handing over the school management to the local communities, the teachers of effective schools also have their reservation and grievances:

*"The policy is not without to suit the needs of the people and the community, but works as a mere ploy of the donors. It is threatening to the teachers."*

Assistant head teacher talking about the policy of handing school management to local community

The parents as well as SMC members of the effective schools express their satisfaction and realize the limitations of the schools they are engaged with.

*"I agree that this school provides less extracurricular activities, but gives more attention to study."*

Father of a successful graduate who passed SLC in 1<sup>st</sup> division

*"Head teacher's committed leadership, unity of teachers, parents positive attitude towards the school, students' regularity and discipline, and a feeling of competition with the neighboring schools are the factors that make our school effective on the SLC results."*

SMC chairperson of a successful school in a hilly district, in an interview

Additionally, the following instances were sporadically observed or traced in the context of some of the ineffective schools during these case studies.

- 'Students consistently avoiding classes and on the run due to fear of drunken teacher',
- 'Teacher with certificate level in Nepali teaching math and science in the secondary level',
- 'Only two students in class 10 repeatedly appearing and failing SLC for the past 3 years',
- 'Students not attending school for 7 days during every menstruation period',
- 'Class 10 students having seen the word "library" only in the dictionary of their brother/s',
- 'A girl student unable to find water to drink in her school during the whole day for the past 9 years',
- 'Schools being regularly used as cowsheds' and so on.

In the same manner, despite several ‘best practices’ such as collective leadership, individual attention to students, involvement of parents and local community, firm and stable leadership, teacher collegiality, frequent assessments, developmental feedback, teacher and student regularity, reward and recognition for accomplishments, and teacher accountability some malpractices were also traced as infrequent patterns of behavior in the case of schools identified as ‘effective’. Instances of such practices include:

- ‘Stealing best students from other competing schools’,
- ‘Hiring best known teachers, possible question-setters and possible examiners as short- term experts or coaches’,
- ‘Expelling slow learners or compelling them to appear in the SLC privately or from another school’,
- ‘Asking students to compulsorily pay and join additional tuition classes throughout the year’,
- ‘Teachers giving problems in the class and asking students to come for home tuition with high rate of fees’ and so on.

However, the above sporadic practices have not been discussed as findings of the study due to insufficient evidences. More data are required to be ascertained if those features characterize recurring practices of those schools or only instances appearing intermittently (Further research is needed).

The findings from these multiple sources of data in the case studies illustrate problems and prospects along with the complex multiple realities of ‘effective’ and ‘ineffective’ schools. (A demographic profile of the case schools has been included in Annex VIII of this report). Policy makers, planners, educationists, Government authorities, curriculum designers, evaluators, school inspectors, political leaders as well as students, teachers, school managers, parents, financers, school governing bodies, donors, and the Government agencies are expected to benefit from the findings of the study.

Before arriving at conclusions and recommendations, some important findings not envisaged by the initial propositions of the study are mentioned here. Schools are not only ‘effective’ or ‘ineffective’. Some are ‘achieving schools’, some are ‘effective’, and some others are ‘sinking schools’ trying hard to survive. Schools with ‘task- oriented leadership’ are producing high pass rates in the SLC examinations. However, test scores cannot be the only determinant of school effectiveness. Schools are not doing any justice to students. All schools are ignoring joyful learning, creativity, problem solving, emotional intelligence, personality development, and socialization of students. Students are systematically being deprived of the childhood opportunities and the basics of human development. By exerting extreme pressure on students to do well in the examinations the education system of Nepal in general and schools in particular, are systematically curbing students’ latent potentials and their natural instinct for growth and development.

### 3. CONCLUSIONS

The conclusions of the case studies have been derived from the recurring patterns of behaviors as school ‘practices’ from the perspectives of different stakeholders of the case schools.

The characteristic features of such practices indicate ‘best practices’ (and some malpractices!) in the case of high performing or ‘effective’ schools. Likewise, the ‘causes and effects’ of low performing or ‘ineffective’ schools have been traced and unfolded as they exist to arrive at conclusions. The following conclusions drawn from the case studies have been grouped according to the study themes. A summary of school traits and practices of ‘effective’ as well as ‘ineffective’ schools has been included in Annex VII of this report.

### 3.1 Physical and Environmental Conditions

1. Physical comfort and environment influence teaching, learning, and performance. The teachers and students of schools in Nepal, both effective and ineffective, do not have access to adequate physical facilities and environment to expedite learning and performance. However, abundant physical facilities and high performance of the school are not directly proportional. Schools with minimum physical facilities and infrastructures have also been producing excellent results in the SLC examinations.
2. Most of the proposed secondary schools lack the minimum physical facilities and environmental conditions required for teaching, learning, and performance. No subject teachers, no classrooms, no labs or library, textbooks arriving late, primary and lower secondary teachers teaching secondary classes, and scarcity of funds to pay the teachers are the factors contributing to an incredibly low performance in the SLC examinations of those schools year after year. The policy of permitting lower secondary schools to run secondary classes without essential preparations eventually push such schools and the communities to misery, frustration, resentment, and withdrawal.
3. Schools' efforts to provide good education does not help much if parents do not help children by creating a learning environment at home and by giving them emotional support. The environment at home, inspiration from parents and family, parental involvement in the learning and achievement of students, and awareness are critical success factors.

### 3.2 School Leadership

4. ‘School leadership’ is a fundamental determinant of school effectiveness. Schools with a firm and stable head teacher or principal are ‘effective’. The head teachers of effective schools receive essential support from the school management committees, especially of the chairperson of the committee.
5. The head teachers of low performing schools exhibit lack of commitment. They express frustrations and complaints about the SMC, local community, parents, teachers, and the Government for lack of support from them.
6. The head teachers of high performing schools do not agree that they face any threat or pressure from parents, SMC, DEO, or the community. They are respectful and they genuinely claim that they deserve it. They are committed to school performance.
7. A school becomes ‘ineffective’ primarily due to the lack of firm and stable leadership. The characteristics of ineffective public schools in Nepal include; headmaster without power and authority, complete absence of teacher accountability, teachers politically divided and indulged in conflict, indifference to students’ performance, reward despite poor performance and subsequent burnout and nonperformance.

8. All effective schools have 'active and stable' head teacher (Annex VII). This study is consistent in conclusion with the conclusions of previous studies on school leadership that 'a head teacher alone can make or ruin the school.'

### 3.3 Quality and adequacy of teachers

9. 'Teacher commitment and collegiality' determines the extent of effective teaching, learning, and performance. The teachers of effective schools work hard and cooperate with each other for students' learning and success in the examinations. The recurring patterns of behavior in the case of high performing schools exhibit this trait.
10. Ineffective schools exhibit the trait of 'teacher absenteeism and nonperformance.' This is the primary cause of low performance in the SLC examinations in the case of most of the ineffective public schools.
11. In most schools, courses remain incomplete by the end of every academic year primarily due to 'teacher absenteeism'.
12. Teachers (including head teachers) of remote rural schools have a tendency to avoid teaching. They look for training opportunities to escape work. Teacher training has enhanced teacher absenteeism rather than school effectiveness.
13. Most nonperforming teachers are arguably the local teachers. The provision of transferring teachers to their local districts or villages (*gharpayak*) and keeping them for ever there has consequently prompted nonperformance and their indulgence in local politics.
14. Activities of political parties (including Maoists) have effectively been contributing to damage the public image and performance of public schools throughout the country. Teachers as well as students are divided politically. They are found loyal to one or the other political party but not to the head teacher or school management.

### 3.4 Student Motivation to Learn and Succeed

15. Students of high performing schools are motivated and committed to learning and their own success. They are inspired and have role models to motivate them at school, home, and their environment.
16. Most students of the low performing schools lack good examples of success and high achievement in their environment. Only a few students have passed SLC before, and they too have remained unemployed or have not gone any further in higher education. This has created a lack of role model and inspiration for them.
17. 'The lack of opportunity to learn and succeed' has resulted in 'low motivation' among students of most of the ineffective schools. It is evident among students in the case of rural schools. This study concludes that lack of opportunity and role model created this situation. Those who passed SLC in the past ended up as workers in Indian cities (in the case of Western and Far Western regions) or remained unemployed.

### 3.5 Teaching and Learning Environment

18. Students in the schools of Nepal are systematically deprived of opportunities for human development. Extreme pressure by over-emphasis on examination results has taken away their natural instincts of childhood. Schools are not doing any justice to students. They are

ignoring joyful learning for creativity, emotional intelligence, personality development, and socialization of students.

19. Class room teaching is discriminatory. Teachers are not free from bias. Observation of teaching traced situations where teachers focused their time, effort, and energy on teaching 'good students' (generally sitting on the front rows) while the rest are ignored. Eye contact is unequal. Student participation is rare. There are also instances (though infrequent!) of students of low caste and Dalit families dropping out of the school because teachers did not answer their questions nor asked questions to them.
20. 'Lecture method' predominates and is often the only known method of teaching in 'effective' as well as 'ineffective' schools of Nepal.
21. Recurring patterns of behavior in the case of both effective and ineffective schools do not feature use of demonstration, practice activities (guided and independent), project and problem-based instruction, discovery learning, developmental feedback to student and use of visuals in teaching and learning.
22. Schools that are achieving good results in the SLC examinations recognize teachers based on student success in the examination. Their promotions and Grades are also based on results. Teacher of such schools meet regularly when academic matters are discussed and resolved.
23. Additional coaching and practice sessions (compulsory in many cases) for students, frequent testing and results being shared with the individual student and parents, and individual attention to students are some of the prominent features observed in the case of effective schools.
24. Likewise, tough and thorough screening of students in Grades nine and ten and in sendup tests to qualify for the SLC is also an obvious practice among the effective schools that are achieving high pass rates in the SLC examinations.

### 3.6 School Culture and Climate

25. Schools that are doing well in the SLC examinations have a strict system in place to discipline students and the teachers, and to inform parents of their wards' progress in the school. This has created pressure on students to do better in the examination.
26. Effective schools have high expectations and they produce what they expect. They are effective because all stakeholders concentrate their efforts on producing good results. They share not only their doubts and fears but also their joys and sorrows.
27. When more and more students fail to pass the SLC examination in the case of low performing schools every year, teachers blame students for not studying hard, students identify teachers as the cause of the problem, parents blame teachers for not teaching well, SMC blames the Government for ignoring them, and the fed-up and frustrated head teacher eventually looks for transfer to another school. Such events and history keep repeating year after year. This 'blaming culture' characterizes most of the ineffective schools of Nepal.
28. Ineffective schools do not have a mechanism to distinguish 'good' performance from a 'bad' one. Bad performance is often rewarded or protected by external forces, including local or national politics. Such factors ultimately contribute to the lack of teacher accountability and management responsibility over student-related matters in the case of most of the public schools in the country.

29. The inability to maintain records of students attendants, inconsistent behavior of teachers and school management, conflict between head teacher and school management committee and teacher irregularity in classes are some distinct features (as observed) of the ineffective schools, both in urban and rural settings.
30. Extracurricular or co-curricular activities are infrequent events in the case of both effective and ineffective schools. Some schools that are producing extremely good results in SLC are only focusing on teaching, tutoring rote-learning and handwriting of students, factors that are likely to influence SLC examination results.

### **3.7 External Support, Supervision, and Patronage**

31. Effective school principals supervise their own teachers. Supervision from the DEO has been found a rare event in the case of both the effective and ineffective schools.
32. The teachers of public schools are against the provision of handing over school management and ownership to local communities. They feel the threat of uncertainty and job loss. Head teachers have mixed views about the provision.
33. The supervision of teaching, teachers' performance management, and monitoring of students' progress in their learning and achievement are the most neglected aspects characterizing most of the public schools of Nepal. These practices are nonexistent in most schools. There are schools that neither provide feedback to students nor produce students' marksheets of examination results. 'All are declared pass due to pressure' is familiar a excuse.
34. The urban schools are more autonomous than the rural ones in terms of resources and operational decisions. Low performing schools operating in rural settings are facing more complex problems and threats. This has made the head teacher weaker than before.
35. Community support for the proposed secondary schools was encouraging during the approval period. When these schools repeatedly came up with terribly low pass rates in the SLC examinations, stakeholders started to show their resentment and withdraw support and encouragement. Stakeholders' support to public schools is rapidly declining. This situation has further pushed such schools further into misery and helplessness.
36. The effects of the ongoing 'conflict' and 'poverty' have fuelled further deterioration of school performance in terms of results, especially in the rural and remote schools of the country. The results of schools which were doing well in the past have steadily declined due to the conflict. Teachers are displaced, students are on the run, and communities are under constant threat and pressure. Girl students drag themselves up to class 10 primarily to qualify for marriage. Boys, no matter they pass or fail, go to India for earning a livelihood or join the rebel forces (in the case of schools in the Western and Far Western regions) or remain unemployed (in the case of schools elsewhere).

### **3.8 Concerns, Claims and Issues of Stakeholders about School Effectiveness**

37. Although parents show some resentment, the students of successful schools do not generally blame their teachers for their failure in the examinations.
38. Due to the lack of exposure and opportunity to learn, the students of low performing schools are less ambitious. Expectations are low, which possibly has led to low performance.

This has resulted in the exclusion of certain a segment of population from the mainstream of national development, creating a situation of sociopolitical discrimination in society.

39. A few schools produce exceptionally good results in the SLC claim (and have shown it evidently) that shared leadership really works. This shared leadership is also known as 'collective leadership' (a team of good teachers and/or founder managers sharing leadership and management responsibilities), one of the best practices of effective schools. This practice could be tried out on an experimental basis, as an option for action to improve the effectiveness of public schools in the case of both the urban and rural schools that are steadily sinking in terms of school performance.

School is a sociopolitical entity. All the aspects of education imparted through school as a phenomenon involve human factors. The life of a school as an entity is manifested by the actors' perceptions, beliefs, actions, and reactions. Those perceptions, beliefs, sentiments, emotions, expectations, hopes, and resentments constitute the factors that, in fact, make the school 'effective' or 'ineffective'. Stakeholders' claims, concerns, and issues expressed in the form of joys and sorrows, hope and resentment, involvement and withdrawal, anger and excitement, initiation and indifference have been captured to a large extent and the study findings have been analyzed to arrive at the conclusions presented above.

## 4. RECOMMENDATIONS

After look into a critical the problems and prospects, along with the complex multiple realities of the 'effective' and 'ineffective' schools, the following **recommendations** are offered to the stakeholders from the findings and conclusions of the case studies:

1. Most of the proposed secondary schools lack the absolute minimum physical facilities and environmental conditions required for teaching, learning, and performance. It is recommended that MOES create special funds and a mechanism to support these schools for acquiring and maintaining essential facilities in the school premises. A safe school environment and a minimum of physical facilities are required for any teaching learning activities to become effective.
2. One of the most consistent findings of this study is that the leadership exhibited by the head teacher or principal of the school is key school effectiveness factor. A firm and stable head teacher is required for any school to become effective. It is strongly recommended to MOES and all DEOs as well as SMCs that:
  - a. The head teacher of any school be appointed for a term of minimum 5 years, with defined goals to achieve and with a provision of two times extension of the term based on the efforts and performance assessed by all the primary stakeholders (students, teachers, parents, graduates, SMC, and DEO) using 'achievement' and 'image' criteria.
  - b. The head teacher has to be given all the essential authority, responsibility, and accountability to lead and manage the school. This should include the authority to select and recommend all the teaching and non-teaching staff of the school.
  - c. The teachers and staff should be employed in the school or transferred from or to the school only with the head teacher's prior written approval/formal request.

- d. The head teachers should be recognized and/or rewarded (using objective and transparent criteria) for the efforts exhibited to improve school performance
3. The mechanism to regulate teacher performance is obviously weak at present. It is recommended to MOES, all DEOs, and SMCs that:
  - a. Teachers must be rewarded based on students' performance in the subjects they teach and the required teaching hours/day should be defined and strictly followed,
  - b. Clearly and distinctly the 'individual teacher's annual Grade increments, promotion, salary, recognition' should be linked to 'students' academic achievement in the subject/s they teach', and
  - c. Policy reforms must be initiated in the existing rules and regulations to spell out the above provisions as the terms and conditions of employment, communicating them it loud, and clear, throughout the educational system of the nation.
4. Teacher absenteeism and nonperformance are the primary causes of low performance in the SLC examinations. In most schools, courses remain incomplete by the end of every year. Since most nonperforming teachers are arguably the local teachers:
  - a. The provision of "*Gharpayak*" (appointing local teachers or transferring teachers to their local village or town) should be discouraged to prevent subsequent nonperformance of the teachers and their involvement in local politics.
  - b. For positive discrimination, application of the above provision of "*gharpayak*" should be limited to the case of unavoidable circumstances of female teachers only.
5. 'Student motivation to learn and succeed' can be increased by regular feedback and fair evaluation of learning and performance. Grade promotion practices in schools throughout the country need urgent attention. There is no such system at present. There are schools that do not produce marksheets or progress reports of students' learning and achievement. Some schools promote students failing up to 5 subjects. Some others promote all those obtaining 10% of pass marks, too. Those who repeatedly fail in the same subject/s every year are also promoted. They are the ones who eventually fail in those subjects in the SLC examination. It is recommended to school management that:
  - a. At least four formative assessments should be taken continuously throughout the year in all the Grades and subjects by the subject teachers and a written feedback should be provided to individual students at least within one week of each assessment,
  - b. From Grade six onwards, students who fail in more than one subject should be warned in writing that their promotion to upper Grade is only provisional,
  - c. Students who fail in the same subject/s next time obtaining less than 50% of the pass marks should be required to repeat the course of the Grade, although provisionally promoted to next higher Grade.
  - d. A clear and transparent Grade promotion policy should be developed and followed strictly in all schools throughout the country.

6. To encourage students' motivation to learn and succeed, high performing students should be recognized publicly through scholarships, awards, appreciations, honors, and celebrations. Such recognitions should come from all levels— the school, SMC, NGOs, municipality/village, associations, and MOES/DEO.
7. Many lower secondary schools were permitted to run secondary classes without adequate infrastructure and preparations (with a few exceptions). That policy has yielded absolute misery in those schools: no subject teachers, no budget, decreasing support, declining results, deteriorating public image, and increasing frustration among the stakeholders. To avoid further misery and resentment, it is recommended to MOES and DEOs that:
  - a. The proposed secondary schools should be provided with subject teachers,
  - b. Instructions have to be circulated not to enroll students in secondary Grades without acquiring qualified subject teachers and the minimum physical facilities.
8. Public schools are recommended to replicate effective school practices to improve school effectiveness and student performance. Some of the lessons learned include: extra coaching (especially in Mathematics, Science, and English), frequent assessment of students' learning and achievement, feedback to students, assigning and checking homework, projects and group work, handwriting competitions, use of the best performing students to help other students in their class, and so on. All this would certainly improve school effectiveness and student performance in the SLC examinations.
9. Schools are recommended to create and maintain values and norms of the individual schools as appropriate. These values could include performance standards, expectations from students and teachers, rules and regulations, operating guidelines, discipline, recognition system, appreciation of the good work of teachers and students, and so on. These practices, if strictly followed, will eventually make up the school culture and climate conducive for teaching, learning, and performance. Therefore,
  - a. All schools should immediately start to inculcate study habits in the students through extra coaching, snap tests and class interactions, assignment of homework and check on them to ensure that the students are making good progress in learning and achievement.
10. The socio-political conflict in Nepal has jeopardized the stability of the educational environment. Students and teachers are facing a lack of creative and conducive environment for effective teaching and learning in schools. In such a situation, the involvement of the stakeholders to safeguard school environment becomes more crucial than ever before.
  - a. Local communities and SMCs should be encouraged to and recognized for taking special measures to keep the school environment away from causes and effects of conflict.
  - b. All the political parties and their leaders should educate their cadres that schools must not be used as political platforms by party for any political activity. They should also educate and be educated that the children below 18 years of age are not adults and do not have voting rights, too. It is time for them to learn and succeed. They need not and should not be involved in politics wasting their valuable time they must use in acquiring the necessary knowledge, skills, and attitudes required for living a meaningful life in the competitive age ahead.

## CHAPTER XII: PUBLIC EXAMINATION SYSTEMS IN THE SAARC REGION \*

### 1. CONTEXT

While a number of historical, political, socio-cultural, and economic forces play a major role in shaping the education system of a country, external factors also play a significant role. Education systems in a globalized world cannot grow and develop in isolation. The extent to which the education system of a country can flourish depends on its ability to interact with other education systems. Policymakers, planners, and educators, who are always searching for the best practices, can get insights for policymaking through comparison of education systems. In recent years, therefore, countries look to one another for new directions in educational policy and practice. The growing trend of international comparisons of student performance is one example of educational planners and policymakers from around the world collaborating to learn from each other. While comparative methods are useful ways of improving educational policies and practices, we need to be careful that context-blind comparing and borrowing that overlook the essential elements of society, culture, and political economy will be of little or no use. Against this background, a comparative analysis of public examination systems was undertaken that involved careful examination of five countries in the SAARC region.

For details on the objectives and methodology, please refer to 'Public Examination Systems in the SAARC Region'.

### 2. OVERVIEW OF PUBLIC EXAMINATION SYSTEMS IN SAARC COUNTRIES

**Table 1. Summary of the Major Points in SLE in SAARC Countries**

Particular	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Structure of School Education (Primary +Lower Secondary + Secondary + Higher Secondary)	5+3+2+2	6+2+2+2	5+3+2+2	5+2+3+2	5+3+2+2	5+3+2+2	5+3+3+2
Public Examination Conducted in Grade(s)	10, 12	6,8, 10, 12	10, 12	10, 12	10, 12	10, 12	5*, 11,13
Purpose(s) of public examination	✓	✓	✓	✓	✓	✓	✓
Certification of Achievement							
Selection of Candidates	✓	✓	✓	✓	✓	✓	✓
Evaluation of School/Teacher	✓	✓	✓	✓	✓	✓	✓
Feedback to School/Teacher	x	✓	✓	✓	x	✓	✓
Mode of Examination							
Syllabus and Exam by Board	✓	✓	✓	✓	✓	✓	✓
Examination Board(s)**	M	S	M	S	S	M	S

Note: \* Scholarship Examination \*\* M - Multiple Boards, S - Single Board

\* This Chapter is based on the report 'Public Examination Systems in the SAARC Region' prepared by Mr. Ganesh Bahadur Singh for the SLC Study team.

A public examination is the examination conducted externally to the school by a national or provincial/state authority at the end of a distinct phase of the education system. Public examinations are typically formal, summative, and highly controlled. This chapter presents an overview of the public examination in SAARC countries. Table 1 summarizes the aspects of SLE discussed.

The particulars presented in the Table 1 are elaborated in the following paragraphs

## 2.1 Structure of school education

School education system is divided into various ladders, which usually includes primary, middle/lower/junior secondary, upper secondary/secondary, and higher/senior secondary. In Bangladesh, the structure of school education comprises 5 years of schooling as primary, 3 years junior secondary, 2 years upper secondary, and 2 years higher secondary; i.e. 5+3+2+2 system. A similar structure (5+3+2+2) is operating in India, Nepal, and Pakistan. In the case of Bhutan, it is 7 (1 year preparatory class plus Grades 1 to 6)+2+2+2, in Sri Lanka 5+3+3+2 and in Maldives, 5+2+3+2 ([www.unesco.org/iau...](http://www.unesco.org/iau...), 2003). The for vocational and technical stream, however slightly differs. The plan in Bangladesh is to extend primary level to 8 years by 2001 (MOE, Bangladesh, 2000). The structure of first 8 years is also termed as elementary education in India which comprises 5 years of primary education and 3 of upper primary (NCERT, 2000b).

The trend in the SAARC countries is towards structuring first 8 years of schooling as primary/elementary/basic education. The preparatory works planned by Bangladesh for these 8 years implies a lot of preparatory works needs to be undertaken in advance to ensure smooth implementation of this restructuring. Education for All (EFA) scheme in Nepal also proposes extension of basic and primary education up to Grade 8, i.e. Grades 1-8 (MOES, 2002). This would be a parallel structure of school education in the SAARC countries.

## 2.2 Provision of public examinations in the school education

Public examinations in Bangladesh, India, Maldives, Nepal, and Pakistan are conducted at the secondary level (Grade 10) and higher secondary (Grade 12) but in the case of Bhutan at 6, 8, 10, and 12. In the case of Sri Lanka, Scholarship Examination is conducted at Grade 5, General Certificate of Education-Ordinary Level (GCE-OL) Examination at Grade 11, and Advanced Level (AL) at Grade 13. ([www1.worldbank.org/education/examinations...](http://www1.worldbank.org/education/examinations...); [www.unesco.org/iau...](http://www.unesco.org/iau...); [www.bangla2000.com](http://www.bangla2000.com)). Bangladesh is planning to abolish public examination at Grade 10 and retain only Grade 12 examination as Secondary Examination. Grade 10 will be school-based internal examination (MOE, Bangladesh, 2000).

## 2.3 Purposes of public examinations

There are three major purposes of public examination: 1) certification of student's past school accomplishment, 2) predication of future success as a basis for selection of candidates for educational opportunities, and 3) evaluation of the school and/or teacher (IAEA, 1979). Public examinations at the secondary level in Bangladesh, Bhutan, and Nepal are supposed to serve these three purposes. In addition, in Bhutan, India, Maldives, Pakistan, and Sri Lanka they are also intended to provide feedback to the school/teacher on the progress and needs of the students ([www1.worldbank.org/education/examinations...](http://www1.worldbank.org/education/examinations...)). For purpose, performance analysis is undertaken. CBSE, India states that,

*The analysis of students' responses to different questions asked in the examination can serve to diagnose the weakness in learning as well as shortcomings in curriculum transactions. It may reveal hard spots of learning and possible causative factors for errors being committed. Besides, such an analysis helps in identifying areas of contents to which much attention has not been devoted. (www.cbse.nic.in).*

The Department of Examinations, Sri Lanka evaluates students' performance on an item by item basis in the core subjects. Observations and comments are provided for each item. Overall comments and suggestions are also provided in the evaluation report (Department of Examinations, Sri Lanka, 2003; see Annex 2 for sample pages of evaluation report). One major purpose of examination to be considered is making an analysis of the performance in examination and supply feedback to the schools/teachers drawing on the same so as to improve teaching learning. This would render examination as a tool for quality improvement at the classroom level as well.

## 2.4 Mode of examinations

Various modes of examinations can be used: 1) the syllabus devised by the school/teacher and examination by the Board; 2) the syllabus and examination both devised and conducted by the school/teacher; 3) the syllabus by the Board and examination by school/teacher; 4) the syllabus and the examinations both devised and conducted by the Board. For the secondary level public examination, both syllabus and examinations are devised and conducted by the concerned Examination Boards in the SAARC countries. Other modes of public examinations are not in practice. However, a provision exists that uses locally relevant content area/subject/activities in the curriculum to a certain extent in Sri Lanka (NIE, 2002). Such provisions operate in Bangladesh and Pakistan as well. In the curriculum of some of the subjects, such as Health, Physical, and Environment Education in the secondary level in Nepal, there is a provision of introducing locally relevant contents in the practical of this subject (CDC, BS 2055). In India, Examination Boards can set their own syllabus and conduct examination. In other SAARC countries, the examination set is based on a common syllabus for the country ([www1.worldbank.org/education/examinations...](http://www1.worldbank.org/education/examinations...)).

## 2.5 Examination Board

There is a single Examination Board operating for the secondary level in Bhutan, Maldives, Nepal, and Sri Lanka as a part of the Ministry of Education. In Bangladesh, India, and Pakistan there are multiple Examination Boards usually covering a state/province/region. For example, there are altogether 9 Examination Boards in Bangladesh, 17 in Pakistan, and about 41 in India. CBSE is one of the Boards in India for the Central Schools, Government Schools, Independent Schools, and other schools from the Union Territories and other parts of the country as well as schools from foreign countries are affiliated ([www.cbse.nic.in](http://www.cbse.nic.in)).

Examination Boards in Bangladesh, India, and Pakistan are partly independent of the Ministry of Education that enjoy a certain degree of autonomy in administration, finance, quality control, etc. For example, CBSE in India is a financially independent body that does not receive any grant-in-aid either from the Central Government or any other source. All its recurring and non-recurring expenditure and financial requirements are met from the annual examination charges, affiliation fee, and other incomes ([www.cbse.nic.in](http://www.cbse.nic.in)).

Various efforts have been made to coordinate activities of the Boards in with multiple Examination Boards. For instance, in India, the Council of Boards of Secondary Education (COBSE) has 34 Boards of secondary education associated with it. COBSE provides academic support to its members on: 1) setting and maintenance of educational standards; 2) curriculum planning; 3) preparation of curriculum materials; 4) curriculum transaction; 5) evaluation in schools; and 6) public examination (COBSE, 2004a). An Inter-Board Committee of Chairmen (IBCC) in Pakistan is responsible for establishing coordination among different Boards of intermediate and secondary education and for implementing their policies and plans ([www.ibcc.edu.pk](http://www.ibcc.edu.pk)).

Examination Boards also set up regional offices to undertake functions such as collecting the answer scripts, marking the answer scripts in the marking center, preliminary processing of the data, and so on. Decentralization of the functions has been found helpful in increasing efficiency in marking, evaluation, and data processing.

One the major purpose of setting up the multiple Boards is to make the management functions smooth and easier. But with the multiple Boards, issues of the comparability of quality, setting up uniform standards, establishing coordination among the Boards arise. A single Board can also work effectively with a proper decentralization of functions. A wider discussion on multiple Boards or decentralization of functions within the single Board would be helpful before coming to a decision on it.

## 2.6 Pass Percentage in School Leaving Examination

In all SAARC countries, public examination is conducted at the end of secondary level. Countries like India and Sri Lanka are considering the abolition of the system of labeling students 'fail'. Available data indicates the following scenario of pass percentage in the SAARC countries in the SLE conducted at the secondary level.

**Table 2. Pass Percentage in SLE**

Country	Examination	Target Grade	1997		1998		1999		2000	
			No. of Candidates	Pass %	No. of Candidates	Pass %	No. of Candidates	Pass %	No. of Candidates	Pass %
Bangladesh	CSEC	10	716,865	51.45	722,300	47.96	837,220	54.62	918,045	41.58
Bhutan	Bhutan Board - ISEC	10	1476	87.07	1,796	76.78	2,240	68.53	3,159	79.74
India	ICSEE (Delhi)	10	56,053	93.48	61,558	91.06	68,083	94.83	71,458	94.15
India	SSLC (Karnataka)	10	459,143	44.55	460,134	57.39	460,379	51.85	507,750	51.60
India	AISSE (CBSE)	10	385,858	64.27	409,695	63.24	438,137	64.38	466,990	65.37
Nepal	SLC	10	116,002	36.50	113,257	47.50	139,202	49.20	205,539	45.70
Maldives	SSCE	10	1,517	67.80	2,020	77.70	2,594	80.99	3,656	79.30
Pakistan	SSC	10	570,199	58.00	662,816	56.00	533,863	56.00	664,378	54.00
Sri Lanka	GCE-OL	11	360,026	29.46	353,372	33.25	349,464	36.98	346,796	37.70

([www1.worldbank.org/education/examinations...](http://www1.worldbank.org/education/examinations...); [www.cbse.nic.in/...](http://www.cbse.nic.in/...))

Recent data show that in 2002 the pass percentage in CBSE was 69.53. In 2003, in Bangladesh, SSCE pass percentage was 35.91 (BANBEIS, 2003), in FBISE, Pakistan 66.85 (FBISE, 2004), and in Sri Lanka 42.81 (GCE-OL). The pass percentage in secondary level SLE is relatively high in Bhutan, Maldives, and some of the Boards in India, but in Bangladesh and Pakistan it is at the boundary line of 50%, that of CBSE (India) above 60% and that of Nepal below 50%. Though the table above indicates a low pass percentage in Sri Lanka, the percentage reported needs to be interpreted differently: it is the percentage of the students in GCE-OL qualified for the Advanced Level. Otherwise, percentage of students passing with the required minimum number of subjects comes very high -- above 75% (see Annex 3 for the reporting of result in GCE-OL, Sri Lanka).

### 3. SLC PRACTICES IN SAARC COUNTRIES

SLE at the secondary level assumes a prominent status in the public examination. The concerned authorities endeavor to ensure a high degree of objectivity, high level of quality, greater standardization of tasks and conditions, and greater comparability of results (Taiwo, 1995). For this purpose, due consideration needs to be given in the administration, test development, scoring, and certification. The chapter here in that context describes practices of the SAARC countries in these aspects of the examination providing mainly information on Bangladesh, India, Nepal, Pakistan, and Sri Lanka and information available on Bhutan and Maldives. The major aspects of the practices are summarized in Table 3.

**Table 3. Summary of the Major Points in the SLE Practices in the SAARC Countries**

Particular	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Forms of examination							
Supplementary/Compartment	✓	✓	✓	✓	✓	✓	✓
Improvement	x	NA	✓	NA	x	✓	x
Registration of regular candidates (at Grade)	9	NA	10	NA	9	8	11
Provision of Security Press	✓	NA	✓	NA	x	✓*	✓
Centralized Marking	✓	NA	✓	NA	✓	Mixed	✓
Double Entry of Scores	x	NA	✓	NA	x	✓	✓
Appeal (Re-Totaling)	✓	NA	✓	NA	✓	✓	✓**
Examination Syllabus (contents of Grades)	9 & 10	NA	10	NA	9 & 10	9 & 10***	9, 10 & 11
Certification							
Use of Letter Grading	✓	✓	✓	✓	x	✓	✓
Single Subject	✓	x	✓	✓	x	✓	✓
Composite/Overall Score	✓	✓	x	x	✓	x	x
Requirement for Passing (AS-all subjects, CS-certain numbers of subjects)	AS	CS	CS	NA	AS	AS	CS

Note: \* Government security press, \*\* Re-evaluation also permitted,

\*\*\* Separate examinations for Grades 9 and 10,

NA - Information not available

The particulars presented in the table have been elaborated below.

### 3.1 Administration

SLE is a high stake examination involving a huge number of candidates, examiners, markers, and support staffs. There is a challenge to meet the schedule (i.e. timing), ensure quality, maintain confidentiality, assure transparency, and check undue practices. The administrative practices of the SAARC countries are described below.

#### Forms and Schedules of Examinations

Public examinations are set and timed at specific points or Grades. Usually, the SLE schedules are arranged according to the forms of examinations. Mainly three forms of examinations exist: 1) regular examination for students from schools; 2) supplementary/compartments examinations the students reappearing in the papers they were unsuccessful; and 3) improvement examination for students who are not satisfied with the Grade/marks they have achieved and want to reappear to improve their Grade/marks in the paper(s) they have passed. Supplementary examination is a follow-up examination allowing students to retake subjects. In Bangladesh, if a student fails in up to two subjects in the secondary level examination, she/he will be allowed to take examination in those subjects twice (MOE, Bangladesh, 2000). The examination is scheduled in March - April in Bangladesh. Students are allowed to repeat the examination, but only after 12 months of original sitting in Bhutan, Maldives, and Sri Lanka. Secondary level examination is scheduled in December in these countries. CBSE, India conducts regular examination in March and compartment in July (CBSE, 2004). In Karnataka, Board students are allowed to repeat the examination after 5 months of the original sitting and in Andhra Pradesh after 4 months. 'Save a year' approach has been considered in India make it possible for the repeaters to get over their examination to be able to get entrance to the higher level if they get through in the secondary level exam. In Nepal, supplementary examination is conducted in about two months from the publication of result of regular examination and candidates are allowed to appear in up to two failed subjects. Scheduling of supplementary examination in Nepal makes it possible for students to apply for higher education the same year without losing one academic year.

In Pakistan, students are also allowed one opportunity to retake examination in the subjects passed if the candidate desires to improve Grades/marks. Such improvement need to be accomplished within a period of two years of passing the said examination and before appearing in any higher examination held by a Board or University (FBISE, 2003a). Candidates are also allowed to appear for additional subjects if they want (FBISE, 2003b). (See Annex 4 for rules for reappearance, supplementary examination, and improvement of Grades/marks in FBISE). The argues for the availability for students of two chances to improve their Grades (2000b). CBSE (India) allows candidates to appear for improvement of performance or for an additional subject. However, such candidates are not issued a separate certificate or a combined marks statement, but are given only a statement of marks (CBSE, 2002).

The duration of SLE at the secondary level is about 8 days to a month and results are issued in 7 to 15 weeks, as given in Table 4. The table indicates that at least in Bangladesh, India (CBSE), Pakistan, and Sri Lanka, the examination time table provides a few days gap from one paper to another paper provide time to the students to revise important contents. This would be supportive to the students to prepare for the examination and puts less stress on them compared to the situation when they appear in one paper and immediately start worrying for the next day's paper.

**Table 4. Duration for Conducting Examinations and Publication of Result**

Country	Examination	Duration for examination	Publication of Result
Bangladesh	CSEC	25 days	15
Bhutan	Bhutan Board-ISCE	NA	10
India (CBSE)	AISSE	11 days	12
India (Karnataka)	SSLC	NA	7
Maldives	SSCE	NA	12
Nepal	SLC	8 days	10
Pakistan	SSC	About a month	12
Sri Lanka	GCE-OL	20-25 days	12

### Registration of Candidates

Students appearing in SLE at the secondary level are 1) regular candidates, students from schools; or 2) private candidates, who are not appearing from a school, but fulfill requirement (such as Grade 8 pass with a two year gap); or 3) exempted candidates, who have failed in the previous examination and are again appearing. Registration formalities are usually undertaken in the school for the regular candidates and other institutions, such as the district education offices, might be responsible for other two types of candidates. Registration for the regular candidates is processed at Grade 8 in Pakistan, at Grade 9 in Bangladesh and Nepal, and at Grade 11 (the same year of examination) in Sri Lanka. In Sri Lanka, students are not required to paste their photographs in the registration form, but required to mention their 'National Identity Number' for registration and have their National Identify Card issued by the Department of Registration of Persons or a valid Identity Card issued by the Postmaster General or Valid Passport at the examination hall. The basic purposes of registration are to assign an examination number for examination and administrative purpose, and provide information on the number of question papers required for examination.

Students who have passed Grade 9 examination (Grade 10 in case of Sri Lanka) and are regular students of Grade 10 automatically qualify for SLE at the secondary level. However, in Nepal, students are required to clear up send-up examination to qualify for SLC examination (OCE, BS 2060). Such a barrier was suggested to be abolished by SEPP (MOE, 1997) stating, "In future, every student who has attended Grades 9 and 10 will be eligible for entry to SLC". The predictive validity of the send-up examination has not been established to prove that disqualified students are students bound to fail in SLC. In such a case, it would be helpful to reduce the pressure of huge numbers of candidates in the SLC examination. Without such proven reasons, send-up examination contributes more to mystify SLC examination by promoting the idea that SLC is an examination difficult to get through – first there is send-up and real challenge coming later in the form of the SLC examination. Even if send-up examination proves to have predicative validity, it can also be argued why two examinations (send-up and SLC) should be held for the same purpose - one would be sufficient.

### Question Paper Production and Distribution

There are security presses of the Boards in India (CBSE), Bangladesh, and Sri Lanka. FBISE, Pakistan does not have its own security press, but it uses the Government security press for printing and packaging of question papers. These are then sent to and kept in the treasury or police station ready for the examination day. The Boards in Pakistan use bank facilities to distribute question papers. In Sri Lanka, bank, police, postal, official, etc. are used for distribution. In Nepal, question papers are printed outside the country and officials are involved

for distribution. The provision of security press for OCE in Nepal has been discussed on several occasions including during SEDP. Such provision would be helpful for timely management, printing of question papers securely in times of emergency, and capacity building within the country.

Printing question papers and distribution are sensitive issues wherein leakage of the papers may occur. Various measures are employed to check such leakage. Some Boards in Pakistan do not allow the typed master copy to be checked by a proofreader or a subject specialist. This elimination of proof reading stage reduces the number of people seeing a question paper. Similarly, many Boards in Pakistan print question papers a few days before dispatch minimizing the chances of leakage. In Sri Lanka, printers are required to be in the printing premises for 24 hours a day until the printing is completed. In Nepal, OCE needs to consider exploring other means of distribution of question papers and collection.

### **Conducting Examinations**

Conducting examination is an important process. Examination day is a big day for the students, parents, schools, and Boards and conducting examination smoothly is their major concern that involves superintendents, invigilators/guards, and security. Security personnel are supposed to provide security around the examination premises if called on. In Pakistan and Nepal, students are not allowed to appear in their home school of study if that school is an examination center. Where there are home centers, invigilators/guards are not employed from the same school. In all cases, the examination centers are required to be well furnished and students are required to be seated at an adequate distance.

For practical examinations in SSC, external examiners are appointed in Pakistan. In India and Sri Lanka, practical examinations are conducted in the purview of the school concerned. In Nepal, speaking and listening tests for the English language and practical examinations for Computer Science are external. Other practical examinations are conducted by the schools themselves. (CBSE, 2002; FBISE, 2003a; OCE, 2060 BS).

### **Arrangement for Marking of Answer Scripts**

There is a general practice of using a fictitious code number to render the script anonymous before marking commences and decoding the candidates' real identity after the marking is over. Though coding and decoding process is time consuming and expensive, it is considered essential to check irregularity in marking. Coding and decoding is done in the additional pages of the answer script as well. In Bangladesh, the Optical Mark Reader (OMR) cover page, which could be read and recorded mechanically by the computer, is attached on the top of the answer script. The OMR sheet has three parts: top, middle, and bottom. Within three hours of the examination the top portion is separated and sent to the Computer Center where the result is compiled. The scripts are sent to the Board where these are distributed for marking. Marks are shown on the middle portion of the OMR sheet. The markers send the answer scripts to the chief markers, who check the scripts and separate the second portion of the OMR sheet and send these to the Computer Center. In the Computer Center the two portions are matched and the result is prepared (FBISE, 2004 see Annex 5 for a photocopy of the sample copy of the OMR cover page). OMR is also used for the multiple-choice part of the examination in Bangladesh and Sri Lanka. Deemed an efficient means OMR, has considerably reduced time for marking and data entry.

Marking centers are used in India, Nepal, and Sri Lanka where examiners come to mark the answer scripts. In Pakistan, there is a dual system -- there are marking centers for centralized marking and markers are also allowed to take papers home. There are some common practices among the Boards in these countries, such as the one of marking 20 to 25 copies in a day. Usually, the subject teachers are appointed as examiners to mark the answer scripts and the sample scripts of the marked materials are rechecked by the head examiners. Markings of the answer scripts are usually completed in two to three week's time. In Pakistan and Sri Lanka, some kind of accountability for the examiners is in use by fining the mistakes done by the examiner or refusing the service of the examiner for the next time (see Annex 6 for marking practices in CBSE, India and FBISE, Pakistan). Conference marking is deemed an effective practice to check malpractice, increase uniformity, and accomplish the process in time.

In order to maintain schedule and quality in marking, the number of answer scripts an examiner can mark is limited to a maximum of 300 scripts in India and 200 in Sri Lanka. In Pakistan, it does not exceed 300. In these countries, a marker is allowed to mark only one subject. In Nepal, the maximum limit for an examiner is 1000 copies and a marker can be allowed to mark multiple subject papers in an examination. At the rate of 25 copies a day, the examiner marking 1000 copies of answer scripts will take at least 40 days without a break. The limit is 3000 in CBSE of which the head examiner has to recheck 10%. Similar is the case in Bangladesh and Pakistan. In Nepal, the head examiner is supposed to recheck 20% of the scripts with an upper limit of 5000 for rechecking which is undoubtedly very high (CBSE, 2002; FBISE, 2003a; OCE, 2061 BS).

The practice of marking an answer script by two markers, i.e. double marking of the scripts, does not exist in Nepal, or in the SAARC countries visited (Bangladesh, India, Pakistan, and Sri Lanka) nor is there any mention of such practice in Bhutan and Maldives in the documents available. However, such double marking is supposed to increase test reliability, albeit it is time consuming and expensive.

### **Entry of Score, Accuracy, and Results Publication**

The examination processing system is computerized in the Boards of SAARC countries. Accuracy of the score entry, processing, and timely publication of results are emphasized. Duly verified award lists are double entered and horizontally checked in India, Pakistan, and Sri Lanka, a practice helpful to enhance accuracy of the data. The practice in Nepal is to prepare two ledgers TAB 1 and TAB 2 – TAB 2 is sent for computer entry. Computer entry printout is tallied and, if required, is corrected by matching with TAB 1.

In FBISE (Pakistan), two corrected and final sets of result tabulation register are maintained. These registers are tabulated by different persons and kept in possession of different persons in confidence: Register A is kept by the Deputy Controller of Examination (DCE) and register B by Superintendent of the Section. The certificates/marks etc. are prepared from tabulation B. The Assistant Controller of Examination (ACE) counter-checks the certificate with tabulation A (FBISE, 2003a) (see Annex 7 for 'details of conduct of business in the secret section' in FBISE).

CBSE does outlier analysis to improve accuracy in the result. It found this analysis encouraging as many sensitive cases were trapped during scrutiny of outlier cases. Using this system cases lying both towards the lower and the higher side were trapped. This was useful in maintaining accuracy of the result (CBSE, 2004). OCE, Nepal has a system of rechecking the cases if a candidate has secured above 60% marks in 7 subjects, but failed in one. Other types of outlier cases are not taken into account in OCE.

Results are published within 7 to 15 weeks (Table 2) for which Internet is widely used. India (CBSE), Nepal, and Sri Lanka also use telephone 'Voice Response System' to letting the candidates know about their results. In Nepal, only pass/fail status is announced in the Internet whereas CBSE (India) and, DOE (Sri Lanka) also publish result in the Internet. FBlSE in Pakistan uses a result gazette (Annex 8 for sample pages of result gazette of FBlSE, 2004). It is deemed a more accountable system of public announcement of the results on time and in a complete form (whole of the report, not just pass/fail status) even in the Internet.

### **Appeals**

Examination Boards in Bangladesh, India, Pakistan, Nepal, and Sri Lanka allow students to appeal if candidates feel that the mark/Grade awarded is not correct. In Bangladesh, India, Pakistan, and Nepal re-checking/re-totaling is done on the application of the candidate. This involves checking for arithmetic errors, transcription errors, and unmarked work (Annex 9 for re-checking/re-totaling provision in FBlSE, Pakistan and OCE, Nepal). In Sri Lanka re-evaluation/re-marking of the answer scripts is permitted wherein, a candidate's answer script(s) is marked again without considering previous marking. However, it is reported that the result rarely changes in the re-evaluation/re-marking. Returning answer script to the candidate, a highly transparent approach, is not in practice in these countries. Sri Lanka's practice of re-evaluation is worthwhile looking into as it could be of help in enhancing test reliability and markers may pay more attention to make their marking more consistent.

### **Responding to Malpractices**

Boards pay due consideration to check exam malpractice. Confidentiality of persons and security of materials gets a high priority. Question paper setters, moderators, and examiners are required to keep their involvement and work confidential. Printing and distribution of question papers, conducting examination, marking, and processing activities are executed under strict secrecy and security. Still, occasional cases of malpractice in the form of external assistance, copying, and cheating do not go un-reported from time to time in some of the Boards. Besides strict administration and security measures other steps have also been taken to check cheating in examination. In CBSE, India, and OCE, Nepal, multiple sets are used in the examination to discourage cheating. CBSE calibrates its multiple sets of questions and establishes equivalence before use. OCE uses multiple sets of question papers, but these are not pre-calibrated to establish statistical equivalence and therefore equivalence of multiple sets remains vague (Annex 10 for counter measures for responding to malpractice).

## **3.2 Test Development and Finalization**

Adequate thought and consideration must be put into test development to make the test technically sound. A test must be valid, reliable, efficient, and acceptable. Examination Boards pay due attention to make the test technically sound with respect to adequate coverage, incorporation of various levels of test items, employing appropriate test formats, and so on. Various materials are produced and training provided for this purpose. These aspects as practiced in the SAARC countries are described hereunder.

### **Examination Syllabus**

Examination syllabus provides information about the coverage for the question/paper setters as well as students and others. In Sri Lanka, questions are asked in the GCE-OL from the contents

of Grades 9, 10, and 11. Question papers set for Grade 10 in Bangladesh and Nepal cover contents from Grades 9 and 10. In Pakistan, external examinations are conducted separately for Grades 9 and 10 as part 1 and part 2 respectively, whereas in CBSE, India, only Grade 10 content is covered in the secondary level. The contents of Grades 9, 10, and 11 in Sri Lanka are based on vertical linkage whereas in Bangladesh, Pakistan, and Nepal, separate contents are covered at Grades 9 and 10 (MOE, Bangladesh, 2000; FBlSE, 2003d; CDC, 2055 BS).

The Presidential Task Force in Sri Lanka has recommended limiting GCE-OL course to the Grades 10 and 11 instead of Grades 9, 10, and 11. Covering three years of works in a single examination is deemed educationally unsound as it places a strain on the pupils (The Presidential Task Force, Sri Lanka, 1997). For similar reasons, workload at the secondary stage has been reduced by separating courses for Grade 9 from Grade 10 and High School Examination is based only on courses prescribed for Grade 10 in Uttar Pradesh, India (NCERT, 2003).

The more the test is content-loaded and items are recall type, the more difficult a test becomes to pass. Making a test difficult for the sake of difficulty has little educational value. Therefore a study on SLC examination in Nepal has also suggested reduction of contents and basing SLC examination on Grade 10 syllabus only (FOE, 2003). CBSE Board in India covers Grade 10 syllabus in the secondary level examination and has introduced school-based comprehensive and continuous evaluation in its affiliated schools up to Grade 9 level (CBSE, 2004; COBSE, 2004b).

Introduction of the Comprehensive and Continuous Institution-based Evaluation, which covers both scholastic (learning and growth in cognitive areas) and non-scholastic (affective and psychomotor) aspects of pupil growth, is thought to be the 'most important innovation conceived and implemented in the education system today' (NIEPA, 2001). If education is supposed to provide opportunity for over-all development of an individual, both scholastic and non-scholastic aspects should be addressed by a school and need to be assessed. Scholastic aspects can be assessed through tests, home assignments, etc. Non-scholastic aspects include assessment on the basis of observation of students and assessment of their performance in games, sports, and other co-curricular areas such as art, music, drama, etc. (COBSE, 2004b).

**Table 5. Number of Subjects and Pass Requirements**

Country	Examination	No. of subjects and weightage to study		Minimum no. of subjects to pass	No. subject(s) for SBA
		Total (marks)	Compulsory		
Bangladesh	SSC	10 (1100)	5 (600)	10	30% weightage
Bhutan	BB-ISCE		6	6	NA
India (CBSE)	AISSE	5 (500) (plus 1 subject of 100 marks can be opted as additional)		5	3 subjects plus practical portion if any
Nepal	SLC	8 (800)	6 (600)	8	Practical portion if any
Pakistan	SSC	7 (1050)	4 (600)	7	None
Sri Lanka	GCE-OL	8 (800)	6 (600) (plus two subjects can be opted as additional)	6	SBA result reported for all subjects in the separate column in the same report.

The number of subjects a candidate is required to appear and pass in the secondary level examination also differs among the Boards. In Bangladesh, India, and Sri Lanka School-Based Assessment (SBA) is given emphasis and reported. Although India and Sri Lanka a candidate is

required to pass a larger certain number of papers to be qualified to have passed, she/he can appear in number of papers and gain certificate for extra number of subjects in her/his credit. Table 5 summarizes the number of subjects a candidate is required to appear and pass in the secondary level examination in the SAARC countries.

### **Assessment of Domains and Formats**

In the educational realm, emphasis is given to include a higher level of item in the cognitive domain as well as to test the affective and psychomotor domains. This emphasizes is expected to broaden the scope of evaluation by paying equal attention to the assessment of psychomotor skills and socio-emotional traits (NCERT, 1988). For this purposes, guidelines for test item development, test blue prints/specification grid, model question papers/items are prepared. Generally, Bloom's taxonomy of educational objectives is followed (Annex 11 for the sample pages of test specification grids and sample test papers used in the Boards in the SAARC countries).

External examination at the secondary level is dominated basically by a written test which comprises objective and structured/essay type questions. In Bangladesh, 35% weightage is given to the objective items in the subject with a practical part; 40% is structured and 25% practical. Otherwise, it is 50% objective and 50% structured. FBlSE, Pakistan assigns 20% of weightage to the objective items. In India (CBSE) and Sri Lanka, very short questions of objective item nature are included. IBCC, Pakistan has issued guidelines for improving test instruments such as redistribution of weightage -- 60% for objective type and 40% for subjective type (FBlSE, 2003c).

The practical papers in India (CBSE) and Sri Lanka are school-based whereas in Pakistan practical examinations are externally conducted. In Nepal, oral/practical test for English language and practical for Computer Science are conducted externally by district level committees whereas the concerned schools conduct other practical works.

### **Test Development, Finalization and Banking**

The Boards in the SAARC countries were found providing test developers/paper setters various materials and training. Qualified and experienced persons (usually working and retired teachers) are selected and oriented/trained in test development. Test developers are provided with materials required such as curriculum, specification grid, old/model questions, guidelines, etc. Multiple sets of test papers/items are developed, moderated, and finalized. In India and Sri Lanka, test papers/items for the core subjects are pre-tested, calibrated, improved, and deposited in the item bank. (Please see Annex 12 for question setting and moderation in CBSE). Pakistan (FBlSE) has started item banking and Bangladesh is planning an item bank from 2006. OCE, Nepal provides for item bank, but the items/papers are not calibrated. Item banking with the pre-calibrated items would improve the quality of test items. This would also be helpful in enhancing the technical quality of the test, specifically where the multiple sets of test papers are used.

## **3.3 Marking of Answer Scripts**

Marking of answer scripts also involves qualified persons and orientation/training. Marking schemes in the point scoring guidelines or as a model answer or both are also provided to the markers. In Bangladesh, only a brief guideline is provided. In Pakistan, the paper setters along

with the question paper develop marking scheme. In India and Sri Lanka, marking schemes are reviewed and, if needed, are revised by the moderators, field tested, and finalized for use by the markers (Annex 13 for marking scheme provision of CBSE, India). A marker/examiner is supposed to mark about 20-25 answer scripts in a day and the head marker/head examiner is required to recheck about 10%-20% of the marked answer scripts. Head examiners are appointed to recheck the marked answer scripts to check correctness and consistency of marking. These procedures are helpful in making marking uniform.

FBISE, Pakistan has started item-wise marking from last year on a trial basis. In this system, different markers are assigned to mark different items with one item marked by the same marker(s). No one marker marks the whole answer script. Such marking practice is supposed to check malpractice and increase consistency in marking. Such innovative practices need to be looked into.

### 3.4 Equity in Assessment

Students should be provided with similar condition and equitable opportunity to demonstrate their level of attainment so that students with same degree of ability receive the same result. Standardization of the process of conducting examination, test construction, scoring, and reporting is essential for this. Where multiple sets of test papers are used, chances of some students getting advantage over their peers increase if they happen to get an easy test paper. If multiple sets are to be used, equivalence among these papers has to be ensured by pre-testing and carrying out statistical analysis as done by CBSE, India.

Equity in assessment also means adding extra facilities for the disadvantaged and disabled students. Amanuensis is allowed for blind and a disabled/ handicapped candidates who cannot write by themselves. They are usually provided 45-60 minutes extra time required to complete their work (Please see Annex 14 for provision of CBSE, India; FBISE, Pakistan; and OCE, Nepal), moreover, CBSE, India exempts one of the compulsory language subjects and provides more range of subject choices to them. Substitution test items for visual materials such as diagrams, maps, graphs, pictures, etc. are also provided for the visually impaired students (Annex 15 for the sample items for blind students, CBSE). FBISE, Pakistan arranges separate accommodation and appoints a special invigilator for the disabled candidates. Expenses incurred for such arrangements are borne by the Board. FBISE also allows disabled students to reappear in the examination to improve the score for as many times as the disabled candidate wishes with no extra charge. In Sri Lanka and Nepal, blind students can use Braille facility.

### 3.5 Certification Practice

The outcome of examination needs to be reported in a precise and understandable form. School Leaving Examination, as the name implies, is actually a certification of ten or more years of student schooling which is usually reported in a piece of paper. In that certificate, a few letters or marks or statements carry most of the weight such as pass/fail; Grade A, B, C....; marks at or between 0 to 100%; 1st, 2nd, 3rd division; etc. Summarizing a vast array of evaluation data in such a precise form, on the one hand, and providing relevant and usable information to a variety of users (pupils, parents, teachers, employers, administrators, university/educational institutions, etc.), on the other, is a challenging task (Gronlund and Linn, 1990). The following paragraphs describe the certification practice of the Boards in the SAARC countries.

### Passing Criteria and Cut-off-score

The general practice in the Boards in SAARC countries is a requirement to pass all the subjects (Bangladesh, Pakistan, Nepal) or a certain number of subjects (Bhutan, India, Sri Lanka) in order to earn a pass certificate (Table 3 for details). Sri Lanka now mentions weak pass in the place of fail in its certificates. The possibility of stating Grades for each subject with no fail label in the future is under consideration. CBSE, India has also proposed that, "no student, who does not attain the qualifying level, in all the subjects, in one stroke, shall be declared a "failure", but has decided to issue a statement of "Grades" obtained by (her)/him in the subjects in which (she)/he has attained the qualifying level" (CBSE, 2000). The trend in certification in Sri Lanka and India is towards single subject certification and abolishing the practice of declaring results in terms of pass/fail (NCERT, 2000a).

### Reporting – Marks vs. Grades, Single Subject vs. Composite Pass

Letter grading for reporting the achievement of students is in practice in Bangladesh (BISE), India (CBSE), Pakistan (FBISE), and Sri Lanka. To assign letter Grades, raw scores obtained by candidates can be converted into letter Grades in terms of absolute Grades in which pre-determined standards (such as above 80% - A+, 70%-80% A, etc.) becomes a reference point. Letter Grades can be assigned on relative terms by determining in advance the approximate percentage of students in each Grade based on a normal distribution of the scores. For example, absolute Grades are used in FBISE, Pakistan and relative Grades in CBSE, India (Annex 16 for grading criteria). CBSE uses a 9-point scale (A-1, A-2, B-1, B-2, C-1, C-2, D-1, D-2, and E), FBISE uses a 6-point one (A1, A, B, C, D, and E), and Sri Lanka, a 5-point one (A - Distinction Pass, B - Very Good Pass, C - Credit Pass, S - Ordinary Pass, and W - Weak Pass).

NCERT and CBSE have proposed a similar grading module with slight difference in implementation strategy to use in India. These proposals are widely discussed at present. As an interim arrangement CBSE is considering adoption of an absolute grading method with the ultimate target to introduce relative grading method which will adopt different approach than the one in practice now (CBSE Brochure on Grading). NCERT is undertaking a noteworthy work on how grading can be made functional/usable for admission in higher education (NCERT, 2001). Bangladesh is working towards using grading system in all the Boards realizing the need of training for teachers before introduction of grading system by 2007 (MOE, Bangladesh, 2000).

In Nepal, raw scores are reported in the candidate's mark-sheet. If a candidate fails in a subject, it is remarked 'F'. Letter grading system has been discussed on several occasions (such as The Working Team for SLC, 2058) and several documents (such as SESP Core Document, 2002). Considerable amount of work has been undertaken by SEDP, but it could not materialize in a policy or an operation. Discussing various types of grading system, judgmental grading was proposed for implementation in OCE, Nepal (Annex 17 for SEDP proposal for grading system for SLC examination).

Another practice on reporting of examination result is whether to report composite Grade/aggregate marks and composite pass/fail/division. In Bangladesh (BISE, Dhaka), candidates are provided with a separate result for each subject in terms of Grade and the results from different subjects are combined to form an overall result in terms of Grade Point Average. No overall Grade is provided in CBSE (India), Maldives, and Sri Lanka. In these Boards, candidates are provided separate result for each subject. In Bhutan and Nepal a results from a

different subjects are combined to form an overall result. Single subject certification and grading are considered to be technically sound practices for certification and worthwhile to look into.

### **Grace marks**

Provision of grace marks greatly affects the fate of a number of students where there is a pass/fail system and pass in overall is required. This system can also be helpful to increase the number of subjects securely passed in the system where a cut-off score is applied to obtain a qualifying Grade. In India (CBSE), Maldives, Pakistan, and Sri Lanka, the marker cannot adjust a mark if it is close to an important boundary line such as pass/fail, whereas in Bangladesh, the marker can if it is close to an important boundary line. ([www1.worldbank.org/education/examinations...](http://www1.worldbank.org/education/examinations...)). There is a provision of grace mark in OCE, Nepal. The Examination Committee decides the amount of grace mark(s) when it deems necessary (OCE, BS 2060). OCE also instructs markers to recheck the answer scripts of candidates that are close to the demarcation of pass marks, but markers are not allowed to check answer scripts to provide grace marks and pass the candidate (OCE, Answer sheet checking manual). Grace marks can also be looked into as a positive discrimination practice in the educational scenario where school conditions widely vary and it affects the achievement of students. Compensation for students marginalized due to remoteness, unavailability of qualified, and trained teachers, face hardship due to geographical condition. Such arguments take up the point that given equal opportunity, those students would have also fared better. But grace mark for all on a flat basis cannot be justified. If grace mark is based on the differences of the difficulty of the test from year to year, all candidates, not just the failed ones, would deserve the grace mark for taking a difficult test. It will thus be appropriate to review the rationale for grace marks itself in the context of Nepalese situation.

## **4. CONCLUSIONS AND IMPLICATIONS**

There are a number of practices in SLC examination conducted by OCE, Nepal, which are similar to those of other Boards in the SAARC countries. There are also a number of practices in the SLE of the Boards in the SAARC countries from which OCE, Nepal can learn. In this chapter, the practices of the Boards in SAARC countries are highlighted to draw implications for improving SLC examination in Nepal. Implications drawn in this chapter are aspects which this study deemed appropriate for OCE to look into. However, it is necessary to discuss further the practices of SAARC countries in the context of Nepal and draw measures feasible in the context of Nepalese system. The present study is only one of the components of the main study entitled 'Study on Student Performance in SLC'. Other major components would be looking in depth on the examination practices in Nepal. The study on examination practices in SAARC countries is also supposed to provide information required on these components.

### **4.1 Broadening the Purpose of Examination**

SLC examination presumes three purposes -- certification of students' attainment, selection for further education, and evaluation of the school. In Bhutan, India, Maldives, Pakistan, and Sri Lanka, the outcomes of examinations are also used as a feedback for improving teaching learning. As such efforts are deemed helpful in improving teaching learning at the school level, it will be worthwhile to institute students' performance analysis on the examination and provide feedback to the school/teacher that can help in improving teaching learning. In order to achieve

this goal, a training for the concerned personnel appears essential. CBSE, India, and DOE, Sri Lanka can be helpful for this purpose.

## 4.2 Emphasis on School-Based Assessment

Individual ability differs from person to person. Individuals also possess the ability to learn at a certain level of competence, if they are given care and their needs are catered for. Continuous assessment and using outcome of assessment to improve learning is deemed essential. It is also important that education be helpful for students in learning the non-cognitive aspects as well. These aspects also need to be assessed. Continuous assessment of scholastic and non-scholastic aspects can be best taken care of by the schools/teachers. Such school-based assessment is being emphasized in India and Sri Lanka and other SAARC countries are also working on it. Nepal is also working on this line. An example is the piloting of Continuous Assessment System (CAS) at the primary level. The outcomes and lessons from the piloting of CAS might serve as a helpful guideline for further broadening of the school-based assessment. One component of the present study is school-based assessment. That study might also come up with interesting and concrete findings and suggestions in the context of Nepal.

Effective implementation of school-based assessment is important. In this respect, NCERT strategy looks noteworthy. During discussion the experts of NCERT responsible for the piloting of school-based assessment described the program strategy. NCERT has selected four better facilitated schools for the piloting of school-based assessment. The purpose behind selecting better facilitated schools was positive demonstration. In its third year of piloting, sixteen schools are selected. Its outcome is very positive, schools/teachers are reporting better progress in students' learning, and teachers are accustomed to managing their time. The lesson that can be learned -- start slow, establish, stabilize, and demonstrate positively than going to mass and crashing down. CBSE has developed guidelines to schools on certification on school-based evaluation (2003). NCERT is providing training on SBA. Learning how to plan and make preparation for SBA from these institutions can be useful. Short-term training at NCERT and CBSE in India and DOE and NIE in Sri Lanka for the professionals on SBA will be helpful.

## 4.3 More Autonomous Institutions

In the SAARC countries visited, Boards and other institutions related to curriculum and teacher training were found to have enjoyed a certain degree of autonomy in terms of administration, quality control, and finance. In most of these institutions, one used to enter and complete the service life. This provided ample opportunity to develop expertise on personal basis and the institution could get service of more informed and dedicated persons. This has been cited as one reason for the better performance of the institutions there. It is important to develop specialized institutions such as CBSE (India), NETS (Sri Lanka), and FBISE (Pakistan) which correspond with OCE in Nepal, such as NCERT (India) and NIE (Sri Lanka) which correspond with NCED and CDC in Nepal. It needs to be considered to allow a certain degree of autonomy and longer terms for the personnel in OCE, CDC, and NCED. What kinds of autonomy and how to provide autonomy are issues that might be elaborated by other component studies as well.

Regarding the debate on the need of single or multiple Boards in Nepal, the practices of SAARC countries might serve as a helpful guideline. In the context of Nepal, where there are a manageable number of candidates (considering about 5 lakhs in CBSE, and more than 23 lakhs in UP), multiple Boards might not be essential on the basis of the number of candidates OCE has to manage. OCE, however, should look into decentralizing more of its administrative

functions (such as examination conduction, marking of the answer scripts, training for examiners) at the regional and district levels and develop a center for technical and quality management.

During SEDP a technical unit was formed in OCE comprising a subject specialist in the core subjects. The intention was to build the capacity of the technical unit and develop professionalism of its staffs. The staffs in the technical unit were supposed to work there for a long period without being transferred. Training and study visits for the staffs in the technical unit were organized. During SEDP this unit was developing technically. After SEDP the personnel from technical units were transferred and technical form and development as a unit stagnated. It is important to retain the positive aspects of the project within the program and institutionalize these aspects even after the project is over.

The Boards in Bangladesh, India, Pakistan, and Sri Lanka are responsible for managing secondary level and higher secondary level examinations. This is helpful for using the expertise of the staffs and other persons and utilizing the resources to the maximum level. A single Board for secondary and higher secondary is also worthwhile looking into in the context of Nepal.

#### **4.4 Improvement in Administration of Examination**

A number of activities undertaken by OCE in the administration of examination are more or less similar to those of other Boards in SAARC countries; for example, registration of candidates, mobilization of staffs and other persons for examination conduction, use of marking centers, etc. There are also a number of lessons that can be looked into from the practice of the Boards of the SAARC countries as described hereunder.

##### **Use of Send-Up Examinations**

In Bangladesh, India, Pakistan, and Sri Lanka, all the candidates who have passed Grade 9 (Grade 10 in case of Sri Lanka) and are regular students of school are eligible to appear in the secondary level examination. OCE, Nepal also needs to consider all Grade 10 students as bona-fide candidates for SLC as suggested by SEPP (MOE, 1997). The utility of the send-up examination requires to be examined. Otherwise, it appears to be an unnecessary barrier.

##### **More Transparent and Student-Friendly Approaches**

Public examination should be deemed fair and be open to public scrutiny. It should not be shrouded with mystery. OCE should continue to revise and make the examination-related materials (such as specification grids, model/sample questions and their marking schemes, examination by laws, etc.) available to the school/teacher, students, and other interested parties/individuals (obviously upon payment of the cost). This will help demystify the examination and lead to a better understanding of the examination processes to the concerned parties/individuals.

Students' appeal should be handled in a fair manner. As the examinations improve and become more transparent, such appeal would be given better consideration. The development in this aspect will be considered for the re-evaluation of the answer scripts on the application of candidates as practiced in Sri Lanka.

Students are allowed to sit for improvement examination in India, Pakistan, and Sri Lanka. OCE needs to look into this advanced practice. It is also essential to consider limiting SLC to Grade 10 syllabus, only as practiced in India and Pakistan and being considered in Bangladesh.

## Administrative Functions to Enhance Technical Quality of SLC

The selection of examiners for paper setting, marking, moderation; development and publication of examination-related materials; and provision of training in the examination-related matters as practiced by OCE, Nepal are similar to those of other Boards in many respects. OCE needs to look into following practices as well:

Making markers more accountable as in Pakistan (marker's remuneration is reduced to careless marking and delay). It will help in meeting the examination schedule and also in improving marking.

The maximum number of the copies one examiner can check and a head examiner can recheck needs to be recalculated because the OCE's upper limit is too high compared to other Boards in SAARC countries.

Item banking is a useful concept. Items of objective and short answer type should be calibrated as far as practicable (Annex 18 for the suggestion on item banking developed by SEDP).

Data management needs to be improved. Double entry, double ledger system, publishing of result gazette, publishing a complete result of the individual candidates in the Internet are some of the noteworthy practices in the Boards in SAARC countries.

Outlier analysis system as done by CBSE can be a helpful tool to improve accuracy of the result. The OCE practice of rechecking the cases of a candidate securing above marks 60% in 7 subjects, but failing in one subject can be improved and extended for all the outlier cases.

## 4.5 Improvement in the Technical Quality of the Examination

OCE has already undertaken a number of activities to improve the technical quality of SLC examination and there will always be room for improvement. OCE, CDC, and NCED need to collaborate to revise specification grid in the light of the revised curriculum. Specification grid needs to be balanced in terms of content coverage, testing of higher level objectives, sample of truly representative items, and sample marking schemes. Along with improved examination-related materials, appropriate training should be provided to the paper setters/item writers, markers, moderators, and other persons involved in the examination process. OCE, Nepal should consider adopting some of the improved practices in the Boards in the SAARC countries.

- Pre-testing of marking scheme.
- Sample checking of the marked answer scripts by the head examiner before actual marking commences. (This modality was developed and training provided during SEDP.)
- Pre-testing, calibration, and finalization of test items for the item bank. Calibrated items will be extremely useful for the multi-set. A study by SEDP (2001) commented on the parallel papers:
- The difficulty with using parallel papers is that, without pre-testing and calibrating test materials, it is impossible to say whether they place equivalent demands on the groups of students that take them. There is also no information on any adjustments to be made to the marks, to compensate for differences emerging. Since, in this scheme, different

papers were to be supplied in different regions, there would be no basis for adjustment without the use of an external monitoring instrument.

- During SEDP (OCE, 2000b), two sets of test formats were trialed in a dummy SLC examination with a set with the traditional separate question paper and answer copy and another set with space for answer within the question paper. The second set was found better than the separate question paper and answer copy in several respects. Despite encouraging result for the combined format, it could not be adopted due to security management and bulk of the materials had to be printed outside the country. OCE needs to review the outcome of the dummy examination and see if it is possible to use certain aspects of the combined format of the question-cum-answer script – at least in a compatible format.

#### **4.6 Improved Certification Practice**

While considering improvement in certification practice, the unscientific nature of 101 scales in the reporting of raw scores, the lack of a sound basis in cut-off score, the practice of combining various subjects for a composite score, should be seriously looked into. In view of the unscientific elements noticed in reporting raw scores and keeping in mind the other Boards in SAARC countries that employ the grading system, OCE should also consider employing grading system. Reviewing the proposal of SEDP for grading may also help.

## CHAPTER XIII: TRACER STUDY OF SCHOOL LEAVERS \*

### 1. INTRODUCTION

In Nepal formal educational opportunities before the 50s were very much restrained, despite the crucial need of education for development. The political change that came with the advent of democracy in 1951 made some efforts to institutionalize educational system to make the opportunities available to a large majority of the people. In consideration of the changes in the educational environment with an increasing demand for education and expansion of opportunities and facilities, the development plans designed thereafter started introducing reforms to improve the secondary education of the country with special attention to the relevance of education to the nation's needs.

Historically, the NNEPC, constituted in 1954, was the first body to suggest changes in secondary education to meet the growing demand for education and the national development goals. The ARNEC, formed in 1961, proposed a vocational course for secondary education. The NESP introduced in 1971 came with an innovation of the national system of public education with vocational courses. This Plan introduced a number of measures for a planned expansion of secondary education and prescribed a set of new curricula and textbooks. A revision of the secondary curriculum made in 1981, however, discouraged vocational courses with the objective to prepare secondary students for general and technical higher education and to develop in them faith in God and loyalty to the country and the Crown.

The HMGN, upon the restoration of democracy in 1990, constituted the National Education Commission (NEC) to restructure the existing education system, redefine the goals of national education, and review all levels of education in the changed context which in its report of 1992 defined the goal of secondary education: to produce citizens respecting dignity of labor, believing in democratic values, and having, proficiency in Nepali, mathematics, science, and bearing a good moral character (NEC, 1992, quoted in Bista, 1996). Thus, secondary education was regarded as the foundation of producing skillful human power needed for the national development efforts.

The questions today, however, have been raised on the quality of schooling, the relevance of curriculum to life skills, and access of the poor and disadvantaged of the opportunity of schooling (SEDP, 2001). Quality, equity, efficiency, and relevance thus have been the major concerns and issues in secondary education (SESP, 2002; Tenth Plan, 2002-7; SEPP, 2001; SEDP, 1997). Further, education providing life skills is an emerging concept aiming at developing appropriate skills for life, for personal development, and for capability to face challenges. The curriculum should not only prepare students for higher studies, but also should be self-contained, adequate, and scientific in content and approaches to fulfill the needs of those who do not have or cannot afford higher education. A major criticism of the present education system is its inability to produce students capable of coping with the rapid social changes. .

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\* This chapter is based on the report 'Tracer Study of School Leavers' prepared by Dr. Bharat Shrestha for the SLC Study team.

In the present context, secondary education has a dual role. It has to prepare students for (a) the world of higher education and (b) the world of work. Further, the secondary school leavers are required to obtain a number of personal and social benefits from their secondary schooling. The overall policy objective of HMGN in the context of the development of secondary education is to enhance the quality of education.

The goals and objectives of education have changed with increasing demand over the last 50 years or so as to reform the structure, content, and the method. Several high level commissions and committees have been formed to review and recommend reforms in the education sector. Despite the modifications and reforms made in the secondary level curriculum, the questions have been raised on the relevance and practicability of the curriculum. Studies have pointed out the inability of secondary education to cope up with students' daily life and employability because of the general and pure academic nature of curriculum (CERID, 1996; IEES, 1988; IOE, 1984) after completing which a great majority of the secondary school leavers tend to go in for higher education. Several studies have (CTEVT, 1996; New ERA, 1991, quoted in Bista, 1996) been undertaken particularly to evaluate the performance of technical schools, but none of the studies assesses whether the knowledge, attitudes, skills and competencies of the secondary students are relevant to their subsequent engagements: higher studies, jobs, and social roles.

The situation has further changed over the years in terms of the market for job both within the country and abroad. Various options for higher education with new prospects of knowledge, skills, and competencies are available in the highly competitive global and local societies. The secondary school curriculum thus faces acute challenges. As a result, Nepal's school education seems to be at a crossroad. Knowledge- and skills- based education has become indispensable. Therefore, the situation demands for the relevancy of school education to higher education, job market, social life, and personal living. The changing context of the global job market requires a thorough assessment of the secondary education system. There are several compartments in which an assessment could be made of the students to identify the career paths of secondary school leavers, activities engaged in, trend of students pursuing higher studies in different institutions and subjects, access to job opportunities, and earning and possession of social roles. A couple of studies (Bista, 1996; CERID, 1996) till date have been undertaken in small student populations, particularly to find out the answer to these questions in a limited way.

A tracer study was conducted under the SLC Study to generate a database pertaining to the secondary school leavers and to ascertain their opinions on the knowledge, skills, and competencies required for the higher studies, world of work, and personal life. The purpose of this study was to gain insights into the links between secondary education and higher education, on the one hand, and between the jobs market and social roles, on the other, for a long-term strategic plan of secondary education.

The major objective of this study was to trace out the whereabouts of the SLC pass and fail students of the last three years.

## 1.1 Scope of Work

The study tracer done under the SLC Study was confined to the opinions and views of those involved directly or indirectly in secondary education and employers of SLC pass or fail students. It attempted to answer the questions as to where do the students land on completion of their secondary education; how secondary education is helping them in higher education, if of course they are continuing their studies; how has secondary education been helping them in the job

market if they are employed, self-employed, or wishing to be employed; how has secondary education helped them in their personal, family, and social life; what skills and competencies do the world of work and higher education demand of them; how have the employers rated the performance of SLC graduates and undergraduates in terms of their capacity to work; and how the university or college teachers rate their performance levels.+

For details on Concept, Approach, Methodology and Data collection, please refer to ‘Tracer Study of School Leavers’.

### Determination of Sample Size, Strata, District, and School Selection

Twenty% of 452 schools (332 public and 120 private) were taken as a sample from the main survey. The total number of schools thus selected was 90 (66 public and 24 private) from among the *medium* and *large* schools. The sample size for students was 2,160, 24 students from each of the school selected as per their performance in SLC Table 1. The reason behind putting the sample size 2,160 was to see that the number of students being traced out was at least 60% as required by the TOR. The strata were determined in three different categories from each ecological zone of the development regions. Kathmandu valley was treated differently as it is far ahead of other regions in terms of semi-economic development.

**Table 1. Student Sample Size for the Sample Districts, Zones, and Development Regions**

Strata	Ecological Zones And Development Regions		Sample Districts	Total Sample		Students
				School Public	Private	
Mountains of All Development Regions				8		192
1	Eastern + Central Mountain	(EM + CM)	Solokhumbu	3		72
2	Western Mountain	(WM)	(*)			
		(MWM +	Jumla	2		48
3	Mid +Far Western Mountain	FWM)	Bajhang	3		72
Hills of All Development Regions				24	2	624
4	Eastern + Central Hills	(EH + CH)	Kavre	10	2	288
5	Western Hills	(WH)	Arghakhanchi	10		240
6	Mid + Far Western Hills	(MWH + FWH)	Surkhet	4		96
Tarai of All Development Regions				29	12	984
7	Eastern + Central Tarai	(ET + CT)	Jhapa	15	7	528
8	Western Tarai	(WT)	Rupandehi	9	4	312
9	Mid + Far Western Tarai	(MWT + FWT)	Kanchanpur	5	1	144
Kathmandu Valley				5	10	360
10	Kathmandu Valley	(KV)	Lalitpur	5	10	360
All Total				66	24	2160

Note: The asterik (\*) indicates a small school with < 25 SLC appeared students.

The districts for school selection were identified with appropriate representation from each of the strata. However, some of the districts could not be included in the sample due to the fact that the schools too were small in size and had less than 25 students. Selecting these schools would not give 24 students for the interview. In such a case, the district was excluded from sampling; for example, the Western Development Region. Ten districts (see the map) from one stratum each were selected, considering the time and resources.

With the help of the data set of the schools in each of the districts for the year 2000 of the Office of the Controller of Examinations (OCE), schools were further listed and selected. Only the medium and large size schools, both of public and private, were selected to assure the availability of students. Additional schools of similar performance were identified to remain on



the safe side for the replacement of schools. About 13 schools were replaced for various reasons.

### Selection of Students

Twenty-four students were selected for interview from each of the school based on their performance. All the cohort groups of SLC appeared students by year were listed on the basis of the records obtained from the schools or the District

Education Office (DEO). The list of all the SLC appeared students was further broken down as per their performance as FIRST, SECOND, THIRD division, and FAIL. Six students of three years, of 2 each, on the basis of their performance by division from the listings, were randomly selected. A total of 8 students each from 1998, 1999, and 2000 were taken as samples and then 2 students each from 4 different categories were taken as samples, thus making a total of 24 students. Interviews were conducted with 40% of those pursuing higher studies, 30% employed, 15% self-employed, and 15% unemployed. Since the design of this tracer study is retrospective, the selection of students had to be made from the past years. Therefore, the cohort group of the SLC appeared students were selected from the three years starting 1998.

## 2. SCHOOLING BACKGROUND OF SECONDARY SCHOOL LEAVERS

### 2.1 Features of Sample Districts

The total number of schools within the sample districts is 3,937 of which the share of secondary schools accounts to about 30%. Public schools constitute over 63%. Fifty-four% of girls' enrollment in public schools at secondary level indicates the increasing positive attitudes of parents towards female education, due mainly to the awareness among the parents brought about by social change; increasing trend of urbanization; social pressure; and labor surplus caused decline in time taken in fetching water, forest products, or grazing livestock, etc. The proportion of female teachers in school is only 0.12. Like the female teachers, the ratio of trained male teacher per public school is only 1.37. Such a scenario poses the problem of quality in education in all the sample districts in both rural and urban areas. The contribution of private school to educational development seems to be significant as in 2003, the proportion of students taking SLC from private schools was 31% in the sample districts. Interest in the private schools, have grown due to better physical facilities and good-looking physical environments, regular classes and home works, good results in the SLC, etc.

The overall performance of the public schools of the sample districts in the year 2003 was recorded at 41%, a little below the national average of 46% while for the private schools for the same year it was 79%. Likewise, the performance of girls is on an average fairly higher in the

private school. There is a large variation in the pass percentage of students of public and private schools: vs. 70% in the year 2003. The pass rate of the girls is as low as 15% in the public schools while it is over 66% in the private schools. Only 8.5 of the public schools show 100% SLC results.

## 2.2 Features of Sample Schools

The profiles of 77 schools out of 90 were collected. There was no private school in the mountains. The average number of students per school is recorded at 739 (girls 45% and Dalits and Janjatis 8 and 29% respectively). Based on the records made available at 77 schools, the average number of students per school appearing in SLC in 2003 was 53 with 31 as pass, average figure for female students per school was 53, with 32 as pass. This indicates an encouraging trend in girl's education. The girls of private schools had better SLC results. Better physical facilities, access to computers, libraries, and sports facilities seem to have been conducive in the private schools. A majority of public schools except in the Kathmandu Valley have no computer and other facilities. One can also vividly notice the difference in the number of class days in an academic year, which is documented as higher by 1.15 times in the private schools.

The income is recorded at Rs. 508,000 on an average per school. The level of income is found to be higher in the mountains than in the Tarai and so is the trend of the expenditures. The fees paid by the students are higher in private schools (Rs. 1311/month in private schools against Rs. 226 in public schools). The fees collected by the schools include charges on items such as admission, monthly tuition, lab, sports, computer, books, examinations, etc. The information on students receiving scholarships does not show their exact proportion, but the figures indicate exiting trend of such facilities.

## 2.3 Schooling Background and Chosen Career Path of the School Leavers

### Students Traced Out

Of the total sample of the secondary school leavers, 1767 or 82% were traced out, about 116% in the hills. Tracing out the school leavers in the rural area was comparatively easier than in Kathmandu Valley. It is evident that the average number of students traced out per school is 21.6 in the mountains, 22.4 in the hills, 19.2 in the Tarai, and 14.9 in Kathmandu Valley. The main reason behind the low trace-out was the unavailability of students in their locations or their hesitation to sit for interview. Over 91% of the school leavers pursuing higher studies were located either at their homes or place of studies. Self-employed were traced out in their locations or at the places of work but the employed were very difficult to visit because they were reluctant to sit for interview, their employers hesitated to permit them for interview, or the appropriate time was not available.

### Demographic and Socio-Economic Status of School Leavers' Families

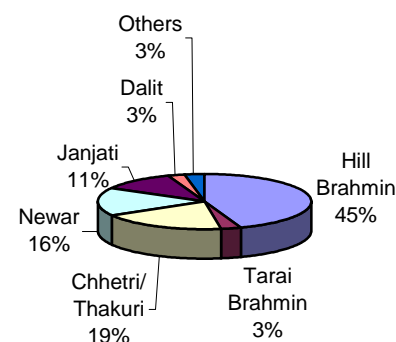
Of the 1,767 school leavers interviewed, about 41% have their permanent residence in the hills while 36.6% live in the Tarai. Likewise, some 12.6% live in the mountains and 9.8% in Kathmandu Valley. Some 78% are students from public schools and 22% from private.

A great majority of the private schools are located in the urban areas, i.e., areas having transportation and other facilities. Unlike private schools, over two-thirds of the public schools among the samples are located in the rural areas.

The average family size calculated among the sample population of the school leavers is estimated at 5.8 with 2.8 males and 3.1 females (Table 2). There is an interesting correlation between family size and performance in SLC. The higher the performance in SLC, the lower the family size, which could be an effect of education.

Some 89% of the school leavers reported father as the household head, 7.5% reported mother, and 3.6% reported grandfather, mother, or elder father. Likewise, the family type as reported by 43.8% is joint, whilst over half of them live in a nuclear family. The joint families are more likely to be seen in the rural areas (45.8%) than in urban area (39.1%).

**Figure 1. Ethnic Composition**



**Ethnic Composition**

**Table 2. Percentage Distribution of Demographic Features**

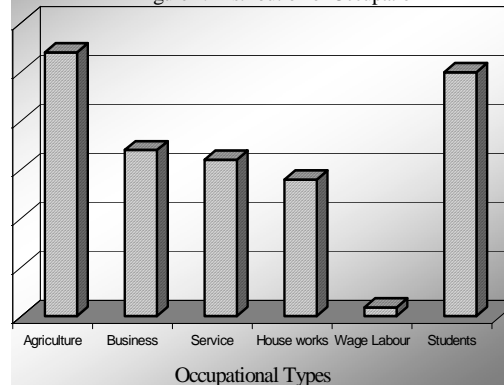
Category	Family Size			Dependency (%)		
	HH of Male Student	HH of Female Student	Total	Children (< 11 years)	Old Age (>65 years)	Total
Eco-Zones				7.6	2.9	10.5
Mountains	6.3	5.8	6.2	9.6	2.6	12.2
Hills	6.3	6.3	6.3	8.8	2.8	1.6
Tarai	5.4	5.5	5.4	5.9	3.1	9.0
Kathmandu Valley	4.7	5.5	5.0	6.2	3.3	9.5
Type of School				7.6	2.9	10.5
Public	6.1	5.9	6.0	7.9	2.9	10.8
Private	5.0	5.5	5.2	6.3	3.0	9.3
Gender				7.6	2.9	10.5
Male	5.8		5.8	8.0	3.0	11.0
Female		5.8	5.8	6.9	2.8	9.7
Location				7.6	2.9	10.5
Rural	6.0	5.9	6.0	8.0	2.9	10.9
Urban	5.4	5.7	5.5	6.7	2.9	9.6

The hill Brahman constitute 44.3% followed by 19.2% of the Chhetris/Thakuris, 16.2 of Newars, 11.4 of the Janjatis, 3.1 of Tarai Brahmins and 2.6 of the Dalits (see figure). About 3.2% of the school leavers were found to have reported other castes such as Marwadis, Sanyasis, Bangalis, Puris, Giris, etc.

The Hindus are the predominant group (91.6%). Buddhists constitute 6.3%, and the rest comprised by 2% Muslims and Christians.

The total literacy rate is calculated at 88.6% with males and females figuring at 93.8 and 83.0%. Female literacy is high in the hills and Tarai, among the high-income groups.

**Figure 2. Distribution of Occupation**



Agriculture is the prime occupation in the mountains and Tarai. In Kathmandu Valley service and business occupy a major share. Other occupations reported are services in Government, or the private sector (15.7%) followed by trade/business including retail shops (see figure 8.6%) while 14.6% are involved in household work with 34.3% as students.

The average value of assets holding is the highest (3,928,000 rupees) in Kathmandu Valley for the private school leavers 3,632,000 rupees, for the public school leavers, 1,347,000 rupees. Land accounts over 77% as the highest value among the assets holding of school leavers' families. Of the total expenditures, the families in Kathmandu Valley 16.6% for education, 1.4% of the assets holding value, and 25.7% of the total income.

### **Educational Performance of School Leavers**

Of the school leavers traced out, about 28% sat for the SLC examination in 2000, 40% in 1999, and 32% in 1998 of which 78% are from public schools with 36.2% girls. The average age of the students is 16.5 years. Over 29% of the students have repeated the exam even over 3 times. Their percentage is about 4.4%. The case is more pronounced in the rural areas and with public schools. Girl students repeat more than boys (Box 1). There is no correlation between the number of exam repetitions and the economic status of the family. About 91.7% sample students passed and 146 or 8.3% were failed. Of those passing 20.9% were first divisioners. A great majority (52.0%) of students passed in the second division and about 18% in third division. Public schools account for about 70.5% pass. The pass percentages of the Janjati and Dalit were 9.8 and 1.7 respectively. The female students were 32.9%. Of the total school leavers, about 25.6% students succeeded in the compartmental examinations.

#### **Box 1: Wasted Efforts for SLC Degree**

Ms. Laxmi Kharel, 24, is the resident of Babiya Chaur, Surkhet. There are nine members in her family totally dependent upon agriculture. As the eldest daughter, she has to spend most of her time in farmland and household chores with little time left for her studies. Laxmi first appeared in the SLC exam in 2000 from Bidhya Jyoti Secondary School, Babiya Chour, Surkhet but failed in Math and English. Since then she has attended SLC exam four times and every time she has failed in the same subjects.

Teaching in the school, she said, was not satisfactory since the classes were not regular and the Math teacher was not competent. She was, therefore, weak in Math right from the primary classes. She frankly said that she could hardly differentiate between the capital and small letters of English until she got to class 7. Since no one can be perfect in every subject, she opines that the education policy should not put pressure to study the subjects in which the student is weak. If there were provisions of the subject choice based on the local needs, she is confident that she would have passed SLC at her very first attempt.

She also added that had the school given her vocational education, her condition would have been quite different. She would have started her own business. She regrets her wasteful school education and her efforts that have brought nothing.

The trends of average marks secured have been documented for all the subjects that are compulsory such as English, Nepali, Mathematics, and Science. The average marks calculated for each of the subjects of the pass and fail students show low marks in English and Mathematics (Table 3).

**Table 3. Average Marks Secured by Those Who Passed and Failed SLC**

Subject Taken	Those Passed		Marks	Those Failed		Marks
	Total Response	Average Secured		Total Response	Average Secured	
Nepali	1,152	51.7		122	32.6	
English	1,152	49.6		122	35.0	
Mathematics	1,152	50.7		122	23.6	
Science	1,152	52.7		122	30.5	
Social Studies	339	51.6		48	39.0	
Health, Population, and Environment	353	63.7		42	53.3	
Optional I	1,145	55.3		119	37.8	
Optional II	1,101	58.0		109	43.9	
Vocational	838	61.1		91	48.4	

There were students over 50% who obtained less than 50 whereas the percentage of students securing over 90 was less than 6%. In the optional and vocational courses, performances in terms of marks secured seem to have helped students to pass the examinations.

### Selection of Subjects

Apart from the compulsory subjects, about 49% of the school leavers were found to have taken mathematics as optional I followed by economics (28%) while health has been taken as optional II (41%). The proportions among the school leavers taking the vocational courses are: accounts (52.1%), education (25.9%), and agriculture (19%). Both optional and vocational courses are found to have been chosen by the school leavers on their own but only those subjects were made available to them. For this reason, about 20 and 21% respectively reported that they had wished for other subjects as Optional I and Optional II which were not available in the schools. The subjects they wanted to study were Computer, Economics, Accounts, Geography, Education, Agriculture, Forestry, and Health.

### Perceived Level of Education and Occupation

Over 48% wished to go up to the Masters level while about 17.8% had no idea. Likewise, about 41.1% parents were expecting their children to go for Masters degree or above, while about 28% said they did not know. Some 6.5% parents wanted to fund their children's studies as long as they wished (Table 4). Over 39% of the parents wanted their daughters studying for higher education up to the Masters level. The perception of higher education is only vaguely correlated to the economic status of the parents.

It is interesting to note that the perceived occupation of the highest number of school leavers is teachership (22.9%), Government job (18%), medical doctor (12.2%), engineer (8.3%), and college professor (6.7%). While rural, female, and Dalit students have wanted to be teachers, students from the private schools wanted to be doctors or engineers. The parents of Dalit students wished their children to be Government jobholders or teachers.

**Table 4. Perceived Level of Education and Profession**

Level of Education	Education		Type of Profession		Occupation	
	Own	Parents	Own	Parents	Own	Parents
SLC	52 (2.9)	94 (5.4)	Professor	118 (6.7)	67 (3.8)	
Certificate	112 (6.4)	56 (3.2)	Doctor	216 (12.2)	364 (20.6)	
Bachelor	435 (24.6)	258 (14.8)	Engineer	147 (8.3)	148 (8.4)	
Masters	853 (48.3)	732 (41.8)	Vet. Doctor	12 (0.7)	6 (0.3)	
No thoughts	315 (17.8)	179 (10.2)	Advocate	67 (3.8)	60 (3.4)	
Can't say		317 (18.1)	Forester	18 (1.0)	7 (0.4)	
Others		113 (6.5)	Agriculturist	41 (2.3)	27 (1.5)	
			Teacher	404 (22.9)	271 (15.3)	
Occupation:			Pilot	34 (1.9)	5 (0.3)	
			Police	22 (1.3)	6 (0.3)	
Other category of Students:			Army	83 (4.7)	40 (2.3)	
Chartered Accountant, Social Worker, Singer, Air			Government Job	318 (18.0)	512 (29.0)	
Hostess, Journalist, Artist, Mechanics, Politician,			Business Person	84 (4.8)	43 (2.4)	
Sportsman, Writer			Nurse	64 (3.6)	50 (2.8)	
			No Idea	62 (3.5)	100 (5.7)	
Other categories of Parents:			Others	77 (4.4)	61 (3.5)	
Social Worker, Technical Job, Judge, Capable						
Person, Special Person, Nothing Special						

Note: Figures in parentheses indicate percentages

### Subjects Facing Difficulties

English was found to be the most difficult subject for over 39.9% school leavers, Mathematics for 21.6%, Science for 8.4% and Nepali for 8.3%. The reason for perceiving Nepali as the most difficult part of the course for many school leavers was grammar (irrespective of the type of school, gender, and ethnicity). English was difficult for them because they had weak language base (rural and Dalit school leavers and students of the public schools) but they liked the subject mainly because it is an international language. Difficult formulae, practice, and weak base made Mathematics difficult for the school leavers of all types of schools (Box 2), but almost one-fourth of the respondents, who liked the subject voted for its usefulness in life and help in securing higher marks.

#### Box 2: Mathematics the Killer Subject

Ms. Jyoti Pandey, 25, was a student of Public Madhayamik Vidhalaya, Dorannagar VDC of Rupandehi district. She first appeared at the SLC exam in 1998, but failed in English, Maths and Science. Next year, she appeared again, but failed again in Maths obtaining only 22 marks. She again appeared at the compartmental exam the same year, but again failed in Math securing only 26. She finally blamed her luck and gave up the examinations, but after 3 years again sat for the exam under the new curriculum in 2003 on the advice of her teachers. Once again she failed in Maths. She made her last attempt through the compartmental exam, but again secured 26 marks and failed.

Jyoti made her 5 attempts in Maths. Whenever she sat for the examinations, she felt the questions were not so tough, came out of the exam hall with a new hope, but every time flunked.

She said that if she had an alternative for Maths, she would have passed SLC five years ago and would have been a good teacher in the school, which was her dream. But she is not sure anymore whether her dream would ever come true.

### **Courses, Training, and Other Activities Undertaken by the School Leavers**

Of the sample school leavers, 56.1% had taken training (10% from Kathmandu Valley). School leavers from private schools and girl students from urban areas participated more in the training. Mainly, the first divisioners, the students of families holding the highest levels of assets and income have participated in the training. Training on Computer (667 events), Sewing and Knitting (128 events), Language (116 events), Anchoring (80 events), and Teachers Training (65 events) are the areas of training. Apparently, computer training was taken more by the school leavers of private schools from urban areas and by high and middle income groups (girl school leaver's share over 35%). The reason for taking the training were personal interest (35.5%), experience to gain (15.3%), technical skills (11.7%) and for 9.3%, employment. Over 10% of the rural school leavers reported they took training to get employment.

### **Planning for Study and Employment Abroad**

The school leavers from the urban areas in general and Kathmandu Valley in particular, having secured the first division marks in SLC, have plans to go abroad for higher studies. It is interesting to note that the school leavers from the caste groups, Newars and Tarai brahmans of high economic status were more likely to have planned. The overall percentage of the school leavers either desiring or planning for higher studies abroad is estimated at 19.4. The subjects they have planned for higher studies are Management (31.6%), Computer Science (18.4%), Engineering (14.0%), English Literature (9.1%), Chartered Accountant (4.7%), Hotel Management (4.4%). Some other major subjects chosen for study are Medical Science, Environmental Science, Economics and Mathematics. Students from Dalits and Tarai brahman groups have chosen Management and Computer Science while other caste groups have chosen Computer Science and Engineering. Female school leavers are found to have preferred Management and Computer Sciences. The most preferred country for over 43.9 percent of the school leavers is the USA followed by Britain (16.4%), Australia, India, and Japan (8-9%). A great majority (59.7%) of the school leavers reported to have planned for higher studies of Masters level and 10% for above Masters degree. Female school leavers are found to have opted for Masters' degree. Of the 342 school leavers planning for the studies abroad, only 0.6% have already submitted their applications, 19.9% are preparing or have taken TOEFL, IELTS, or other examinations. Among those who have prepared for English and other tests are mostly those from the private schools of Kathmandu valley. The proportion of the female school leavers is also insignificant.

Some 307 (17.4%) of 1,767 sample school leavers, mostly males, with a comparatively low performance (below the second division) in SLC expressed their desire to go abroad for employment, for which they claimed expertise in labor-based works (25.6), Computer Skills (15%), Hotel and Tourism (10.2%), Electric House Wiring (7.3%), Driving (5.3%), Nursing, Painting, Carpentry or Masonry (2%). The country preferred for work by over 29.6% of the school leavers is the USA. But the preference given only for good employment and earning are states like South Korea, Japan, Gulf countries, Malaysia, European countries, India, and Israel etc. Notwithstanding the desire for foreign jobs, 68.4% reported to have done nothing for catching up the opportunities while some 11.7% had attended language training, 2.9% hotel training, 11.4% job-related training, and 7.8% computer training. Those performing all these activities are mostly from Kathmandu Valley. Dalit and Tarai brahmans and low and medium income status school leavers are reported to have prepared well.

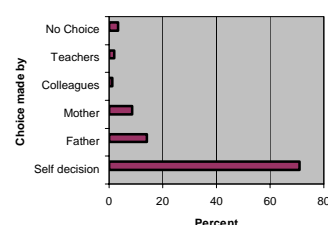
### 3. SECONDARY SCHOOLING AND SCHOOL LEAVERS PURSUING HIGHER EDUCATION

#### 3.1 Choice of Institutions and Faculty

Of the total 794 pursuing higher studies, 55.5% are reported to have joined higher secondary (+2) school/college and 44.5% the university constituent/affiliated colleges. The Faculty of Management has been the center of attraction to a great majority (over 41%) of sample school leavers pursuing higher studies followed by humanities (22.3%), and education (22.3%). There are about 9% school leavers who joined Science and 2.4% who joined Engineering. School leavers from medium level income group and the second divisioners have joined Management, Humanities, and Education. Further, the females have been attracted to Education. Dalits have mostly enrolled for Humanities.

Seventy one% of school leavers made the choice of faculty on their own while 14 and 8.6% respectively did so on the advice of their fathers and mothers (see Figure). Fathers generally chose subjects for the female school leavers.

Figure 3. Choice of Faculty



Over half of the school leavers are currently at the bachelor level (Table 4.1). While 1.6% have completed Bachelor level, about 1.5% have joined the Masters level (one Dalit and SLC first divisioners). It shows that in general better performance in SLC helps to get better career and life. Female school leavers pursuing higher studies were 311, of whom 47% are at the Certificate level, followed by 36% at the Bachelor level. None of the female school leavers have joined the Masters level.

Table 5. Number of Students Pursuing Higher Studies and Reporting Currently at Different Level

Level of Study	Male		Female		Total	% of Total Students
Certificate/+2 on study	109	(53.0)	97	(47.0)	206	26.0
Certificate/+2 completed	37	(53.0)	33	(47.0)	70	9.0
Diploma on study	33	(72.0)	13	(28.0)	46	6.0
Diploma completed	5	(100.0)			5	1.0
Bachelor on study	286	(64.0)	164	(36.0)	450	57.0
Bachelor completed	9	(69.0)	4	(31.0)	13	2.0
Masters on study	4	(100.0)			4	1.0
Overall	483	(61.0)	311	(39.0)	794	100.0

Figures in the parentheses represent percentages.

#### 3.2 Subjects and Performance at Certificate Level

Since a majority of the students opting for higher education have been admitted to the Faculties of Humanities and Management, economics has also been the major subject taken by about 44.8%. Private school leavers and school leavers from the hills and Kathmandu Valley have taken English and Mathematics. Languages like Nepali and English are the common to all the faculties, which are also taken as majors. Therefore, the general subject studied by a majority of 23.89% school leavers is English followed by Nepali (19.75%) and Economics (13.43%).

Accounts is another general subject taken by the school leavers after economics. Mathematics is also a common subject in Science and Humanities, but in the Management Business Mathematics is offered as the general subject.

Average marks in Nepali were 44.8 obtained by the school leavers from urban schools, private schools, male students of mid-income groups and the Janjati and Newar groups. Likewise, the average mark obtained in English was 40.3. The average mark in Mathematics was nearly 50. No differences were seen in the average marks secured by the private and public school students in Economics, but in Science the school leavers from private schools had done better and, much better than the hill brahmans, Chhetris/Thakuris and Janjatis. In subjects like Accounts, BOOM, Optional English, Business Mathematics, female students led on the average.

Sixty-four% of the students faced difficulties in the subjects they studied at the Certificate/+2 level, mostly, the second and third divisioners. The students from the public schools of the mountains and hills, particularly female students, faced such difficulties. It is interesting to note that their difficulties in the subjects arose due to their inability to understand lectures in English and the limited knowledge of English from the school (Table 6).

**Table 6. Reasons for Subjects posing difficulties or absence of difficulties**

Reasons for Difficulties	%	Reasons for Absence of Difficulties	%
Able to follow lecture in English	51.0	Able to follow lectures in English	56.6
Did not study the subject at school	29.7	Prior knowledge of the subjects	35.3
Limited knowledge of subject from school	46.9	Sufficient understanding of subject	20.6
Schoolteacher didn't teach subjects well	24.8	Teacher/Instructor taught well	18.2
Weak in the subject all along	33.1	Strong in the subject all along	21.0
Inadequate time due to family problems	23.4	Much time for preparation	38.1
In adequate books and reference materials	22.8	I have sufficient books	32.5
Classes not regular in the college	27.4	Classes were regularly taken	49.3
Change of college teachers/irregular classes	14.6		
Lack instructional plans of college teachers	14.4		

### 3.3 Students and Performance at Bachelor Level

Some 462 or 58.2% reported to have continued their Bachelor level studies (first divisioners and students from private schools, Kathmandu Valley, and high-income families). The number of females doing the Bachelor level was comparatively small.

Nepali and English are compulsory as well as major subjects at the Bachelor level, too. About 56.5% reported to have English as their major subject and 39%, Nepali as their major. Economics is the major subject for 67%. The newly introduced subject of Computer Science is the major subject for 4.8%. Other major subjects of the school leavers are Mathematics, Physics, Chemistry, Political Science, Biostatistics, Management, Marketing, Finance, and Business Mathematics. Likewise, the general subjects studied by a majority of the sample school leavers are Nepali and English. Accounts is the main general subject taken by 14.4% of the students. Next to Accounts come Economics, Finance, and Mathematics, which are compulsory in the Faculty of Management and Science.

A great majority of the school leavers had secured marks between 40-60% with an average of 46.7 in Nepali, 38.8 in English, 41.4 in Economics, 54.5 in physics, 44.0 in Accounts, 40.2 in Marketing, 48.4 in Finance, and 51.3 in Business Mathematics. There were only a few subjects in which the average marks secured by the school leavers exceeded 60, but in the subjects that are of applied nature they had scored 67.2 in Computer Science and 60.9 in Statistics. There are

examples of the students who did better in higher education despite their poor results in the SLC (Box 3). A majority of the students are poor in Mathematics (average marks computed 47.6).

### Box 3: From Low to High Performance

Ms. Rita Kharel, 21, is the inhabitant of Shankernagar - 5, Butwal. She lives with her parents, younger brother and sister. She sat for SLC in 1999 from Shankernagar Secondary School in Rupandehi district and passed in the third division. The subjects which pinched her all the time were by English and Mathematics. She got the third division simply because she only obtained the pass marks in those subjects. Her interest was to become a good English teacher. Because of her SLC result, she could not dare to join Humanities with major English and joined Management.

During this time, her desire to learn more of English and Mathematics got intense. She began to work in her parents' medical hall where she was compelled to learn English words (medical) and developed some mathematics problems. She also started reading English papers, books, materials and put lots of effort in textbooks too. All such efforts brought her to greater interest in English and Mathematics, for which she secured first division marks in Certificate exam. Currently, she is in the second year of Bachelor in Business Studies. Her colleagues come to her to learn English. She is happy that her efforts in Mathematics and English bore fruits.

## 3.4 Relevance of School Subjects to Higher Education

Secondary education is the base for higher studies. Therefore, the curriculum requires support for the studies in terms of contents and contexts, skills, and competencies for higher education and employment. In this context, students pursuing higher studies were asked to assess the extent of relevance of the subjects they studied in the secondary school to their higher education. Table 7 provides the documentation of this assessment. The general assessment made by the school leavers of the subjects showed relevance as reported by 70.9%. Less than 12% students reported high relevance.

**Table 7. Percentage of Response on Extent of Relevancy of School Curriculum to Higher Education**

SLC Subjects	Extent of Relevancy			
	Very Relevant	Relevant	Relevant to Limited Extent	Not Relevant
Nepali	29.7	45.6	21.4	3.3
English	32.0	46.6	19.4	2.0
Mathematics	20.2	36.2	25.7	18.0
General Science	9.7	16.0	21.5	52.8
Social Studies	4.3	21.4	38.7	35.7
Health Population and Environment	8.6	23.0	29.5	39.0
Optional 1	21.3	29.2	28.3	21.2
Optional 2	18.5	21.6	22.7	37.2
Vocational	15.6	19.6	22.1	42.7

In languages like Nepali and English relevancy was high for less than only 32%. In other subject like Mathematics, Optional, and Vocational subjects, relevance was not so high for 20%. Half of the students have found SLC science not relevant to their current studies because a majority of them joined either Management or Humanities. On an average, over one-third of the students rated the relevancy of subjects like Social Studies, HPE, Optional, and Vocational subjects as

zero. There must be some relevancy in Optional and Vocational courses although the assessment made by the students is negative, but it is the time to critically consider the question of relevance in view of the high investment and ambitious policy objectives.

### 3.5 College Teachers' Assessment

Teachers have assessed their students in different areas of skills and competencies, in which 12% of the responses ranked up communication ability in Nepali and learning attitudes while 20% skills in communication ability in English. However, teachers in general have rated the students weak in English. The level of basic understanding of the subject matter is low or very low as perceived by 48% of the teachers and so is the case with the ability to comprehend the subject matter, problem solving capability, analytical mind, and ability to work independently. While these are the major factors that enable students to be competent, teachers have assessed them at low level, indicating the low quality of students and low level of education at the secondary level. Yet, they have been rated very low in the areas of innovativeness, use of reference materials, ability to plan studies, communication ability in English etc. This poses a critical question to the curriculum and methods of teaching at the secondary level and the performance of the students as citizens for tomorrow.

Overall, 576 responses have provided answers related three specific competencies required to learn the subject content: inquisitiveness (23.1%) followed by hard work (17.2%), discipline (14.2%), good knowledge of English (13.5%), habit of regular studies (12.9%), and pre and basic knowledge of the subject matter (7%) each. Female teachers emphasized inquisitiveness, good knowledge of mathematics, habit of performing exercises on a regular basis. About 7% have even opined that the possession of competencies is very low. This is a serious threat to secondary education as perceived by the college teachers, where the policy concerning curriculum design and methods of teaching should be critically reviewed. More importantly, the monitoring of the school activities and evaluation of the teachers requires a bold step.

**Table 8. Academic Performance of Different Categories of Students**

Categories	Performance Rating				
	Excellent	Good	Fair	Poor	Does not Apply
Janjati ethnic groups	1.0	18.5	56.8	6.6	17.2
Dalit ethnic groups	0.3	12.2	51.8	13.2	22.4
Ethnic groups	5.0	41.6	36.6	0.7	16.2
Students from private schools	9.6	59.1	22.1	0.7	8.6
Students from public schools	2.3	23.4	61.7	6.3	6.3
Students from urban areas	5.3	40.9	43.6	2.6	7.6
Students from rural areas	3.0	30.3	54.1	7.6	5.0
Male students	1.3	38.0	54.5	1.7	4.6
Female students	4.0	34.7	51.8	4.6	5.0
Students from well off family	1.7	30.7	52.5	5.0	10.2
Students from poor family	3.0	26.4	45.9	12.9	11.9

Attempts have also been made to assess the academic performance of the different categories of the students pursuing higher studies by their teachers in colleges and universities. Teachers have made a good assessment of the students from private schools, the ethnic groups, female students and students, from urban areas, although to a limited extent (Table 8).

### 3.6 Strengths and Weaknesses of SLC Graduates

Assessments made by the teachers with regard to the strengths of the SLC graduates are based on overall quality, knowledge, and performance. The strengths of students of public and private schools seem to be different in terms of ability, skills, and knowledge. There were 516 responses related to strengths of the public school leavers, Some 30.4% response viewed industriousness as strength followed by discipline (26.7%), desire to learn (17.8%), and friendliness (13.2%). They have also the quality of respecting others and good knowledge of the Nepali language. Unlike the strengths of the students from public schools, the strengths of the students from private schools consisted of good knowledge of English according to 37% of teachers.

Likewise, the weaknesses of the students of public schools were weak knowledge of English as opined by 31.4% of the teachers. Some 16.5% of the teachers pointed out the lack of basic knowledge of subject matters. Inability to use reference materials was reported by nearly 8%, irregular attendance in schools (9%), and lack of expressing capability (5.6%). As English was weak in the case of public school graduates, so was Nepali weak in the case of private school graduates as reported by 13% of the teachers. Private school students are also blamed for low discipline (16.8%) as egoistic (10.2%), having the habit of rote memory (8.6%), lacking helpfulness (8.3%), and dependent on teachers (6.6%).

### 3.7 Competencies Required for Higher Education

College teachers have also offered the suggestions with regard to the competencies required for higher education. According to them, good knowledge in English is the prime competence required for higher education (17.8%). Good moral character (15.5%) is another quality indirectly required for education. Ability to express, management of time, creativity, regularity on studies, dedication, and basic knowledge and skills are other assets.

### 3.8 Required Role of Secondary Schools

How to acquire these competencies from secondary education was another concern shown by the teachers. In response, 14.2% of the teachers emphasized good educational environment in the school followed by discipline, ethics, and physical facilities (11.6%). They have also pointed out the need for efficient teaching and use of reference materials (10.2%), organization of extracurricular activities (9.2%), and hard work and good relationship between school administration, teachers, and parents (8.0%).

### 3.9 Reforms Required in Secondary Level Curriculum

For quality in the secondary education, university and college teachers have suggested some reforms in the curriculum. The contents of the course as stated by 14.9% should be made comprehensive so that students could develop long visions. Some 27.1% laid stress on ethical education so that students themselves could decide what is right and wrong. Addition of technical education was named by 8.3%; intensive courses in Science, Mathematics, and English right from the primary level by 8.9%; and inclusion of courses directly relevant to higher education were some effective measures for curriculum reform suggested.

## 4. SECONDARY SCHOOLING AND SCHOOL LEAVERS IN THE WORLD OF WORK

### 4.1 Status of Employed School Leavers

#### Types and Location of Employing Institutions

The private sector is found to have been the prime source of employment for a majority of the school leavers because two-thirds (229) of them are employed in this sector. About 18.6% are in Government service, 11.5% in non-Government organizations, and 2.1% in semi-Government and international organizations. The private sector covers agriculture, industry and manufacturing, business, and consultancy. Half of the employed school leavers are associated with educational institutions. In manufacturing companies and business firms, 21.9% are employed. Media has attracted 5% and, social sector institutions like I/NGOs have absorbed some 12.4%. Of the employed, 37% are female with a majority of them from public schools, 39% are hill Brahmins followed by the Chhetris/Thakuris (24.6%), Newars (17.5%), Janjati (14.2%), and Dalits (2%). Over half of the employed have second division in SLC.

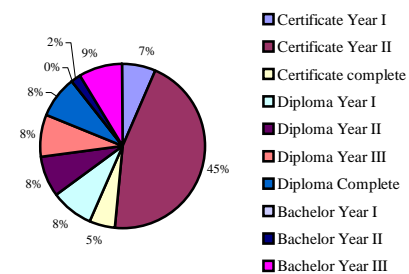
#### Employed School Leavers Pursuing Higher Education

The highest degrees currently possessed by the employed school leavers are Certificate/+2 (53%) and Bachelor (5.6%). Some 7.4% of the school leavers below SLC level have entered jobs for survival. Some (60.7%) have continued their education, 40% at the Bachelor level and others 16.6% at the Certificate+2 level. Only 3 out of 205 have joined the Masters level. Faculties chosen by 42.4% school leavers are Management followed by Education (27.3%) and Humanities (25.9%). Nepali and English are compulsory in all the faculties. The employed school leavers pursuing the Certificate courses have taken Mathematics, Chemistry, and Physics in Science; Accounts, BOOM, and Mathematics in Management; Foundation and Pedagogy in Education; Social Studies, Hotel Management, Economics in Humanities. At the bachelor level, the subjects taken are Business Principles, HRM, Marketing, Mathematics, and Taxation in Management; Foundations and Methods of Teaching in Education; and Sociology, Economics, and Population in Humanities. A majority of the school leavers have thus taken subjects which are relatively easy and can be studied on personal efforts.

#### Transition, Preparation and Search for Work

Overall, the average time taken to obtain the current job is 15.7 months. About 74% of them did nothing to obtain job while others took the relevant courses and attended preparation classes. Some obtained job through personal contacts or on basis of self-preparation. On an average, the school leavers applied to two institutions for job and faced two interviews. The reasons cited by the school leavers for not having been selected for job was the lack of personal contacts and rampant nepotism and favoritism. Some school leavers considered their poor performance in SLC as the barrier. This indicates the inadequacies in them of life skills and of qualities like quest for knowledge, communication and inter-personal skills, and critical and innovative thinking that

Figure 4. Highest degree when selected for job



support performance in the interviews. A majority of the students possibly have no idea of what skills they require and what skills they really lack for personal development.

### Reasons for Opting for the Work

Survival imperatives and inability to afford education were the basic reasons for opting for jobs respectively for 38.6 and 32.3% of the school leavers. The reason why they chose the present jobs was that they had no other options (for over 45% school leavers). Nearly 44% obtained the current jobs two years after SLC or while they were in the second year of the Certificate level or +2, while another 25.2% got the jobs after four years. At what level in terms of the academic degree the respondents obtained the job is shown in Fig. None of the school leavers except the two diploma holders started their job after they completed the Bachelor studies.

### Relevance of School Subjects to Current Work

The assessment of the extent of relevancy of subjects studied by school leavers at the secondary school level to the world of work has two considerations to follow. First, the school leavers might have little capacity to assess the relevancy of the subjects to their work and second, the work position and nature of work could render some help in working. The school leavers who were interviewed were at least four years after their SLC and were, therefore, expected to have been mature to assess such relevance. The school leavers' assessment Table 9.

**Table 9. Relevance of SLC Subjects to Current Work/Occupation**

SLC Subjects	Extent of Relevancy			
	Very Relevant	Relevant	Limited Extent	Not Relevant
Nepali	19.5	50.6	21.6	8.3
English	39.9	36.1	10.2	4.7
Mathematics	26.0	42.9	24.3	6.8
Science	12.1	28.4	33.7	25.7
Social Studies	13.0	35.7	36.2	15.1
Health, Population & Environment	13.8	30.9	38.2	17.1
Optional I	14.9	26.4	30.9	27.8
Optional 2	11.7	24.5	38.1	25.6
Vocational	16.8	24.8	32.7	25.7

Only a few school leavers have rated relevance at less than 20% of all the subjects except English and Mathematics, which also were not very high. The assessment of relevance does not seem to have been made in terms of the skills acquired, but in terms of the content. Over one-third of the school leavers sought the relevance to some extent and one-fourth assessed the optional and vocational subjects and found them not relevant. Consequently, they did not seem to have been satisfied with both the subjects as useful to their work.

### Types of Job and Earning

Over half of the employed respondents entered jobs with a minimum of SLC qualification followed by Proficiency Certificate (24.3%). There were 17 school leavers who entered job after they received the bachelor or Masters degree. Those, who failed in SLC, became schoolteacher (46.8%). The other jobs that the school leavers did were as accountants (9.5%), office assistants (8.9%), health educators (5.9%), salesmen (5.0%), etc.

The gross annual salary drawn by the new entrants was between NRs 20,000 – 40,000 as reported by 53.9% which was increased on an average between NRs 40,000 -50,000 as reported

by 26.3% and NRs. 30,000 -40,000 (23.2%). The average annual gross salary drawn by the employed school leavers is computed at Rs. 41,077 whilst the increased average is calculated at NRs. 55,724. Some school leavers have good employment positions and received good salaries (Box 4).

#### **Box 4: Employed and Earning**

A 21 years old energetic young boy, Raju Ghimire, is residing currently at Siddharthanagar-8 of Rupandehi district in a family of 6 members. He took SLC in 1999 from Bhanu Madhyamik Vidhyalaya and passed in the first division. His mother, a SLC graduate, is a service holder.

Raju joined the Certificate level in Management and started searching for a job to support his mother. He finally got a job in PR Upadhaya Audit Company. He worked and studied simultaneously. In 3 years, he was promoted to the position of Senior Audit Assistant, and at the same time obtained first division marks in the Bachelor in Business Studies (BBS). He earns over NRs 60,000 annually and invests some of it for his younger sisters and brothers.

Raju aims to be a good chartered accountant, for which he possesses top educational background and practical experiences. He says that what counts is not the type of school (public or private) but personal commitment and efforts. He, however, believes that secondary schools must provide skill-based education to students.

#### **Contributing Factors**

About 51.2% of the respondents rated their school education as high followed by hard work (40.4%) and intelligence (34.3%) to acquire current job. About one-fourth thought that their training and personality helped them to acquire the job. Overall, academic degrees followed by personality, intelligence, and personal hard work are found to be the key factors for school leavers to obtain job.

Education, hard work, and intelligence were rated as high by the first divisioners from urban areas. Personal relations, luck, and source-force did not contribute much to obtain job. Some other factors as reported that helped to acquire job were the experience gained initially through volunteer service as teacher and the capacity to sing or ability in music.

#### **Job Satisfaction**

Economic hardship being the main reason for job seeking, about 71% reported to have been satisfied with their jobs. Jobs were a satisfactory move to girl students and school leavers from urban areas. Several reasons were given for job satisfaction. Those jobs were the most satisfactory which helped them to learn a lot which were prestigious in nature and tallied with personal interest and future prospects. Few school leavers were satisfied with their jobs despite low salary, while 86.7% reported dissatisfaction because the salary was low. The other reasons why the school leavers were satisfied with their jobs were liberty to express personal ideas, good relations with the boss, etc.

### Training Needs and Future Plans

School leavers wanted the further training to acquire better skills in job for better employment opportunities. Almost two-thirds of the leavers from public schools of the rural areas felt the need of relevant training. Janjatis and Dalits felt this need more. Priority for training in teaching practices was reported by half of the respondents from the Tarai and by those in the hills and Kathmandu Valley. The next priority for training as sought by 13.7% was in computer work. Accountancy and managerial skills were other training needs (10.5%). Training on teaching practices has been the demand of the employees of all the sectors (location, gender, type of school, ethnicity, household income level, and performance in SLC).

About 133 or 39% of the employed school leavers are not currently studying. About 55% of them had no plan to continue their studies, but 45.1%, particularly those from public schools and a good number of female school leavers from rural areas wanted to resume their studies. Education was the major area intended to study by a majority of the school leavers followed by Management (25%) and Humanities (20%).

### Employer's Perception on Employed School Leavers

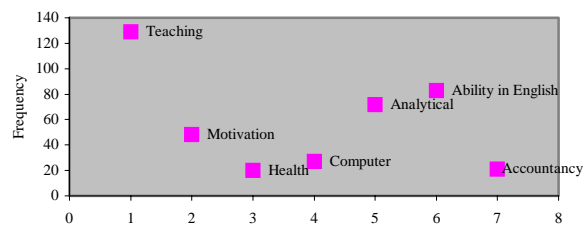
Supervisors were asked to assess their employees on the areas that need skills and competencies of different scales. A high level assessment was found to have been done by almost two-thirds of the supervisors on Nepali and writing ability. The assessment made by the supervisors seems to be encouraging. Supervisors have also made assessment in terms of punctuality, aptitude, service orientation, and learning ability. A majority of the employers have evaluated their employees as above average, ranging from the lowest by 40.7% to the highest by 70.6% in terms of all the indicators (Table 10). The notable fact is that the low performance as indicated by the supervisors pertained to analytical capability, writing and speaking ability in English, innovativeness, and risk taking capability.

**Table 10. Performance Assessment of the Employed Students by Supervisors**

Indicators	Very High	High	Low	Very Low
General level of understanding	26.8	70.6	2.1	0.5
Writing ability in English	15.5	46.9	22.7	13.9
Writing ability in Nepali	56.7	40.7	2.1	0.5
Verbal ability in English	13.9	40.7	21.7	21.1
Verbal ability in Nepali	64.4	33.5	2.1	
Punctuality	37.1	59.3	2.6	1.0
Ability to work independently	16.0	66.5	13.4	4.1
Ability to work in Group	28.9	60.3	9.3	1.6
Aptitudes	36.1	55.7	5.7	2.6
Learning ability	38.1	53.6	6.7	1.6
Analytical mind	14.4	47.9	26.8	10.8
Service Orientation	35.5	54.5	8.5	1.6
Risk taking capacity	7.7	40.7	38.7	12.9
Innovativeness	13.4	47.4	28.4	10.3
Job competence	22.7	62.4	13.4	1.6
Mathematical operational ability	16.0	63.4	9.3	3.6
Problem solving capability	14.4	61.9	15.0	7.7

Some 32.33% of the supervisors opined that the employee should have the knowledge of teaching since a majority of the sample school leavers were on the job in the schools (Figure). The required competencies as prioritized by 20.80 and 18.05% of the supervisors were skills respectively of English both in writing and speaking, and analytical skills. About 76% of the supervisors pointed out possession of lot of such skills but 20% reported very little skill.

Figure 5. Responses of Competencies Required



### Opinions on Secondary Education

The strength of school leavers, as reported by 10.4% employers, were possession of theoretical knowledge base, ability to work in group (7.9%), ability to solve problems, hard work, discipline, innovativeness, personality, language skills, adaptability, and health (5% each). Other strengths accounted were self-confidence, feeling of responsibility, ability to work independently, planning for future life etc. On the contrary, the weaknesses identified by 20.8% were the lack of practical skills, weakness in mathematics and English (8.2%), lack of ethics, inability to create new things, lack of skill (over 7% each).

Some 57.9% of the employers suggested technical and practical skills that would help the school leavers to be self-employed or to make themselves marketable for jobs. Such technical and practical skills could be used in agriculture, cottage crafts, tailoring, sportsmanship, etc. The school leavers should have positive attitudes. The employers for policy revision with regard to secondary education offered suggestions. In fact, 42.1% responses suggested the inclusion with curriculum of practical, vocational, and technical courses that would help the students obtain job. In order to impart such education, sufficient subject-based training should be provided to the teachers so that they would be able to impart practical and skill-based knowledge to their students.

## 4.2 Status of Self-Employed School Leavers

### Location and Nature of Ventures

Grocery shops, restaurants, medical halls, etc are the main business ventures of over 71% school leavers. After business comes agriculture in which some 7.6% school leavers have been involved. Other school leavers have started the hotel and tourism (6%), manufacturing, and education (3%). Social work, media, workshop, etc. are also the areas where the school leavers have been working. Female school leavers are involved in agriculture, hotel, and tourism. Dalits and janajats are involved more in agriculture than in business.

### Study Details

The highest academic qualification possessed by 52.3% of the self-employed school leavers is SLC. Some 16.9% have less than SLC or 10<sup>th</sup> grade pass. However, about 28.2% school leavers have completed the Certificate or +2 level, 3 the diploma level, and 5 others the Bachelors level. More than one-third of the school leavers are currently pursuing higher education - Tarai brahmans and Newars, male school leavers and product of urban private schools. Majorities of the self-employed are in the last year of Certificate or Bachelor level. Management is the faculty

for 53.8%, Humanities for 22.6%, Education for 17% and Science for 6.6%. About 19.1% have taken economics followed by accounts (14.0%), Nepali (12.7%) and English (12.1%). Likewise, the major subjects chosen at the Bachelor level by the self-employed school leavers are Accounts (16.8%) followed by Economics (16.0%), English (9.9%), Finance and Marketing (7.6%), Sociology, Human Resources Management, and Mathematics (3.8%), Nepali, Environment, Political Science (2.3%).

### Opting for Self-Employment

Majorities were self-employed within 2-4 years. As expected, self-employment was difficult for Dalits and low-income groups. In order to be self-employed, 61.8% made direct investments, 37.8% prepared through apprenticeship, 22.2% attended training, and 13.8% did vocational courses. Personal preference for self-employment and family advice were found to be the major reasons why the sample school leavers initiated their ventures. Survival imperatives basically to support the family (39.4%) and good prospects of earning money out of the business (37.4%) were other important reasons for self-employment. The reason why the self-employed chose particular business was high possibilities of good income. Forty one% followed the particular venture because that was the family business whilst 38.4% of the respondents said, they had to live jobless.

### Relevance of School Subjects to Current Venture

Questions were asked about the extent of relevance of different secondary school subjects to the business and activities that the school leavers are currently involved in. Only a few respondents pointed out a high degree of relevance of Nepali and Mathematics. About 15 to 16% stated the relevance of the optional and vocational subjects such as agriculture, accounts, handicrafts, etc (Table 11). The optional subjects offered in schools are also not relevant as opined by 32%, English by 23, and vocational courses by 24%.

**Table 11. Relevance of Subject Studied to Current Work/Occupation**

SLC Subjects	Extent of Relevancy			
	Very Relevant	Relevant	Limited Extent	Not Relevant
Nepali	21.2	47.7	18.2	12.9
English	12.3	28.5	35.8	23.5
Mathematics	29.1	43.1	18.2	9.6
General Science	5.3	18.5	27.8	48.3
Social Studies	4.9	30.3	42.6	22.2
Health, Population and Environment	7.1	23.9	38.7	30.3
Optional 1	8.5	24.3	34.4	32.8
Optional 2	15.7	21.1	30.0	32.2
Vocational courses	16.1	26.5	32.7	24.7

A considerable number of the self-employed have underscored the relevancy of many subjects taught at the secondary level, which indicates that the existing secondary curriculum has not been fully successful in meeting the needs and aspirations of the different sections of the society.

## Investment, Earning, and Employment Generation

The average investment of the venture as reported is about NRs 150,000. Over half of the school leavers started their business with an investment not exceeding NRs. 0.1 million, but some (18.9%) invested over NRs. 0.25 million. With this investment, the initial monthly income reported is less than NRs. 5,000 (50% of the school leavers) and above NRs. 25,000 (5%). The initial income of NRs 5,000 per month has been reduced by 20% and the monthly earning of over NRs. 25,000 has been increased by double from 5% to 10% ( Box 5).

### Box 5: Good Earning from Self-Employment

Krishna Prasad Bhandari was born 21 years ago in Kotehawa-4, Rupandehi. He belongs to a Brahman family of 8 members. His grandparents and parents are just literate and run a business. As the elder son of the family, he was first to pass SLC in 2000 from Pashupati Madhyamik Vidyalaya in the first division with 69 percent marks. Currently, he is in the first year of Bachelor in Business Studies and has secured the first division marks at the Certificate level.

He started a restaurant a Manakaman Bhojanalya - at the crossroads near the bus stop, with an investment of NRs. 100,000. Initially, his annual turnover was NRs. 250,000. In five years' time the turnover increased to NRs 900,000. He has employed 8 people as cooks and waiters. Krishna feels happy when his school and college teachers come to his restaurants. He feels no regret at starting business. Rather, he wants to pass on the message that work is god and that no profession is of low prestige.

## Job Satisfaction

A good majority of 68.9% school leavers are fully satisfied with their ventures. The reasons behind the satisfaction are nature of the job liked (65.4%), easy pull-on of life (64.9%), pride of being the boss (57.7%), ability to invest as required (56.3%), high earning potentials (46.2%), expansion of business (45.2%), social prestige (30.3%), enhancement of social authority (28.4%) etc (Box 6).

### Box 6: Job Satisfaction from Self-Employment

Tilak Raj Hitang, 23 of Fudbang village of Arghakhanchi, first appeared in SLC in 1998 from Chandra Prabha Secondary School, but unfortunately failed. However, he was not disappointed. Rather, he thought of bringing up his deep interest and skills into play. He went to Butwal, received photography training for about a month, and started his own venture in the name of Star Photo Studio in 1999. In the beginning, he made an average income of NRs 4,000/month but within six months, he increased it to NRs. 4,800/month. Tilak says he is fully satisfied and happy.

He regrets his failure in SLC because he knows education is essential for any task in the present world, but at the same time, he believes that passing SLC does not mean everything. He feels happy comparing himself with his friends, who have passed SLC, but have no income sources of their own. He plans to earn NRs 10,000-20,000/month, build a house, and buy a vehicle, and is quite busy with his customers all the time.

His success was the result of his interest and choice of vocational training. He says that such training should be given by secondary schools. Since he failed in a subject which was not directly related to his interest and choice, he believes school education should provide employment-oriented skills and knowledge necessary for further study and feels vocational courses should be included in the curriculum.

### **Training Needs for Self - Employment**

Before starting the venture, about 26.2% of the self-employed school leavers had participated in trainings of various types and those who participated were from urban areas (males and females in equal numbers). Training in courses on medical services of CMA types was attractive for 21.1%, beautician for 20%, computer for 17.8%, JTA for 7.8%, and photography and house wiring for 6.7%. Nearly 43% school leavers have felt the need of training to make themselves efficient for the promotion of their venture. They opted for training on marketing strategy (25.7%), general management skills (20%), accounts (9.5%), JT/JTA (6.7%), and sewing and knitting (10.5%). The findings suggest that policy makers and curriculum designers should carefully note the types of courses and training requirements based on practice and reality at the ground level. However, details and comprehensive studies on need assessment would, be necessary for re-designing secondary curriculum.

### **Plan of Study and Faculty**

Among the 196 self-employed school leavers, who are not currently studying 27.6% or 54 plan to continue their studies in one or two years of time. The female leavers of public schools of urban areas look more enthusiastic about further studies. Of these 54, 18 wished to join the Faculty of Education, 11 Humanities, 8 Management, 4 Medicine, 3 each Agriculture and Science, 2 each Law and engineering, and 3 forestry.

## **4.3 Status of Unemployed School Leavers**

### **Unemployed and Their Occupational Interests and Positions**

The total number of sample school leavers still unemployed was 333 who were looking for jobs for the last 6 months. Government job, as reported by 27.6% of the unemployed school leavers, was found to be of top interest. Teaching profession (24.6%) occupies the second position closely followed by the technical field (23.4%). The reason for interest in Government jobs is social prestige and job security. Teaching job was possibly easier to obtain.

### **Study Details**

A majority of school leavers are yet unemployed since 61.9% have not yet received degrees beyond SLC. While 21.3% have the Certificate or +2 level qualification, 13.8% have less than SLC. Bachelor degree holders constitute less than 3%. A majority of them are also not currently studying. About 25.6% of those studying are from wealthy families, first divisioners, and higher caste groups, of whom 65.9% are at the Certificate or +2 level, 31.8% at the Bachelor level, and 2.4% at the Masters level. Of the 85 unemployed school leavers continuing their studies, 34 have joined the Faculty of Management, 25 each have joined Humanities and Education.

### **Transition, Preparation, and Search for Job**

Of those who were unemployed, 83.8% are found to have tried for jobs by submitting applications and others doing so through contacts without going through any formal process. Only 65.8% school leavers have sat for examinations. The percentage of school leavers who faced interviews in the course of searching for job was 56.2. Job scarcity and the resulting high competitions and low qualification might be the major reasons for their inability to get employment. Concern should, thus, be centered more on competency, intelligence, and skills of the candidates which can help them tackle the situation in the face of difficulties.

## Training Needs for Employability

Approximately 71% of 333 respondents felt the need for training to be employed. Among the school leavers who had failed in examinations, Dalits and Tarai brahmans and the school leavers from high income family groups emphasized training needs such as computer (38.4%) followed by sewing and knitting (19.8%), skills development (15.8%), teacher training (15.3%), and English language (9%). Educational policy thus requires to be revisited, keeping in view the demands of various sections of the society. The curriculum could be based on location and local culture and it may require a series of region-based need assessment studies.

## Plan of Study and Faculty

Of the 333 unemployed sample school leavers, 248 (74.2%) are not currently studying. About 46.4% reported having plans to continue studies. Female school leavers are more enthusiastic about joining colleges for higher studies. Of the 115 respondents, 29.6% wish to join the Faculty of Management; 28.7%, Education; 20.9%, Humanities; and about 5% each Science, Medicine, and Agriculture. Female school leavers and students from Janjati groups are more interested in joining Education.

**Table 12. Characteristics of Failed School Leavers**

Details	Proportion of failure
Students from the Hills	41.8
Students from Tarai	39.4
Public School	91.1
Male students	59.5
Medium and low income status	74.1
Low expenditures in education	78.1
Hill Brahman	39.7
Janjati and Dalit	30.8

## Failure Students

It was not easy to find out the failed school leavers in their location. Of the 146 school leavers traced out under the category, about 50% were from the year 2000. Table 12 presents other characteristics of the failed school leavers by location, eco-zones, income status, gender, and type of school.

None of the failure students are found to have gone in for higher studies. About 16.4% of them are employed, 32.2% are self-employed, and half of them are still unemployed. The frequently failed subjects are Mathematics as reported by 72.2% followed by English (42.0%) and Science (46.7%), etc. Failed students have perceived the need for additional training in skills that can fetch better employment opportunities (52.1%).

## Employment, Position Holding, and Earning

Of the SLC fail students, 16.4% are employed and 32.2% are self-employed. Those employed work mostly in the private business as support staff and in education as teachers. Those who passed SLC later have obtained the positions of accountants and health educators. They had taken additional training to be employed. Their annual income is estimated at NRs. 50,000. About one-fourth of them earn over NRs 60,000. Of those who are self-employed, 55.3% have started their business with an average investment of about NRs. 100,000 and, earning annually between NRs. 150,000-300,000, whilst about 10.7% earn over NRs. 300,000.

## Perception on SLC Courses

The performance levels of the employed and self-employed school failures, if measured in terms of income, was found to be fairly high. Secondary schools should motivate them and guide them towards the appropriate career paths since school leavers, whether fail or pass, require additional

skill training to add value to their school education and to start ventures. Table 13 shows failure students have assessed the relevance of SLC courses to their present job and self-employment needs.

**Table 13. Relevance of SLC Subjects to Job as Perceived by Employed fail School leavers**

SLC Subjects	Extent of Relevancy			
	Very Relevant	Relevant	Limited Extent	Not Relevant
Nepali	8.3	58.3	25.0	8.3
English	16.7	25.0	33.3	25.0
Mathematics	16.7	33.3	41.7	8.3
General Science	4.2	20.8	33.3	41.7
Social Studies	7.7	15.4	46.2	30.8
Health, Population and Environment		45.5	45.5	9.1
Optional 1	5.6	16.7	44.4	33.3
Optional 2	5.9	5.9	47.1	41.2
Vocational courses	12.5	18.8	50.0	18.8

School failures see less relevance in the SLC subjects except Nepali. They assess English and Mathematics as relevant to their jobs as helping them in expression and simple mathematical operations.

## 5. ASSESSMENT OF SECONDARY SCHOOLING FOR ENHANCEMENT OF PERSONAL AND SOCIAL LIFE

The opinions of secondary school leavers were sought on various areas to evaluate the quality aspects of schooling and the capacity of the school to provide to students life skills to support their social and personal life. This chapter, therefore, makes effort to document and analyze the responses of the school leavers with regard to secondary school education vis a vis their present occupations.

### 5.1 Opinions of Sample Students

#### Quality Assessment of Schooling

School leavers were asked to give perceptions of their school. About 88.4%, particularly those from the public schools of hills, talked about their school with pride. Female school leavers and SLC third divisioners did so more than others. Over 90% were positive about what they acquired from their schools, particularly in terms of subject knowledge, moral character, and discipline. Those who spoke about decent education, hard work, ability, and intelligence ranged between 73-77%, while only 48% were positive about sportsmanship.

#### Perception on Relevance of School Education to Social and Family Life

Where poverty is widespread and survival has become the primary need, life skills for employment and earning potentials become the key issues to be addressed through appropriate and relevant education and training at the school level (Box 7). School leavers need to enhance their individual capability and optimize the use of their potentials for survival. They should therefore be provided with basic survival skills necessary for job and further education.

**Box 7: If Education Had Been Skill-Oriented**

Born in 1981 in Pali village of Arghakhanhi district, Laxman is a Dalit. He took SLC in 2000 from Kamala Madhyamik Vidhyalaya and passed. He dreamed of becoming a medical doctor. His struggle began with his success in SLC. He got into economic hardship and started looking for a job, started working in a butchers' shop, and joined Siddhartha Gautam Buddha Campus. But since the situation did not favor, he gave up his job and studies and left home in search of jobs in India.

His plan of earning money for himself and the family did not materialize. Exploitation of the employers in India compelled him to return home. Fortunately, he got a job in an NGO named Oppressed and Ethnic Development Academy working for the upliftment of the oppressed people. He then joined the Certificate level at Panini Multiple Campus and is now in the second year.

Laxman looks back at his school education and thinks that had his school given him skill-based education, he would have started business for economic sustenance of his family for the education of his younger sisters and brothers, and for his own further study. His life would have been different. In his view, school education neither gave him the ability to enter the job market nor helped him to become self-dependent. He asks: Thula manchele kina sochdainan (Why don't the big men think?)

**Contribution of School Education to Social Life****Table 14. Contribution of School Education to Aspects of Social Life**

Categories	Rating							
	Much		A Lot		Little Bit		Very Little	
Social contact	210	(11.9)	963	(54.5)	501	(28.4)	93	(5.3)
Civic awareness	193	(10.9)	881	(49.9)	567	(32.1)	126	(7.1)
Political awareness	53	(3.0)	242	(13.7)	637	(36.1)	835	(47.3)
Awareness of social concerns and issues	124	(7.0)	777	(44.0)	709	(40.1)	157	(8.9)
Participation in social activities	146	(8.3)	752	(42.6)	678	(38.4)	191	(10.8)
Ability to live a socially active life	151	(8.6)	755	(42.7)	669	(37.9)	192	(10.9)
Understanding cultures of different social groups	112	(6.3)	635	(35.9)	721	(40.8)	299	(16.9)
Access to social authority	107	(6.1)	593	(33.6)	780	(44.1)	287	(16.2)
Others	7	(0.4)	18	(1.0)	23	(1.3)	17	(1.0)

Figures in parentheses indicate percentage

As perceived by the school leavers, their school education provided them many skills which brought them increased social contact, civic awareness, and participation in social activities (Table 14). A great majority of the school leavers from the mountains and hills said that they found school education a source of inspiration to serve people of different social groups, and live an active life enjoying access opportunities to social authority.

The opinions were expressed by a majority of the school leavers were neither so high nor so low. This means school education was of in providing skills. Female school leavers moderate were not very happy with the contribution of school education in terms of imparting the skills.

**Contribution of School Education to Family Life**

About the contribution of school education to family life, a majority (58.3%) of the school leavers said that they obtained knowledge about their roles in the family. Half felt school education enabled them to participate in family decision-making and enhanced their sense of

resource sharing among family members. About 14 (0.8%) believed it increased the feeling of mutual understanding within the family (Table 15).

**Table 15. Contribution of School Education to Family Life**

Categories	Much		A Lot		Little Bit		Very Little	
Understanding of one's role in family	412	(23.3)	1030	(58.3)	279	(15.8)	46	(2.6)
Ability to cooperate with family members	541	(30.6)	993	(56.2)	206	(11.7)	27	(1.5)
Participation in family decision-making	315	(17.8)	872	(49.4)	469	(26.5)	111	(6.3)
Sense of resource sharing within family members	312	(17.7)	794	(44.9)	508	(28.8)	153	(8.7)
Others	6	(0.3)	14	(0.8)	8	(0.5)	13	(0.7)

Figures in parentheses indicates percentages.

### School Education and Key Competencies

Competencies are to be transferred from teaching to practice so that school leavers could develop them for their personal and social life eventually for the chosen career paths. A large number of respondents said that school education contributed little in each of these factors. This implies that the school education leaves for improvement to make students competent in life skills. School leavers were very positive in rating the extent of competencies they obtained from school. Fifty percent said they had obtained considerable amount of competencies from their school, particularly in the ability to think creatively, to solve problems, to communicate, make decisions, and live a healthy life.

## 5.2 Perception on Skills and Competencies Acquired from School

School leavers pursuing higher studies rated high the skills and competencies acquired from school in expressing and comprehending in Nepali 29.7%. The skills acquired were those of expression and comprehension in English, analysis of facts and issues, and management and organization. But a majority of them also pointed out the inadequacies of skills they acquired from school to improve their personal, social, and family life. About 50% of the respondents said they had acquired only some skills from their schools. Some said they got no skills. Among those who were positive breakdown on the various areas were: competencies pertaining to the use of library 39.3%; working on projects 41.8%, map reading 34%; and management 27%.

Of the twenty-four skills and competencies listed for assessment, 35.3% of the employed school leavers referred to the ability to express their ideas and thoughts in Nepali, 32.8% to writing ability in Nepali, and 25.6% to performance of simple mathematical operations. Some of the school leavers also said that the skills and competencies they acquired from the school range only from 3.1 to 13.6%. Further, less than 50% of the school leavers rated the skills and competencies they acquired from the school. About one-fourth of the students said they acquired nothing on ability to use the library (26.3%), ability to perform advance mathematical operations (31.8%), ability to read globes and maps (42%), ability to do project work (40.4%), management skills (24.8%) and organizational skills (25.8%).

Except for Nepali language, simple mathematical operations, and accounts, far less than 10% of the school leavers from private school rated high level of skills and competencies. Nearly one-third appreciated the high level of skills in writing and speaking in Nepali given by the school. Some 50% admitted that they acquired skills of questioning, group work, problem solving, translation of knowledge into practice, performance of simple mathematical operations, etc. In

English they acquired very little; in analysis of facts and issues, management, and organization skills they said they had achieved something. Self-employed students rated high, level of knowledge obtained with regard to problem solving, translation of knowledge into practice, and decision making, but their worries lay in the lack of skills in English, organizational management, and project analysis.

The unemployed school leavers pointed the need for various skills and competencies to avail of the opportunities of employment. To what extent they acquired such skills from their schools is a matter of concern. Apart from Nepali, the number of responses did not exceed 50%, as mentioned by unemployed school leavers. A majority of responses assessed the extent of knowledge that the school provided. In management, organization, leadership, and problem solving 50% of the respondents, said the schools had not been able to provide the skills need by them.

### **5.3 Secondary Education for Higher Education, Job Efficiency, and Employability**

As to the question how secondary education helped in higher education, about 23.4% (1504) of the school leavers reported that they would have prepared better if the school had got good physical facilities. In addition, some 19.2% each stated that if the school had made the provision for choosing the subjects as per their wish and interest based on local needs, they would have done better, particularly in English. They also pointed out the need of regular classes, skill-oriented vocational courses, and relevant secondary courses related to higher studies.

Of the 338 employed school leavers 76.6% expressed their opinions and, of all that respondents, nearly half from all the eco-zones irrespective of ethnicity and school types said they would have become more efficient and competent had they been given practical and skill-based education. About 20.5% school said they should have been given quality education in English and Mathematics as emphasized by the female students. Some 28% underlined subjects like Accounts, Health, and Computer taught by trained and experienced teachers on a regular basis.

About 67.9% self-employed school leavers preferred technical or vocational skills combined with a working knowledge of general education subjects. While 10.6% wanted secondary education to provide the knowledge in marketing management, 6.9% opted for help in establishing small enterprises with low investment. The views expressed were, directly or indirectly related to skills necessary for entrepreneurship.

A great majority of the unemployed school leavers observed that secondary education system should provide subjects as per the choice and interest of the students in need of employment. They believed, it would be helpful to proceed in their career in higher education or in the world of work. Some 28.5% of the unemployed respondents believed that English language skills and computer knowledge would help them to obtain employment while 9.2% believed that some managerial skills training would help them for self-employment. Important for employability but not included in the school curriculum are the courses in the examinations of Public Service Commission.

### **5.4 Secondary Education and Personal Life**

About 60.9% responses of the school leavers pursuing higher studies showed the need for practical and skill-based education followed by programs that develop leadership, personality, and intelligence (28.3%) and programs that facilitate the poor, Dalit, women, and intelligent

students (9.1%). A majority of opinions expressed put up demand for location-based technical or vocational education through which the students of secondary level could justify their choice of the career path for personal development. The Government should make a feasibility study in that regard to ensure functional courses by location to benefit the communities and cultures.

With regard to the contribution of secondary education to the improvement of students' personal life, about 45.6% of the employed school leavers mentioned subjects falling within the choices and interests of the students which meant they could set their aims of life adjusting to changes in the family and society. Some 15.4% school leavers also mentioned the need for extracurricular activities to improve their personal life through an overall understanding of lifestyle, society, and sportsmanship. Some 15.5% said discipline and good ethics would have changed their personal life if the school had provided them the necessary training.

About 39.8% said that secondary education could have provided them with technical or skill-based education in their struggle against poverty. The higher the income through employment, the better personal life. Secondary education needs to take care of students' English, personality, discipline, moral education, self-reliance, ability to translate knowledge into practice, creative thinking, etc.

They believed that good teaching by experienced teachers (proficient in subjects like Mathematics and Science), courses on personal skill development are the inputs that secondary education should provide them. In this regard, 41.8% stressed skill development, 22.1% teaching by competent teachers (especially English teachers), 9.1% extracurricular activities, and 6.7% for computer knowledge. Other factors improving personal life, as reported, were self-reliance, hard work, leadership development, speaking ability, and role-playing skills.

## 5.5 Secondary Education and Social Life

About 53.3% of the school leavers those pursuing higher studies viewed the role of secondary education in social life differently. They believed that education system should be equipped with programs and activities of social exposure to interaction and understanding of social values. How far it would be possible to involve the groups in society at the community level remains an open question, but exposure to the social values and norms is indispensable to students, said by 29.4% school leavers. Such interaction, would give opportunities through the demonstration effects in their personal, family, and social life.

Employed school leavers were found to be aware of their life in general and social life in particular. A good proportion of them are in favor of organizing interaction activities and programs that lead to involvement in societal development. This means that teaching activities provided no knowledge and understanding of the culture and living styles of the different sections of the society. Female students and good SLC performers from private schools of urban areas were more conscious about this than their male counterparts. School leavers also suggested the inclusion in the curriculum of social rights (7.2%), importance of group work (8.0%), ethics (9.0%), and gender equality and womens' rights (6.8%).

Secondary education, as perceived by 70.8% of the school leavers, should include a course in participatory activities between school and the community that exposes students to the contents of social studies. With such an exposure, students would understand the social issues and the ways to resolve them. Knowledge of leadership qualities, personality development, and civic attributes were other things that could be provided by the school (18%). Well-exposed and experienced teachers would promote feelings of social responsibility and commitment in the

students which could accurate the process of social development mitigating a number of social evils and anomie.

Some 237 responses on the role of secondary education to the improvement of social life have been recorded. About 40.1% suggested the inclusion of social and civic education in the curriculum, while 19.4% suggested organizing field visits and exposing students to interaction with the community to gain practical experiences of social issues and potentials. There were some diffused views, too. The respondents said that secondary education should help students to increase their capacity to work in groups and with the community, provide additional courses on social concerns (family, society, and culture), ideas of social reforms and welfare, and provide contents and contexts that encourage students to be a part of the society.

## 5.6 Outcome of Focus Group Discussion

### School Teachers

The schoolteachers have viewed the SLC examination held in their time to be much better than it is today. Out of the 221 responses, 13.6% said SLC was then more respected and disciplined. In contrast to the quality of SLC of the past, 50.0% teachers mentioned dishonest marking followed by increased tension for students (16.7%). Higher education in the past had limited faculties (18.4%), lacked reading and reference materials (10.2%), and students were more disciplined (9.2%), but today they feel there is a wider scope for market and access to information. Schoolteachers also somewhat wryly commented on the *ghumante shichhak ra firante bidyarthi* (**vacillating and running about teachers and students**).

About 17.2% of the teachers (116) pointed out the need for coordination between the secondary and higher education curriculum saying the secondary education should lay stress on subjects like English, Mathematics, and Science (8.6%), and on subject choice meeting local and regional demands (6.0%). With regard to challenging employment opportunities in the market, 89.7% of the respondents (107) stated that secondary schools should provide education for on-farm and off-farm enterprises and the course should be employment-oriented. Some 49.5% of the schoolteachers commented on the current curriculum as one providing only theoretical knowledge which hardly enables the students to overcome the life's challenges.

The performance of private schools has been better in terms of the results and reality of products. The major reason identified by nearly 21% of the teachers was the regular, punctual, and responsible nature of the teachers and management of classes as per the calendar of operation. Parents showed concern for better performance by the schools. Public schools could not achieve much because of weak administration (14.9%), irresponsible and undisciplined teachers and students (13.4%), low parental concern (10.5%), frequent political disturbance and low economic background of students (9.5% each). Teachers also pointed out the poor results of public schools as an index to the total years of schooling. Students from private school spend at least 13 years - from kindergarten/nursery to the year of SLC exam while an overwhelming majority of public school students spend about 10 years from grade one.

With regard to the role of secondary education in making the students skillful and competent for higher education, 22.0% of the schoolteachers (101) held the opinion that provisions should be made, as far as practicable, for specialized subjects that are of interest to the students and relevant to higher education. Some 12.0% laid stress on English, Mathematics, and Science. Weak policy implementation and lack of monitoring of educational activities were identified as reasons for low performance of public secondary education. Secondary education is more

theory-based and lacks technical orientation. This is attested in teachers' own words: *berojgar matra janmaune shikchha*, literally meaning 'education giving birth to the unemployed'. In other words, secondary education has prepared students neither for higher education nor for job. The teachers ask *padnele jhan kina bhautarinu pareko?* (Why should the educated wander for job?)

### Parents

Parents want their children educated. When asked what their aspirations were, they said *Euta ashal byekti* (a good individual). About 20.4% parents (167) wanted their children to become doctors and engineers. A majority (28.2%), of the low-income and less educated parents, wanted their children to obtain good jobs and improve family income while 19.8% aspired their children to acquire name and fame with friendly nature, sound moral character, equipped with discipline. Their wish is summarized in their own words as: *afnai khuttama ubhiun* (meaning let them be able to stand on their own legs).

Asked what changes they found in their children before and after SLC, about 15.0% of the 167 parents said their children were now mature and responsible, 12.0% found them highly motivated toward the higher studies, and nearly 11.0% found them with positive thinking. Some 56.4% said their children are disciplined, soft-spoken, respectful, sensitive to work, and enthusiastic about their future. Good environment at home, limited family control, timely completion of the courses, and diligence were the perceived reasons for the success of the first divisioners in SLC, according to half of the 70 parents). Thirty-six % referred to weak home environment, 38.8% blamed the school, and the others found fault with their own children for poor performance in SLC. This seems to be a balance judgment on the part of the parents.

Interesting conclusions have been drawn from the opinions of parents why they consider education to be important. About 142 responses were recorded. A majority considered education only for employment while 25.3% took it as an outlet for good citizenship with good moral character (Table 6.5). They support this statement by saying *sikchhya andhayrobata ujjalotira dorayunako lagi ho* (education should lead one from darkness onto light). *Hatma ship nabhayeko shikchhya sing nabhayeko goru jasto* (Education without skills at hand is like a bull without horn) was the comment of 53.4% parents (133). This is the view expressed in the context of assessment of the current education system. Some parents suggested classifying subjects as compulsory, optional, or vocational as per the needs, priorities, demands and choice of the students. The current policy of *Padhe padha napadhe napdha* (It's up to you to study) has already hampered the growth of human resources, investment, and development of the nation.

### Institutions

It was unanimously accepted that the armed conflicts and party politics have badly impacted the tender minds of the students. Both teachers and students are in mental tension and teaching and learning have turned less motivating increasing unemployment (16.3%) and out-migration (14.0%). Students are compelled to do household works, which leaves them little time for homework. Most of them have no textbooks and reading materials. They just spend time waiting for teachers in the school premises and classrooms in the name of study.

SLC students of the past possessed creativity, analytical ability, and capacity to solve problems. They were disciplined and respectful but lacked information technology and the methods and skills of presentation. The SLC students today lack the qualities revealed in 17 out of the 21 responses. The stated reasons for quality deterioration were inadequate curriculum content, non-availability of textbooks and reading materials, politically polluted school environment, and

theory-based education (25 out of 44 responses). Teaching is examination-oriented. It was suggested that secondary education should impart practical knowledge and skills to students by mobilizing the locally available resources. In the words of the participants' what secondary education should do is *manche bhayera banchha sikaunu parchha* which means 'education should teach how to live life with human dignity'.

Educational institutions should efficiently monitor educational activities and supply sound professional feedback to the implementation authorities (26 %). Twelve respondents said that the DEO should be authorized to provide trained and experienced teachers and subject teachers with skills to the address problems of public schools. Incentive to the people involved in secondary education and moderate costs of education are in demand. Positive thinking and professional ethics in the Government officials and other stakeholders were considered indispensable.

## 6. KEY FINDINGS AND IMPLICATIONS FOR POLICY

### 6.1 Key Findings

The main finding derived is that pursuing higher education is the main activity chosen by a great majority of the school leavers. Several factors, particularly geographic, school type, gender, income status and expenditure in education, ethnicity, and location of schools have been identified as affecting student performance in the SLC examination. Private schools are ahead of public schools with better performance if SLC results alone are considered as the criteria of quality education.

#### (a) General Features

- Sample school leavers were grouped into four categories based on their existing status as students pursuing higher studies, and as individuals employed, self-employed, and unemployed. Of the total sample of 2,160 secondary school leavers, 1,767 or 82% were traced out. Some 78% of students were from public schools and another 22% from private.
- The average family size in the hills and mountains exceeds 64 and, in the Tarai and Kathmandu Valley is 5 or below. Overall, family size calculated of the sample population of the school leavers is estimated at 5.8 with a gender ratio of 2.8 males vs 3.1 females.
- Hill Brahmins with 44.3% ratio predominate followed by 19.2% Chhetris/Thakuris, 16.2 Newars, 11.4 of Janjatis, 3.1 Tarai Brahmins, and 2.6 Dalits. Hindus are the predominant religion group constituting 91.6%.
- A little over 28% of the sample students' families pursue agriculture as their primary occupation, a prime one in the mountains and Tarai. In Kathmandu Valley service and business occupy a major share. Other occupations include service Government or private (15.7%) and trade/business (8.6%).
- The average value of assets holding is highest (3,928,000 rupees) in Kathmandu Valley. In expenditure, families in Kathmandu Valley claim the highest share of 16.6% for education, 1.4% of the assets holding value, and 25.7% of the total income.

- Public schools account for 70.5% of the students who have passed. The pass percentage of the Janjati and Dalits were 9.8 and 1.7, respectively. 32.9% of the female students passed.
- The average marks calculated among the pass and fail students shows low scores in English and Mathematics. Science and Nepali have also been difficult for the majority.
- A great majority of students over 75% have selected Optional I subject on their own choice because that was the only subject available in the school. Likewise, Optional II subjects were taken on their own choice by 53.5% and 41.2% said that only that subject was available. Mathematics seems to be the leading Optional I subject for a majority of the school leavers followed by the Economics. Health is the main subject offered by a majority of the school as Optional II subject followed by Accounts.
- Twenty and twenty one % respectively had wished to study other subjects as Optional I and II - Computer, Economics, Accounts, Geography, Education, Agriculture, Forestry, Health, etc. Nineteen percent wanted to study subjects such as Agriculture, Accounts, Education, Hotel Management, Fine Arts, Journalism, and Music. Such a wish was expressed by the school leavers from public schools of the rural areas (12.0%) and by Dalit (16.3%).
- A great majority of the school leavers are found to have aspired for higher studies, for employment or personal career since over 48% perceived their education up to the masters level while about 17.8% had no idea. Perception towards higher education is only vaguely correlated to the economic status of parents.
- It is interesting to note that the perceived occupation of the highest number of school leavers was teachership (22.9%), Government job (18%), and medical doctor (12.2%), engineering (8.3%), and professor (6.7%). While rural, female, and Dalit school leavers preferred to be teachers, school leavers from the private schools preferred to be either doctors or engineers. Parents of Dalit students wished their children either to be Government jobholders or teachers.

(b) Major Findings

- Of the 1,767 school leavers traced out, 44.9% opted for higher studies and 19.1% for employment: some 18.8% remain unemployed and 17.1% are working on a self-employed basis.
- The low income and disadvantaged groups including Dalits and Janjati have less access to higher education (10.8%). Leavers from public schools of the rural areas with a medium level of income and SLC second divisioners are found to have joined the faculties of Management, Humanities, and Education. Dalits are mostly admitted to Humanities and Janjatis to Management and Education.
- About 55.5% of the school leavers pursuing higher studies have joined higher secondary (+2) schools/colleges and 44.5% university constituent/affiliated colleges. Of the employed, self-employed and unemployed, over 80% have joined university constituent or affiliated colleges 98.6%, under Tribhuvan University.
- The Faculty of Management has been the center of attraction to a large majority (over 41.1%) of the school leavers pursuing higher studies followed by Humanities (23.6%),

Education (22.3%), Science (9.2%), Engineering (2.4%) and others (1.5%) including Medical Science, Agriculture, etc. Those employed, self-employed, and unemployed but wishing to pursue higher studies have also plans to join Management (29.6%), Education (28.7%), Humanities (20.9%).

- At the Certificate level, the general subject studied by 23.89% is English followed by Nepali (19.75%) and Economics (13.43%). Accounts come after Economics. Mathematics is compulsory for Science and Business Mathematics for Management. Nepali and English are compulsory in all faculties.
- The relevance of SLC courses to the subsequent studies is not uniform across the subjects. Compulsory subjects, in general, and Nepali and English, in particular, are assessed as highly relevant by about 32% school leavers. Subjects like Mathematics, Optional, and Vocational have been assessed as quite relevant. Half of the students rated Science as not relevant to their studies probably because a majority of them have joined social science. On the whole, students' ratings of the relevance of the SLC courses have not been very positive.
- College teachers in general have rated the school leavers as weak in English. The level of basic understanding of the subject matter is low or very low as perceived by half of the teachers and so is the case with the ability to understand the subject matter, problem solving capability, analytical mind, and ability to work independently. Ways to acquire competencies, as they perceived, are through good educational environment and hard working habit, etc.
- The private sector is the prime source of employment for 67.8% of the school leavers - 18.6% in Government services, 11.5% in I/NGOs, and 2.1% in other organizations. Exactly 49.4% are employed in education, 33.3% in business, and 5% in media. Seventy one % of the self-employed have started businesses like grocery shops, restaurants, medical halls, etc. After business come agricultural activities (7.6%), hotel and tourism (6%), and manufacturing and education (3%).
- A majority of the school leavers started their job with SLC qualification or below. Those who failed in SLC (46.8%) hold the positions of schoolteachers. Other positions that the school leavers hold are accountant (9.5%), office assistant (8.9%), health educator (5.9%), salesman (5.0%), etc. The average annual gross salary drawn by the employed school leavers is computed at Rs. 41,077 while the increased average is calculated at NRs. 55,724.
- The average investment made to start the venture, as reported, is about one hundred fifty thousand rupees. Over half of the school leavers started business with NRs. 0.1 million. With this level of investment, the initial monthly income was less than NRs. 5,000 (half of the school leavers) and above NRs. 25,000 (5%). The initial income range of NRs 5,000 per month has decreased by 20%, and the monthly earning of over NRs. 25,000 has doubled (5 to 10%).
- The relevance of SLC courses for two categories – employed and self-employed – has been perceived as not very positive, which means that the currently prescribed curriculum has not been fully successful in meeting the needs and aspirations of the different sections of the society.

- School leavers pursuing higher studies have found the skills they acquired from school inadequate, although some stated that some of the skills acquired were helpful (namely, writing, expression and comprehension in Nepali, organizational skills, etc.
- Employed students said they had acquired speaking ability in Nepali (33.3%), in writing ability in Nepali (32.8%) and ability to perform simple mathematical operations (25.6%). It indicates that secondary education has not been able to make the student skillful and competent. Policies therefore, need to be re-designed considering the poverty situation, education, and life skills of the school leavers.
- Nearly one-third of the self-employed students admitted that they acquire a high level of skills in writing and speaking in the schools. They are also positive about school education for providing skills to work in groups, to solve problems, and to perform simple mathematical problems. They have also appreciated the level of knowledge they obtained.
- Unemployed students put blame on their weak secondary education. They referred to the vastness of the course, which gives little knowledge that could be practically applied. Courses should be revised and redesigned as per the needs of the employers.
- Another group of students among the school leavers are the ones still preparing for the SLC examination. They have wasted their times just appearing at the exam every year. English, Mathematics, and Science are the most difficult subjects for them. The motivation to pursue further education is found to be a factor goading them to persistent efforts.
- A majority of employers have evaluated school leavers as below average in terms of performance. The reasons noted are low analytical capability, low writing and speaking ability in English, lack of innovativeness and risk taking capability, and inability to translate knowledge into practice.
- A large majority of the school leavers see their secondary school as being crucial to improving their personal and social roles. Improvement in communication skills, personality development, social development, family roles, access to resources, and information are changes for the better.

## 6.2 Policy Issues

Information compiled in the study indicates several policy issues to be discussed for the improvement of secondary education. The following are some of the issues identified:

### Secondary Education for Higher Studies

Information derived from the ground realities shows a large majority of the school leavers go in for higher education after leaving the school. Therefore, the present secondary school education is found to be mainly a preparation for liberal higher education. The Nepalese secondary education system is characterized by a straight highway system in which all try to get to the end of the road (IIES 1988) because the nature of the secondary curriculum is fundamentally general and academic. It mainly lays emphasizes on the preparatory courses for college admission, thereby inducing the school leavers to seek admission in campuses. However, the school leavers admitted to higher studies have expressed their grievances about facing difficulties in the campus

courses because of the weak base and irrelevancy of the content and context of the subjects offered in secondary education. A majority of the school leavers who are known to have gone for studies in Management, Humanities, and Education have complained of the lack of relevancy of the secondary courses (except the compulsory subjects). Optional and vocational courses virtually have less relevance as the school leavers' experiences in higher education show. Lack of a clear orientation of courses on the content relationship and contextual exposures might create a gap between the teachers as the givers and the students as the receivers. The free education policy adopted by the Government has also led to create further demand for higher education. With the mushrooming of private schools, the current secondary education has been a platform to enhance the demand for higher liberal education rather than to attract the school leavers to the world of work immediately after completion of their secondary school.

### **Relevance of Secondary Education**

Information derived from the study indicates that many SLC courses only have a questionable amount of relevance to the students' subsequent studies and activities. Although most of the students have rated the relevance of a number of subjects like English, Nepali, Mathematics, Economics, and Accounts, etc as so-so, there are many who find these subjects having little or no relevance. The perceived extent of relevance of optional, vocational, and other courses such as Science, Health Education, Physical Education, and History is particularly low. Employed, self-employed, and unemployed students have also commented on the relevance of SLC courses from their own view of employment and employability. The SLC courses, however, should be directly related to the courses taught at the college level and to work. The curriculum policy should seriously address the relevance issue so that knowledge, skills, and attitudes acquired by students in their secondary education become relevant to further education, job market, life and societal needs. The question also arises: Have the demands of different sections of the society in terms of location, gender, and people from different caste groups met as yet?

### **Secondary Education Versus World of Work**

While very few job opportunities exist for the SLC graduate in the market due mainly to the fact that there are no jobs and, if there are jobs, they possess no relevant skills and competencies. Holding of multiple degrees by a person, often known as education inflation, and high production of university degree holders, often called surplus schooling, has created competition between SLC graduates and high degree holders, even for small positions. In a situation where the Nepalese economy influenced by modernization and globalization has taken a shift to reforms with technological changes, especially in IT and migration caused by various reasons, the job market is becoming more complicated and competitive. In this context, there is very little or no place in the job market for school leavers unless they possess up-to-date knowledge and competencies in the form of vocational and technical skills, in the context of technological change. Such a development may have two implications for the secondary education system. First, education must be designed to meet the increasing demands of economy for workers who have freshly acquired new skills rather than a fixed set of technical skills acquired. It therefore, needs the basic competencies learned in secondary schools. Second, education gained at the higher levels must support the continued expansion of the stock of knowledge. Horizontal expansion of the current secondary education does not seem to be supportive to either of the statements made above.

## Secondary Education versus Life Skills and Poverty Reduction Goal

The goal set in the Tenth Plan envisaged is the establishment of a link between secondary education and employment for poverty reduction. It is believed that education can help to enrich human capital endowments, which will subsequently deal with the labor market discrimination. Education can, therefore, make a significant contribution to the reduction of poverty since it confers skills, knowledge, and attitudes that increase the productivity of the poor by increasing their output (when discrimination is absent). Each one of us is aware that poverty in Nepal is endemic and widespread and that survival has become the primary need for many. The perception of a majority of the guardians on school education relates to generating human potentials saleable in the employment market and thereby to economic benefit for a comfortable family life. However, the employment and earning potentials rest on the skills and competencies often called life skills that the secondary school leavers possess. School leavers need to enhance their individual capability, optimize the use of the potential for survival, and sustain life. For this, they should be provided with basic *survival skills* to prepare them for society, for job, and for further education. In order to survive, the *generic skills* need to be developed. There is a need for educational programs that provide *transferable skills* to help earn, socialize, and improve the quality of life.

Given this reality, while these issues remain the key issues to be addressed through appropriate and relevant education and training at the secondary school level, several examples cited the studies show that the school leavers have acquired very little or no life skills from their secondary school education. Although the knowledge acquired by the school leavers in the school enable them to obtain other skills and competencies, no system has been developed so far to equip the students with life skills. Inability to link education with life skills is one of the major issues of the present education system, which demands life skills-based approach to education.

## Quality Concern of Secondary Education

The quality of school education could be seen in two ways. First is the quality related to the physical, social, emotional, aesthetic, spiritual, and intellectual development of the students: inculcate qualities like good conduct, tolerance, truthfulness and justice, and a sense of national identity and integrity, command of knowledge, skills, attitudes, and values to compete in the national and international labor market, develop life skills, professional and vocational skills that help contribute for individual and national development through economic activities and meet the millennium development and 'education for all' goals. *Second is* low performances profiles of school: Failure rates in the SLC examination, and in the sent-up examination, low proportion of students passing in first division, longer time taken by students to pass SLC, and poor performance of SLC graduates in higher education, etc.

This study and several others undertaken in the past have identified a number of factors responsible for the poor quality of secondary education. The major factors identified are poor physical environment; lack of educational facilities and of qualified and trained teachers; unbearable classloads of teachers; lack of professional commitment on the part of teachers and devotion; limited opportunity for professional development and training for teachers; inappropriate teaching-learning environment; high teacher turnover and frequent absenteeism; inadequate instructional time; poor quality of teaching methods; ineffective language policy; poor management and supervisory practices; low student motivation for learning; under-financing of the secondary sub-sector; defective curriculum; lack of textbooks and reading materials and a

majority of the schools in general and public schools in particular in the rural areas face such problems. Policy makers should think what interventions with possible options could be traced out for the improvement of the quality of public secondary education in the rural areas.

### **Perception on Public Private Differences**

The output in terms of higher pass percentage in the SLC results has shown private schools as imparting quality education. Various opinions offered by the school leavers, parents, teachers, employers, and institutions have been documented in this study for support. There are several other evidences testifying why private schools are ranked far better than public schools. Put differently, the high proportion of first divisioners passing in SLC examinations from the private schools confirm the wide variation between the achievements of public and private schools in bringing a consensus among the people insisting on the quality of schooling.

It is true that the opportunities in life available strongly determine an individual's performance in school education. It has also been witnessed that the products of private schools have been able to achieve better prospects and have got better opportunities compared to the products of general public schools. Although private schools, too lack mechanisms often disseminating knowledge and skills to their students, they seem to have been progressive while public schools in general seem to be regressive. The reason phenomenon is that public schools have failed either to provide even a minimum level of knowledge, skills, and competencies or to give professional counseling to their students. That is why people at large today have little faith in public education.

The existing reality is such that the people at large have no capacity to afford education in the private schools and the access of a larges number of students to those schools remains limited. The socio-political and economic implications of all this could be painful to the country. Who should then be allowed for education in the private schools? Are the privately run expensive institutes on the desired level for the society and should they continue to expand? How long should the nation go with such educational disparities? Are the public schools really unable to upgrade their performance? Is this poor performance due to funding or policy commitment? Should we organize a dialogue between the public and private schools? In what way could the public-private partnership evolve? In what way, the private schools be supportive to the Government – for educating women, Dalits, Janjatis, and the poor, disadvantaged, and disabled?

### **Comparative Achievements of Advantaged, Disadvantaged Groups, and Women**

Access to education leads to a meaningful life. Thus, resources invested in education generate human capital. The creation of human capital is the creation and distribution of new wealth; it contributes to the reduction of both absolute and relative poverty. In this context, differences in access to education and achievements in terms of life chances between two different groups like the privileged and the disadvantaged and men and women bring economic disparities leading to conflicts and wide social and economic losses. While equal opportunity and human rights through appropriate and adequate school education to all is of deep concern today, the challenge being encountered is not only how to increase the access of educationally disadvantaged groups but also how to guarantee their right to quality education. In this regard, the study has noted wide disparities in educational performance between the so-called upper castes and the disadvantaged groups including women. Dalits and Janjatis account only for 14% while their achievement is low and, the performance of women is still lower. The issue is not only of the limited access of disadvantaged groups and women to secondary education but also their poor

SLC pass rates and campus/college admission rates in comparison to others because they either take a longer time to pass SLC or remain on the non-student status due to their failure. Because educational achievement leads to economic success and social standing, the policy issues that arise are: What specific roles should different stakeholders play for equal access and curriculum re-design to reduce the failure rates of the disadvantaged and women? Should the Government recognize SLC failures as people of educational status? Should the tag 'failed' be discarded? Should certification emphasize the educational strengths and weaknesses of the students?

### **Regional Variations in Educational Performance**

Inferences from the study reveal regional variations in the educational performances of school leavers. There are several factors that support regional variations: language barrier; lack of qualified teachers, particularly the teachers of English, Mathematics, and Science; poor physical facilities; unavailability of textbooks and other educational materials; parents' low attention to education; lack of supervision; professional growth of teachers; poor teaching-learning methods. Common cases also exist. With limited family resource, local communities cannot bear the burden, in cash or kind, in the development of physical facilities of the schools. Thus, several schools lack even the most basic facilities. Studies have shown the imbalance and inequity as regional disparities and disparities in the educational performances of students. Disparities persist both in access to secondary education and in the quality of schooling. Educational policies addressed to check regional disparities in terms of access, quality, and equity are, therefore, to be supported by different educational societies.

### **School Failures Joining Technical Schools**

The wastage in secondary education is accumulating due mainly to the high failure rates in SLC and pre-SLC examinations called send-ups. The present study shows only 6.4% of the SLC pass students joining technical diploma (females 1.6%). Yet the figure for school failures joining technical schools for various training programs is not encouraging for various reasons: (a) opportunities are limited; (b) chance of admission to campuses are low due to competition with the SLC degree holders; and (c) the failures' intention is to pass SLC rather than join technical schools for better prospects (Bista, 1996). Even a large number of technical school graduates are found to have planned to appear at the SLC examination. Attractive packages and motivational factors are important to increase the enrollment rate.

In this context, in an article, CK Lal (2005) states that the training school dropouts with employable skills are an option that have failed to grab national attention. Nepal has dozens of medical and engineering colleges for those who can pay their way, but training schools producing carpenters, plumbers, glaziers, electricians, auto mechanics, nurses, housekeepers, bakers, tailors, dyers, and painters are rare. Occupational training requires working facility with language and arithmetic, but not the ability to memorize answers to literature and social studies questions. 'SLC-failed' students are the best for trade courses and, since they are in a majority, policy makers must think of, and the authority must invest in, them because the SLC graduates have other options. The current donor-funded efforts to provide a vocational safety net to the backlog of SLC the cast-offs from past years must be taken up as a national campaign.

### **English and Mathematics as a Compulsory Subject**

Since the importance of English and Mathematics both in higher education and employment in the present day context is ever increasing, the need to teach these subjects at the secondary level

has no alternative. The present Tracer study and studies in the past have shown that the highest failure rates in SLC examinations occur in English and Mathematics. Teaching learning was improved in the past and the teachers were trained, but there has been no improvement in English teaching. Repeated failure in these subjects puts the students in a critical position. Failure implies loss of opportunities and rewards in the society. This calls for serious efforts to improve the achievement of SLC students in English and Mathematics. Whether English and Mathematics should remain as compulsory subjects could be a matter of policy debate, but seeking options with simplifications for reducing the problems pain of thousands of students and economic and social loss of the nation should draw the attention of the policy makers as soon as possible.

### **6.3 Implications of the Findings for Further Improvement**

#### **Provision of a broad-based secondary curriculum**

While the findings derived in the Tracer study and the tendencies observed in general attest to the ever-growing demand for higher education, evidences also suggest that SLC graduates are not adequately prepared for the purpose. Therefore, in order to bridge the gap between secondary education and higher education, the extension of schooling with the provision of higher secondary education may be regarded as a major step. Such a decision is already in effect with the provision of +2 in the present structure of secondary schooling system. In this connection, a 'broad-based secondary school curriculum' is desirable, at least, for up to Grade 10 with provision of streaming of subjects only at the higher secondary or +2 level. Such a broad-based secondary education could help in building the fundamental understanding of the SLC graduates and to prepare them for both higher education and the world of work. A complete 'general education' to enhance general knowledge, skills, and attitudes consisting of the common-care of the compulsory disciplines is appropriate, without specialization that currently exists in the curriculum. A core curriculum, however, should be designed with emphasis on general and broadly applicable knowledge, higher order skills, competencies, and attitudes. Issues thus could be raised: What implication could be observed with this kind of provision? If the provision currently that exists in the curriculum is left as it is, what can one expect from current secondary education while many weaknesses are already at hand? What other options can be considered to overcome the current threats?

#### **Emphasis on Skills and Changing Attitudes**

In a broad sense, it seems to be relevant to offer the students 'instant skill-oriented vocational courses' to respond to the wide demand of students, parents, teachers and to meet the needs of the different sections of caste groups, gender, and the society as a whole. However, given the wide vision of the secondary education, its large-scale production of the SLC graduates and the experiences gained from local level development processes, very little social and economic implications have been noticed despite the heavy investments. Further, both parents and students had no taste of vocational secondary education in the past. It is because those general schools had no such exposures and were not providing the experiences required for the world of work. Therefore, the purpose in preparing students for employment should not be limited or narrowly defined only in view of the vocational courses.

Rather, the secondary schools with a wide horizon of the curriculum (content and context) should aggressively prepare the students for the large labor market that exists and is likely to

grow substantially in the days come. They should be provided with generic, survival, and transferable skills infused with enthusiasm, commitment, and capabilities to learn what they need to learn when they join the world of employment. Since there are more and more societal pressures from increased connectedness, greater complexity, uncertainty and diversity, and rapid changes, the general skills required in secondary education and can be grouped as: (a) Skills for personal fulfillment; (b) Skills for living in society; (c) Skills for dealing with the changing economies; and (d) Skills for dealing with the changing work patterns. The traditional notion that secondary schools should prepare workers with specific instant work skills should, therefore, be set aside and schools should prepare individuals who are capable of learning those skills. This calls for a 'broad-based secondary education', which does not directly emphasize vocational skills but provides the students with general skills and knowledge, fitting with the labour market for employment.

### **Provision for the Choice of the Subjects on a Location Basis – Demand Based Subjects**

The courses offered in the optional and vocational areas often do not address the problems, needs, and priorities of parents, students, and the society, nor are they based on the needs of regions and particular locations. This raises the issues that students, parents, teachers, and people of different sections of the society and from different locations have observed to be the irrelevancy of the subjects taught in secondary level. The courses have not met the needs and aspirations of the different sections of the society. What happens if the students are given liberty to choose the subjects on their own to fulfill the demands of the different sections of the society?

### **Educational and Occupational Counseling**

The school curriculum does not have the contextual phenomenon of how students can be made self-decision makers or self-independents to identify and define their own path to success. They are not able even to discover their own potentials. Some extent of counseling thus seems to be necessary. With counseling they would be motivated and encouraged to do better than what their learning offers. Issues for policy could be raised as: What would happen if counseling were made compulsory as a part of education?

## CHAPTER XIV: KEY CONCLUSIONS AND RECOMMENDATIONS

A number of the studies done by us, mainly the study on the determinants of student performance in SLC and the case study of effective and ineffective schools, have demonstrated convincingly that continued poor performance of Nepali children in the SLC examinations is not due to inadequate teaching and poor learning ability of children alone. Evidently, school performance is closely associated with the structural aspects of the Nepalese economy and society such as extreme poverty; lack of basic services; illiteracy; unequal distribution of resources across the different development and ecological regions; monolithic language policy; and age-old discrimination against women, ethnic, and linguistic minorities. Our studies have also demonstrated that poor student performance is the function of the weak academic foundations of students; poor assessment and promotion practices; poor teacher management; lack of teacher and school accountability; weak institutional leadership; obsolete and heavily contents-driven curriculum; serious shortage of well-qualified teachers, especially in Mathematics, English and Science; lack of even the most basic physical and instructional facilities needed to run schools; untimely and inadequate supply of textbooks; huge class size; near absence of monitoring and supervision; limited opportunity to learn (OTL) in classrooms for girls, ethnic, and linguistic minorities; the inability of students to understand the language of instruction; absence of educational environment in schools; lack of remedial teaching; inadequate study habits of students, and a host of other factors. These studies have also produced sufficient evidence to conclude that at least some failure and/or poor performance of children results from a number of examination-related factors, such as heavy biases in test items, use of non-standardized test papers, poor administration of examinations, unfair and unscientific marking practices, etc. For these reasons, in considering the improvement of student performance in SLC, it should be recognized that the Government should adopt strategies that are directed towards (a) addressing the structural causes of under-performance; (b) improving conditions in schools essential for improved student performance; and (c) changing examination practices. Only a multi-pronged strategy can address the chronic problem of poor student performance. It should also be recognized that the complexity of the problem calls for both immediate and long-term actions. In a similar fashion, reform should take place both on the policy and operational levels. Given the fact that under-achievement of children results from a number of structural problems outside the education sector, actions of the Ministry of Education and Sports (MOES) alone are not enough in the war against poor school performance. With all these considerations, we have made an attempt to provide a set of recommendations in this chapter.

Before we submit our recommendations, it should be pointed out that there seems to be a growing disenchantment lately not only with the SLC examinations but also with the entire public schooling system as a result of continued poor performance of children. A new viewpoint seems to be emerging gradually against the SLC examinations. Although this view has not been expressed in an organized way, many people both within and outside the education sector do not seem to be in favor of giving continuity to the SLC examinations. Many feel that the examination system has done disservice to the education system rather than served it. We observed this view throughout our nationwide process of consultation. The same view persists throughout the educational policy literature. In the main, there are two contradictory views concerning the public examinations: some in favor and others against. Advocates of terminal

examinations say that examinations motivate students to work harder and hold teachers accountable for performance. Critics, however, contend that tests lead to higher dropout rates, place too much weight on a single imperfect measure, and do nothing to ensure that students have an opportunity to learn the material being tested.

The study team feels very strongly that there is no substitute for SLC or any other form of terminal examination at the end of a level of education. We are not in favor of abolishing SLC at this stage. While we have noted a number of deficiencies and problems in the SLC examinations, we could notice some positive elements. Throughout the world, students are being tested more than ever before. This is being done in the hope that only a competitive system of education can contribute to national development. While countries with a decentralized system of assessment and examinations are shifting towards a national, centralized system of public examinations, a fairly strong, highly institutionalized public examination system is in place in the country. The SLC provides both a yardstick for measuring student performance and an instrument for holding schools and teachers accountable for higher performance. It encourages schools to do better, forces teachers to cover course contents, ensures alignment between instruction and curriculum, motivates students to learn more, creates competitive environment between and/or among schools, helps to ensure that all schools teach and maintain the same standards, provides a means for measuring the impact of school reform initiatives, selects students for further education, and provides a basis for certification. In a nutshell, the SLC can potentially be used as a driver of improving the quality of education. In a heterogeneous society, where educational conditions and standards are not uniform across the regions, an external examination plays a major role in ensuring comparability among schools. A national system of public examination becomes essential in a country with a decentralized system of education and in a situation where education is being provided by multiple providers. While we maintain the position that the SLC should continue to exist and function, we also believe that its features and elements should not remain static or permanent. It requires continuous attention and refinement to fit the shifting dynamics of the society. In many ways, Nepal is locked into a model of examination that was suitable in its early stage of educational development, but which no longer can cater to the needs of educational reform. Therefore, serious reforms are necessary. More than that, we should also stress that implementing reform measures calls for ideological commitment at all levels.

The conclusions and recommendations are grouped into nine broad areas.

## 1. DEVELOPING INSTITUTIONAL CAPACITY OF OCE

Create a Secondary Education Board (SEB) by merging OCE and HSEB with mandate to conduct Grade 12 examinations. The institutional analysis of OCE has shown a number of deficiencies: severe resource constraints, lack of expertise in testing and measurement, very limited or no capacity for undertaking research and development works, lack of autonomy, heavy work pressure, inadequate communication with the institutions within and outside the education sector, etc. OCE is good at logistics management. However, it does not have the tenets of a professional testing institution. It seriously lacks expertise and professional capacity in test development and test analysis and reporting. It also lacks institutional and financial autonomy required enable it to function as a professional testing institution. It generates enormous amount of resources, but it must perform its functions under severe financial constraints. It is highly unlikely that OCE will ever be able to function as a professionally

competent institution should it continue to function as a Government entity. Hence, it is essential to develop OCE into a semi-autonomous Secondary Education Board (SEB). This new institution should have the mandate, authority, standing, and competence to manage and deliver terminal public examinations at the secondary level. Grade 12 will eventually be the terminal Grade of school education as envisaged in the Tenth Plan. Therefore, the newly created SEB should have the mandate to conduct Grade 12 examinations. The establishment of the new institution will take place following the merger of HSEB (without the curriculum component) and OCE. This restructuring will call for amendment in the current HSEB Act of 2046 and promulgation of a new act. The organogram and other details of the proposed institutional restructuring are provided in the Institutional Analysis Chapter of this report. As SEB becomes autonomous and fully institutionalized, it should establish its own institutional infrastructure at the regional and district levels. It will not, however, diminish the roles that the Regional Education Directorates and District Education Offices are playing. Their role(s) would be essential in monitoring and administering the terminal examinations.

Transfer authority to conduct Grade 10 examinations to regional authorities. Although the Government intends to make Grade 12 the terminal Grade of school level education, for several years to come many students will choose not to go for higher education after Grade 10. Grade 12 could be officially terminal, but for several students Grade 10 will continue to be the terminal Grade. Those who choose to join the world of work or do something else after Grade 10 will require certification of their formal education. Therefore, Grade 10 examinations should be conducted through five regional authorities which will operate within and report to the Secondary Education Board. It will mean that they will not function as separate independent examination boards. Even after the transfer of authority to conduct Grade 10 examinations to regional authorities, SEB will continue to set question papers in the core subjects for reason of uniformity. As regards other subjects, the concerned regional authorities will set questions. Regardless of the Board, students throughout the country will be issued a national certificate from SEB upon completion of their Grade 10. The workload of SEB will be reduced substantially if regional authorities share the burden of conducting Grade 10 examinations. SEB needs to focus on aspects related to research and development.

Develop national expertise in testing, assessment, and examinations. Our data suggest that national expertise on testing, assessment, and examinations is limited. Assessment and testing go beyond question setting and moderation of test papers. MOES officials are generalists in the field of education. These officials are nationally transferable which makes it difficult to develop and sustain the level of professional expertise required. Those who work in testing institutions within the country are largely unfamiliar with the modern theories, principles, and methods of testing and assessment. Courses in FOE on measurement and assessment are also obsolete. Testing and measurement is a highly developed discipline within education. Most FOE professors have little exposure to the new practices of testing. There has been very little or no use of whatever limited capacity that exists within the FOE. Therefore, two actions are suggested. First, MOES should use whatever national expertise exists within the country to develop a national system of assessment and testing. In the long run, existing knowledge within MOES and FOE will not be enough to build the national capacity in testing, assessment, and examinations. Therefore, external assistance should be mobilized to develop national expertise in the field.

Increase OCE Access to Financial Resources. Our financial analysis revealed serious financial constraints within the OCE. As a Government entity, OCE receives regular budget from the

Government. OCE raises some 116 million rupees annually in fees from students. These funds generated by the OCE go into the Government's treasury. Our study shows that the funds OCE receives annually are not enough to meet examination-related costs. These allocations are barely enough to meet the costs required to conduct examinations, let alone carrying out training, research, and development functions. The testing personnel engaged in different tasks such as test construction, moderation, marking of answerbooks, etc. are underpaid. The regional, district, and school authorities who take much of the burden of conducting SLC examinations say that they receive inadequate funding from the OCE. The study has also noted inefficiencies and irregularities in its financial management. There were instances where students didn't even have drinking water during the examinations. The consequences of funding shortage are severe. Examiners are not serious in their work if they are not sufficiently paid. It is difficult to find good examiners because the scale of remuneration is too low. The quality of public examinations cannot be improved without increasing the access of OCE to financial resources. Feasibility analysis shows that there is sufficient prospect for developing OCE as an independent and financially self-supporting institution. The semi-autonomous status proposed earlier will enable SEB to retain all the funds generated from examination-related fees. The study team makes the following suggestions for increasing OCE's resource base:

Until OCE is transformed into a new institution, a Development Fund can be established in OCE in accordance with the provisions of the Office Operation Fund Act of 2043 and the Regulations of 2050. Creating such a Fund would increase the access of OCE to more resources. The notion of Development Fund allows OCE to raise funds and retain some portion of its incomes for its own utilization, while still getting annual budgetary allocation from the Government. This option requires initiation by OCE, convincing MOES and the Ministry of Finance, and then obtaining final approval of the Cabinet. This option may increase some access to resources, but it does not ensure financial autonomy.

There are enormous possibilities for increasing revenue from the sale of examination-related products and services, possibilities not yet tapped properly. So long as OCE remains a Government entity, no new possibilities will be looked into.

The second option for achieving institutional and financial autonomy is to gain a semi-autonomous status. It should be noted that institutional autonomy and financial autonomy go together. Therefore, OCE will gain full access to financial resources only if it obtains a semi-autonomous status. Professionalism and innovation cannot thrive in a bureaucratic setting. Therefore, the establishment of an autonomous institution should be the final goal. This recommendation is consistent with our institutional restructuring proposal.

Strengthen the Research Capacity. Test development requires continuous research. The OCE's research function should be enhanced and extended to keep it up to date on assessment and marking approaches, concepts, and trends etc. When tests are improperly used for high stakes decisions, they can reinforce racial/ethnic inequalities instead of reducing them. Educational policymakers need to constantly monitor the negative consequences of public examinations.

## 2. MAKING ADJUSTMENTS IN THE EXISTING SECONDARY CURRICULUM

Limit test papers in SLC on Grade 10 curriculum materials only. The SLC examinations are meant for testing the learning achievement of children. Historically, SLC examinations were

limited to Grade 10 syllabus. Question papers were set from the texts taught in Grade 10. In recent years, however, SLC examines students' understanding of Grades 9 and 10 curriculum materials. The rationale for combined testing of Grades 9 and 10 materials has been that the SLC, as a level-end terminal examination, should test the students' cumulative understanding of subjects taught at the secondary level (Grades 9 and 10). The scope and coverage of the tests, therefore, depend on the intent. It is essentially a political rather than a pedagogical decision. There is no particular pedagogical position as to what should be tested through a level-end public examination such as the SLC. But, many would agree that if the intent is to test students' acquisition of general competencies or abilities, then the tests should be designed to measure students' overall understanding of the materials taught at a particular level (say Grades 9 and 10). But, if the intent is to measure students' learning achievement or mastery of the subject matter, then the tests should be designed to measure the materials taught in the last Grade of a level of education (Grades 10). When students' mastery of the subject matter or learning achievement is tested through cumulative approach, it can add extra burden on the part of students, leading to poor student performance. When contents taught over a period of the several years are taught, it raises the problem of recall and memorization. Most teachers and students interviewed as a part of school survey were firm in their view that SLC should only be confined to the testing of materials taught in Grades 10. Analysis of answerbooks also revealed that students have particular problems with the questions directly drawn from Grade 9 materials. The Study Team, therefore, recommends that the curriculum policy that requires the testing of both Grades 9 and 10 materials should be changed immediately and that SLC test papers should be based on the materials taught in Grades 10 only. This is already being practiced in several countries including Pakistan and India and is being considered in Bangladesh and Sri Lanka.

Limit the number of subjects to be tested in SLC. Students are tested in too many subjects. Currently, the number of subjects is eight. The greater the number of subjects, the greater the burden on the part of schools, teachers, parents, and above all – the students. It also adds burden on the OCE that must manage the testing of large number of students. In Bhutan, India, Pakistan, and Sri Lanka, the number of subjects the students must pass is 6, 5, 7, and 6 respectively. Most other countries in the world that have centralized examination systems test students in core subjects like languages, mathematics, and science. The parents, teachers, and students interviewed as a part of our survey were firm in their opinion that the number of subjects to pass SLC could be reduced to six compulsory subjects only. What is important is whether the student has acquired the ability to learn throughout his or her life, not the number of subjects the student has passed. Therefore, the study team recommends that the number of subjects required to pass SLC be limited to the five core subjects only: Nepali, English, Social Studies, Science, and Mathematics. Schools should, however, continue to teach the eight subjects as prescribed in the curriculum. But, in terms of passing SLC, the requirement should be limited to five subjects only. There are at least two strong reasons for limiting the number of subjects to be examined for purpose of certification. First, the performance of students in the five core subjects listed above determine their chances of success in higher education and employment. This will allow students to gain greater mastery in these core subjects. Second, this will substantially reduce the burden of work on OCE, allowing it more time to concentrate on key professional functions such as development of standardized test items, analysis of test analysis, research on examination-related issues, and feedback to the different components of the system.

Explore the possibility of testing and certification in additional subjects. There will be students desiring to be tested and certified in other non-core and/or optional subjects to satisfy their

further academic pursuits. In such cases, provision can be made to examine and certify students in more than six subjects. In a number of other subjects like computer science, physical education, music, and creative arts, the possibility of examinations by professional bodies outside the Government sector should be explored.

Develop basic courses in Mathematics and Science. The contents analysis of curriculum materials reveal that Mathematics and Science curricula are heavily content-loaded. Our experts who analyzed the curriculum materials believe that these two curricula are relevant to those who pursue studies in the related fields after completion of SLC. Results of the tracer study show that less than 10% of the total students who pass SLC study subjects requiring heavy contents of Science and Mathematics. It should be mentioned that most schools in Nepal do not have the basic physical, human, and instructional resources that are necessary to implement these two curricula. Much failure in SLC is due to the poor performance of students in these two subjects. Therefore, it is recommended that Basic Science and Basic Mathematics curricula be developed by removing certain portions of the existing curricula that are directly relevant to those who pursue further studies in these subjects. CDC should immediately appoint a committee consisting of relevant experts, teachers, teacher educators, and testing officials to revisit the existing Science and Mathematics curricula and propose suitable contents for Basic Mathematics and Basic Science. This should not be interpreted as the lowering of standards. It is to be noted that the CBSE in India has recently made a decision to remove several lessons from the Science and Mathematics textbooks after a thorough analysis of student performance and school conditions.

Teach Nepali as a second language in early Grades. A close analysis of answerbooks has shown us that language proficiency is closely associated with student performance. Those speaking Nepali as a mother tongue or those who are proficient in Nepali give better performance compared to others. Proficiency in Nepali language is found to determine students' overall performance in SLC and performance in other subjects of the curriculum. Since SLC uses essay-type items, students require strong proficiency in Nepali or English – two mediums allowed in SLC. The extent of expression difficulty was severe among non-Nepali speaking population. Even after 10 years of schooling in Nepali most linguistic and ethnic minorities do have difficulties with the language. It could be that the way Nepali textbooks are written and the way Nepali is taught in classrooms do not help students acquire language arts or skills. The emphasis on the literary aspect of the Nepali language both in curriculum materials and teaching may pose difficulty among the non-Nepali speaking population. Therefore, we recommend that Nepali be taught as a second language in early grades where Nepali is not spoken by a large number of student population.

Streamline the number of subjects included in school curriculum. In recent years, there has been a significant expansion of the curriculum both in terms of the number of subjects and the amount of contents prescribed in each subject. Often, curriculum expansion has taken place without actually assessing the impact on schools, teachers, and learners. New subjects are added ultimately, adding burden on the students. CDC should lead a process to streamline the number of subjects offered in school curriculum.

### 3. IMPROVING TEACHING-LEARNING CONDITIONS IN SCHOOLS

Strengthen the role of the head teacher in school management. The findings of our case studies of effective and ineffective schools have shown consistently that the head teacher is the key factor influencing school effectiveness, measured in terms of pass rates in SLC. Effective schools are found to have stable and firm leadership as opposed to ineffective schools where leadership is found to be weak or unstable. The head teachers in effective schools are characterized as being 'bold,' 'decisive,' 'under control,' 'task or goal-oriented,' 'fully committed,' 'always prepared to make a difference,' and 'committed.' These traits are largely missing among the head teachers in ineffective schools. The heads in schools are able to support, monitor, and supervise the instructional staff. Given the crucial role of leadership, it is to be recommended that actions must be taken to strengthen the role of the head teacher in school management. First, the selection of head teachers, which currently takes the form of nomination based on political or other non-transparent considerations, should be replaced by a system where the heads are selected through a competitive and transparent system. Second, amendment is necessary in the criteria and procedure specified in the Education Regulations that give high value to service years, formal qualifications, and training in the recruitment of head teachers, rather than demonstrated ability to manage and lead school. Third, the Educational Regulation gives the DEO unlimited power in the appointment and dismissal of the head teacher. There should be a larger role of the primary stakeholders rather than the DEO. Fourth, the head teacher should be given all essential authority and responsibility to lead and manage school, including the authority to select teachers, remove or take disciplinary action against non-performing teachers, and take all executive decisions. Fifth, the head should initially be appointed for a term of 4 years, with possible extension based on the evaluation of his or her work by all stakeholders. Sixth, the SMC, PTA, and the DEO should review the performance of the head teacher annually. If the annual reviews suggest that the condition of school has not improved, then these bodies should have the authority to remove the head teacher prior to the full term of four years. Seventh, the amount of allowance paid to the head teacher (a sum of Rs. 500) does not attract highly qualified and competent people. Therefore, it should be reviewed. Finally, present head teacher training courses are not enough both in terms of contents and duration to develop head teachers' capacity to manage and lead the school. School management is a specialized profession. It is too simplistic to assume that anyone with a bachelor degree in education and a few years of teaching can manage a school effectively. Therefore, a team of experts should be appointed to revisit the existing provision of training and propose necessary revisions.

Introduce a suitable homework policy. The extent to which students are asked to do homework has a positive association with school performance implying that the higher the amount of homework, the greater the achievement in SLC. Our survey shows that only 46% of the total students are exposed to homework in their schools, and this percentage is much lower for public school students. Our case studies reveal that homework is a regular feature in secondary schools with effective performance, while homework is a rare event in ineffective schools. Our study has also revealed that students in private schools have a better higher opportunity for doing homework than their counterparts in public schools. This could possibly be one of the several reasons why private school students show better performance compared with the public school students. Homework has several learning benefits. It increases students' time-on-task, gives students sufficient practice, keeps students focused on learning, increases interaction between

students and teachers, creates pressure on the part of students to learn the material taught, and offers an opportunity to the students to receive feedback and remedial support. Because there is little or no homework in public schools, students are deprived of opportunities that are likely to enhance their performance. We should also note that in private schools the student exposure to homework may exceed the desired level. Both over exposure to homework or no homework at all should be addressed properly by a national policy on homework. This policy should delineate the amount of homework each student is entitled to. It should be made mandatory to the public school teachers who do not see assigning homework as a part of instruction.

Introduce school-based examinations. There is ample amount of international research evidence suggesting that frequent monitoring of student learning through a variety of school-based examinations can add to increased student performance. Frequent testing of students is found to determine student performance significantly. Likewise, findings of our study of effective and ineffective schools also confirm that when students' work is continuously assessed and monitored, their chance of achieving higher marks in SLC increases. Frequent testing is a regular feature of most private schools, while students in public schools are under-tested or not tested at all. Even if they are tested, these test results are rarely used to further motivate them or give them pressure to learn more. Historically, attempts to introduce internal assessment and/or formative assessment have failed in Nepal for different reasons. Teachers fear that internal assessment will increase their workload. In fact, the weight of external examinations causes additional stress and workload. We therefore recommend making a mandatory provision for frequent testing of students in public schools. It will require amendments in the current Education Regulations. Assessment policy should move from the existing provision of assessment of learning to assessment for learning, which focuses more strongly on the needs of the learner than the needs of the system. Public schools should immediately seek departure from the assessment of learning view to that of assessment for learning

Build reading habits on the part of students. One significant finding of our study is that students with proper and regular reading habits have higher chances of achieving success in school education. One other interesting finding is that the number of books available at home also has a positive association with student performance. That means that the higher the exposure of students to different types of reading materials, the greater the school performance. The success of a school lies in its ability to develop study habits on the part of students rather than the amount of information it can pass on to them. Most public schools are found to lack reading materials other than the prescribed textbooks, which often do not arrive in time in schools. The concept of school library is virtually non-existent. Students are rarely exposed to different kinds of supplementary resources in schools. In view of the above findings, two actions are recommended. First, the Government should make a plan to set up a school library in each secondary school of Nepal. The availability of textbooks and other supplementary readers is poor in schools. Therefore, school libraries should be set up in rural schools with top priority and gradually extended to cover the entire school system in a phased manner. Second, the way both Nepali and English subjects are taught, they do not help develop reading habits on the part of students. It will be appropriate to give more emphasis to reading in Nepali and English teaching along with other language skills. Both pre-service and in-service training courses should re-emphasize the value of reading skills. In many countries, reading is taught as a separate subject.

Review the distribution of secondary schools. Our survey data tend to suggest that students in large secondary schools, measured in terms of student population, have a better chance of

achieving success in SLC in comparison to students who attend small secondary schools. Our study found a strong association between school size and learning achievement. Case study research also confirms the above finding. Most ineffective schools happen to be the so-called proposed schools with a few students. Over the years, the Government has permitted many primary or lower secondary schools to run secondary Grades without ensuring adequate physical infrastructure and the availability of qualified and committed teachers. These schools do not receive any support from the Government, although most recently, the Government has decided to provide some support to them. In recent years, due to the growing popularity of private schools, many public schools have lost their students, leading to a sharp decline in their size. Schools are often upgraded without due consideration of potential enrollment, community features, and the availability of public and private schools in the vicinity. Since having a secondary school is a symbol of community prosperity, communities work hard to establish a secondary school. Increased enrollment at the primary level also has increased the demand for more secondary schools. As a result of all these developments, the current pattern of schooling provision is somewhat inefficient, leading to too thinly populated secondary schools without adequate resources and conditions for learning. In such a context, it will be essential to review and assess the distribution of schools. Although it might be less desirable in political terms, from the view point of pedagogical and economic reasons, it is desirable to initiate a process of school merger and/or consolidation where inefficient or non-viable schools are closed down in favor of options that are more efficient and cost effective. As we are very close to achieving UPE, the demand for more secondary schools can be expected to rise. The opening of new secondary schools or upgrading of primary or lower secondary schools should not be left to popular community demands alone. As the system expands further, we need to make choices about the new location and consolidation of the existing inefficient and non-viable schools. At least three actions can be suggested in that context.

First, in the more densely populated areas, such as the Tarai and urban areas, the possibility of school merger should be explored to bring schools up to an optimum level in relation to their enrollment.

Second, in the mountains and remote districts where the population is characterized by very thin distribution and seasonal migration, the possibility of residential schools should be explored.

Third, the current practice of automatic upgrading of primary or lower secondary schools into secondary schools must be replaced by a system of school establishment based on proper mapping.

Align teacher professional development with assessments and examinations. Recurrent teacher training has been adopted as a major strategy for enhancing the quality of student achievement. It is assumed that increased opportunity for professional development through recurrent training would lead to improved teacher professionalism, dedication, and motivation, which will positively contribute to student learning. Obviously, this assumption does not hold. The study shows negative an association between short-term training, and student performance. This is certainly not a good news for many of us – planners, educators, and donors – who always have had a faith in the ability of teacher training to promote student learning. Several factors may explain the negative impact of teacher training on student performance. First, teacher training courses in Nepal, whether pre-service or in-service, intend to promote the so-called child-centered, participatory, and interactive teaching methods, which are not properly aligned with the public examinations that measure the amount of the contents knowledge of students. Second, too many teacher training courses involving hundreds of thousands of teachers have

disrupted teaching in schools seriously removing teachers from classrooms. Third, there is no perfect match between teacher's training and their assignment in schools. Often, we noted hundreds of instances of English teachers participating in the Social Studies training and the Mathematics teachers attending Nepali training. Fourth, the incidence of teachers attending training courses is high in ineffective schools where student learning does not get a very high priority. There could be many more factors causing a negative relationship between training and student performance. It will not be wise to advise the Government to suspend short-term training courses based on the finding of this study alone. However, the Government should definitely reevaluate the overall recurrent teacher training provision currently underway under EFA 2004-2009, SESP, and TEP. Perhaps teacher management is more important than teacher development that is not properly linked to curriculum, learners' needs, and teachers' overall professional development needs. Private schools are often found doing a much better job in terms of teacher management than the public systems that give a high priority to teacher development rather than management.

Make efficient use of teachers. Interestingly, teacher load is found to be a statistically significant variable. The larger the teaching load, the higher the performance of students. It is not immediately clear why increased workload may have contributed to student performance. However, careful analysis may suggest that teachers who are utilized to the optimal level produce better results than those who are not utilized or partially utilized. The pattern of teacher distribution has not been very efficient, with a surplus in some schools and shortage in others. Past efforts to redistribute teachers have not yielded fruitful results. Therefore, it is important to ensure that teachers are equitably distributed across the different regions, districts, and schools and that the teachers available in schools are utilized to the fullest.

Increase allocations in secondary education. Consistent with many school effectiveness studies carried out in developing countries, our study also found a strong association between spending per student and school performance, implying that schools with high per-child expenditure do a better job in terms of their students achieving success in SLC than other types of schools. Per-student spending in Nepal is not uniform across different types of schools. There are serious gaps between public schools and private schools, the latter spending 11 times higher than the former. Our case studies also showed large gaps in per-pupil expenditure between effective schools and ineffective schools, the former spending more money per child. Likewise, per-child spending varies in terms of school location (rural versus urban) and financing type (Government-financed versus community-financed). Unlike primary education, the Government has not assured full funding for secondary education. The policy of the Government, as stated in the Seventh Amendment of the Education Act and the Tenth Plan, has remained to finance secondary education based on cost sharing with local communities and parents. Apparently, some schools operate under desperate poverty and lack even the most basic facilities, especially in areas where communities and parents are too poor to raise funds. Often, inequitable distribution of Government resources coupled with low resource base of local communities makes some schools poorer than others. In this context, equalizing resources among the poor and affluent schools should, therefore, be one key element of school financing policy. It is advisable to increase the funding level for secondary education. However, it should be noted that the overall increase in the funding level can only bring unequal outcomes unless these funds are equitably distributed and targeted to the most needy areas and families. The most recent decision of the Government to provide free education up to secondary level is a right step towards ensuring equity. Where Government allocations alone will not be adequate to finance secondary education, therefore, concrete steps need to be taken to increase parental and/or local

contribution. In particular, well-off communities and families might be willing to pay for their children's education, provided they are assured that schools do provide education of good quality. For this, schools should be permitted to raise funds locally.

Ensure sufficient remediation for struggling students. Our observations of hundreds of schools and classes reveal that there is a serious lack of sufficient remediation for struggling students. In public schools, as reported earlier, there is very little testing. Even if testing is done, test results are rarely used to support learning. Thus, weak students rarely get support from their teachers. And, this practice of negligence of weak students starts at the primary level, and runs through the secondary stage.

Ensure that public schools are adequately monitored and supervised. Both our school survey and case study of effective and ineffective schools show that there is hardly any teaching learning in many rural secondary schools. It is not just about the lack of physical, instructional, and human resources. Even when resources were available, there was no teaching learning. Courses were not completed in time. Teacher absenteeism was high. Even if teachers were present in schools, teachers did not teach. It seemed that there was no one to take responsibility for children's education. Students did not receive time and attention from their teachers. In some schools, we also observed hard-working teachers, often with inadequate formal qualifications. These teachers were struggling to make a difference, but they were not receiving the professional support and supervision they need to be able to perform effectively. It should be recorded that we observed total absence of monitoring and supervision in schools. The MOES employs an army of school supervisors, resource persons, and trainers. Unfortunately, public schools have not been supervised at all. Government supervision and monitoring is essential in communities where local community members and parents are not in a position to monitor teacher and/or school performance, especially in the poor communities. These happen to be schools where strong leadership is not in place. The near collapse of the supervision and monitoring system is thus one major problem the public schools are currently facing. This is no longer the case in private schools where principals or head teachers provide close supervision and monitoring to school staff. As the supervision and monitoring system falls apart, other systems begin to fall apart. The Government should assess the monitoring and assessment system in its entirety. As a part of the survey, we noted schools and teachers being monitored by SMC members, PTA members, and parents in schools transferred to local communities. The transfer initiative appears to have some potential to bring schools back into the business of teaching and learning.

Take actions to minimize the negative consequences or backwash effects of SLC. The SLC has remained the almost exclusive goal for parents, students, teachers, and schools alike. There goes a mad race to achieve high pass rates in SLC in schools, especially schools operating in the private sector. Since student enrollment in private schools depends on student performance, these schools must work hard to appease their customers – the parents. When very high stakes are involved in the examination, it fails to do its job. Under the pressure of SLC, schools spend too much valuable curriculum time in directly preparing for, and conducting external examinations. Examination overload threatens to turn education from an intellectual and spiritual adventure into a treadmill. Public examinations, if not designed and monitored properly, can cause 'narrowing of the curriculum' and associated neglect of what is not examined. Often, schools and children devote a large portion of their time on test preparation activities. Case studies of private schools reveal that much of what happens in these schools during the last two Grades of schooling is 'teaching to the test.' Students are subjected to too many internal tests. Often, internal tests assume too much importance and they become the

master of the entire school learning, not servant. Schools do not engage their students in co-curricular and extra-curricula activities. Activities related to arts, literature, creative work receive less attention. Thus, the SLC has a damaging effect on the quality of education. This needs to be further explored. And, these backwash effects must be mitigated through reduced emphasis on external examinations, continuous monitoring and follow-up of teaching, use of improved test papers, and increased value for creative and original work, etc. The domination of examination has never been challenged, and it has driven the education system more comprehensively than ever. Educational planners must have a clear knowledge of the downstream effects of examinations.

Review the academic and professional profile of Science, Mathematics, and English Teachers. Much failure in SLC is due to the difficulty the students face in passing Science, Mathematics, and English. This has gone far too long, and Government has not taken any serious action to correct this situation. Teacher's qualification is the key to student performance. Little is known about the academic and professional profile of teachers who teach these subjects. A nationwide drive must be launched to gather information on the academic and professional characteristics of these teachers. And, their profile needs to be reviewed.

Re-introduce National Development Service (NDS) to meet the immediate shortage of qualified male and female teachers in the rural and remote districts. During the 1970s, Nepal launched a very successful educational strategy as a part of the National Education System Plan (NESP) under which university students were required to participate in a one-year mandatory National Development Service (NDS). The primary task of the students was to teach in a secondary school during their one year of stay in the remote and rural villages. Besides from the teaching, they initiated a number of community development initiatives mobilizing local resources. Students were paid a small sum of money just enough for their survival. Students' work was evaluated and they were assigned Grades based on their quality of work in schools and villages. The program gave students an opportunity to gain first-hand knowledge of rural Nepal and problems facing people in different parts of the country. It was an excellent example of higher education being useful to the poor people. The program was suspended for political reasons. Our discussions with the university students during our study revealed that there is plenty of enthusiasm and willingness on their part to join such schemes. The study team recommends that the Government must consider re-introducing the National Development Service (NDS) as a way of meeting the shortage of qualified teachers in subjects like English, Science, and Mathematics.

Introduce the open education system to provide increased access to and improve the quality of secondary education. Under the existing regulations, students can appear as a private candidate in the SLC examinations. The number of such students is very small compared to those who appear as regular candidates (4,231 versus 216,303 in 2005). But, the number of private students appears to be on the rise in recent years. For instance, in 2001 only 722 students sat for SLC as private candidates, which increased to 4,231 in 2005. The pass rate for these students is alarmingly low (20%). This compares unfavorably as compared with the pass rate for the regular students (38%). We do not have much information about the privately appearing students. Available evidence, however, suggests these are students (a) displaced by ongoing conflict, (b) removed by schools for failing the send-up examinations, and (c) those who cannot attend full-time secondary schools for a number of reasons. Those who take SLC privately are largely unsupported. While the number of displaced families and children continues to grow, the number of such students is certain to rise in future. The costs of private tutoring are so high that

many of them will find these costs unaffordable. Therefore, we recommend that the Government should introduce the open education system to provide secondary education to those who cannot benefit from the formal provision of schooling. Many displaced students who cannot return to their schools but would like to prepare for SLC would benefit from such a program. Most of all, many working children who must combine work and education due to poverty and a host of other reasons would be better served through the open education system. The market is full of SLC preparation materials published through commercial publishers. But, these materials do not serve the students who must 'teach' themselves. They can be served with carefully and professionally prepared self-study materials and radio and/or television-based lessons. Such materials and lessons would also be useful to the thousands of other students in the rural and remote areas where the quality of teaching is very poor.

Prepare for post-conflict reconstruction of the education system. Armed conflict has resulted in massive levels of destruction in the country: physical, institutional, human, moral, and cultural. It has devastated the social, economic, and political life of Nepal, including education. Schools located in conflict-affected districts appear to be disconnected from the larger national system of education. Teaching-learning in schools has largely remained dysfunctional. A number of critical educational activities such as distribution of educational materials including textbooks, teacher training, teaching supervision and monitoring of teachers, construction of new classrooms, holding SLC examinations, etc. have been seriously disrupted. A large number of families and children have been displaced. Fear of armed violence, abduction, rape or being caught in crossfire has often prompted families to move to safer locations, affecting schooling of children adversely. There has been loss of instructional hours due to frequent call of national and local strikes. Younger children, especially girls, are less likely to be regular in schools in high-risk environments. In some cases, there are reports of teachers fleeing their villages resulting in long periods of disruption in teaching and learning. Teachers operate under a immense pressure. They are forced to pay donations. There are reports that teachers are often tortured, humiliated, and killed. This has certainly lowered teacher morale. Often Government authorities and security forces put teachers under suspicion because they are historically opposed to the establishment. On the other hand, teachers' affiliation to political parties is sometimes not acceptable to the Maoists. A number of school buildings, DEO buildings, and other educational facilities have been damaged costing millions of dollars. The proposal to convert schools into 'zones of peace' has not been honored by either side. A secure and stable environment is needed for physical, cognitive and emotional development of children. Armed conflict affects all aspects of child development – physical, mental, and emotional. Children throughout the nation are living in a state of fear and uncertainty. Those who witness terrible atrocities are traumatized. The physical, sexual, and emotional violence to which they are exposed can shatter their world. As a result, children suffer from development delays, learning difficulties, and serious depression. While the nation must find political solutions to the ongoing conflict, a pro-active educational response is also needed to address the current educational crisis as well as reconstruct the education system that has already considerable damage.

MOES must review all aspects and elements of the education system – education policy, curriculum, medium of instruction, teacher training, examinations, textbooks, financing, role of the private sector, pattern of resource distribution, teacher management, etc. to ensure that education does not create or aggravate the conflict, whether intentionally or unintentionally.

In times of conflict and emergencies, educational policy should recognize and promote the role of teachers. School curricula, materials, equipment, supplies, and buildings may not be available,

but if well-motivated, committed, and qualified teachers are present, education can be provided. Therefore, the Government must work continuously to keep the morale of teachers high.

Educational personnel and teachers must be fully equipped with the knowledge and skills required to function in difficult circumstances. Educational personnel are not sufficiently prepared to conflict resolution, crisis prevention, and peace building issues. They would benefit from training courses in conflict analysis and conflict transformation techniques. Teachers need to know how to work with children in difficult circumstances.

Where existing means of educational delivery does not function or cannot reach local communities, families, and schools, alternative means of delivery must be found. One effective approach is to mobilize NGOs or other grassroots organizations.

MOES should start proper assessment and documentation of the loss or damage to the education sector due to the conflict and prepare appropriate reconstruction strategies.

Education reform strategies should be designed in such a way that all interventions target the root causes of conflict. Education has the potential to reduce differences and inequalities in the society and build peace and harmony among the social groups. The peace-building role of education must be promoted.

#### **4. IMPROVING THE QUALITY OF TEST PAPERS AND ENSURING CONSISTENCY IN MARKING**

Use chartered examiners for test development, moderation, and marking. Testing is a specialized field requiring high level of professional expertise and integrity. It should be recognized that setting test items that test higher skills calls for special expertise on the part of test setters as well as markers. Currently, the selection of test developers, moderators, and examiners in OCE is done rather indiscriminately. No surprise, test papers have multiple flaws and marks given are not consistent. Often guidelines for selecting and using the testing personnel are not sincerely followed due to the massive amount of job to be done within a short period of time. It is wrong to assume that any schoolteacher can function as a test expert. Therefore, the OCE should adopt a system of accreditation or licensing where only those who have received the required training course in test and measurement and have demonstrated the right aptitude to serve as the examiners should be used in test development, moderation, and examination of answerbooks. The OCE should give the status of chartered or licensed examiner only after the candidate has demonstrated sufficient ability to do the core jobs of testing. Those demonstrating a high standard of consistency in this work should be accredited as chartered examiners. Teachers applying for accreditation as chartered examiners should have completed two to three weeks of training on testing and measurement. These training courses can be provided either by the OCE itself, or the National Center for Educational Development (NCED) may be requested to conduct such courses. Such courses should also be made available through the Education and Training Centers (ETCs). The status should be renewable every three years or so. This proposal to create chartered examiners will raise the status of this work. This provision will also improve the quality of school-based assessment. In the immediate term, it might not be feasible to manage the task of giving training and licensing the examiners. Therefore, as a first step, head examiners and question setters should be required to obtain training and accreditation. Gradually, this should be applied to the markers/examiners of the core subjects such as English, Mathematics, and Science. At the same time, it is imperative to include a range of assessment

methods and tools for teachers, both in initial training and in-service training courses. It will require that CDC and OCE work closely with FOE, HSEB, and NCED that are responsible for teacher training.

Organize item-writing workshops. Our studies have revealed that the test papers are not representative of the country's diverse educational and socio-cultural, ethnic, and linguistic settings. The test items are found to have urban bias, and favor children proficient in Nepali. Test developers are drawn mostly from school teachers or university professors from the Kathmandu Valley. A rapid analysis shows that the test papers used in different years do not differ much mainly because the same sets of test developers are used year in year out. Good tests can be developed through a participatory process, where senior and experienced teachers meet in designated places to participate in the item-writing workshops. The widespread involvement of teachers from various parts of the country in item-writing can be an important source of test items. These test items can later be examined or moderated by panels of teachers and experts in Kathmandu prior to their use. It is our recommendation that at least five item-writing workshops be conducted annually prior to the development of test items. This has multiple benefits. First, it can develop a sense of ownership and involvement on the part of teachers working in different parts of the country. Second, the OCE would be able to acquire a large pool of test items from which it can choose the best. Third, questions thus prepared can be representative of different settings.

Use panels of specialists rather than individuals to develop test items. The introduction of the specification grid has gone a long way in improving the quality of test items in recent years. While there have been significant improvements in the ways tests are constructed, according to our technical analysis of the test papers, there are still serious problems with the test items. Contents analysis of the test papers revealed a number of defects in the items: vagueness, repetition, poor formulation, ambiguity, lack of clarity, etc. What is most disturbing is the excessive use of tests that only measure rote memorization and the mastery of subject matter. Analysis of test papers used in SLC in six core subjects suggests that the test items, for the most part, are designed to test the acquisition of lower-order abilities at the cost of higher-order abilities. The use of tests emphasizing lower-order abilities promotes learning strategies that are superficial or short-term (memorizing, rehearsing, and rote learning). A system of education that only aims to develop such abilities on the part of learners has little to offer towards the realization of the individual and social goals of education – economic growth, nation-building, social transformation, and development of creative and independent citizens. Demand for higher level skills will grow further as more and more youths are seeking employment outside the country. Therefore, the quality of test items needs to be improved that will call for changes in the ways tests are prepared.

Undertake gender and/or equity analysis of test materials. Gender and/or equity analysis of test materials has shown that test items favor certain groups of students, while others are not favored. Use of too formal words, urban bias, use of masculine nouns and pronouns, predominant use of masculine characters, heavy representation of high-caste groups, etc. have been frequently reported. It is, therefore, recommended that test materials be examined through gender and/or equity perspectives to avoid any potential biases and deficiencies.

Collect tests prepared and used by teachers. Curriculum and textbooks writers, experts, and test developers need to know how students in schools are tested. They need to know the kind of test items that are in use in schools. The District Education Offices should collect test items

prepared and used by teachers. These items can be further developed and improved and brought to use in SLC.

Establish a national item bank. National item banks of well-developed test items should be developed for current and future use. The establishment of such a bank will enhance access to well-tested and standardized test items. In India (CBSE) and Sri Lanka (NETS), test items are pre-tested, calibrated, improved, and deposited in the item bank.

Strengthen the conference marking system already in use. Conference marking was a major step adopted by OCE towards ensuring consistency in marking. Our data suggest that conference marking is no more than a physical gathering of examiners where examiners work in isolation rather than in group. There is little evidence of the head examiners providing necessary supervision and monitoring to the examiners. There is a need to strengthen the existing conference marking system. One way is to allow the conference system to work is to take each subject at a time so that examiners marking a particular subject would sit and work together.

Add to those problems the difficulty of standardizing grading procedures among many different individuals who neither meet each other, nor share special training for the marking process, nor Grade against standardized responses.

Adopt a system of double or panel marking for ensuring consistency in marking. Inconsistency in marking is something which can be difficult to do away with so long as essay-type test items are used in examinations. Our prospects for using objective, multiple-choice test items in SLC are virtually non-existent. Therefore, there is a need for continuous reform in the marking system. The OCE thus might consider adopting a system of double marking where each answerbook is examined by two examiners. Such a system can be costly. But, one should be certain that parents would be willing to bear the costs given the very high stakes of the SLC examinations.

Test and adjust the marking scheme annually. Marking schemes have served well in ensuring consistency in marking. At times, markers are found not to use the marking schemes. There are instances these schemes could not provide much help to the examiners. There are inconsistencies in the schemes themselves. Some schemes suggest desired responses, while others only indicate the number of marks to be allocated to each question or sub-question. In this case, no desired response is indicated. Therefore, we suggest that continued improvements are necessary in the schemes. It may be suggested that prior to their use the schemes should be tested marking the answerbooks of a sample of students. If necessary, the scheme should be adjusted to cater for responses not covered by the marking scheme but which demonstrate outcomes of the achievement.

Develop prototype tests and make them available to schools. There are all kinds of commercially produced and compiled tests. These products do more harm than good. The OCE should develop prototypes of tests and make them available to schools. Schools can administer these prototype tests to get instant feedback. The results should point out the problem areas where both teachers and students need to focus to enhance their chances. Through these prototype tests students would be able to know the standards and expectations of the SLC examinations. They would be able to test themselves and find out how much they have learnt and what difficulties and weaknesses they have. To begin with, such tests should be developed in core subjects such as Nepali, English, Mathematics, and Science. It is probably not too early to recommend that the OCE should consider establishing a system of online assessment where SLC-takers could test their ability through online.

## 5. IMPROVING THE ADMINISTRATION OF PUBLIC EXAMINATIONS

Strengthen the administration of Grade 8 examinations. The Government is considering extending the scope and duration of primary education from Grades 1 to 5 to 1 to 8. That means that Grade 8 will be the terminal Grade of primary education. Grades 8 terminal examination conducted by the District Education Office is very informal in nature and this examination does not operate like level-end examination. The District Education Office should continue to take the responsibility of organizing and administering this examination. It should be made mandatory that all students take this examination. Admission to Grades 9, the first Grade of secondary level education, should be based on the performance of students in Grade 8. It is essential to provide learning guarantee for all students as they progress through key transition points from a lower level of education to a higher one.

Abolish send-up examinations immediately. Although the Government is not involved in the planning and conduct of send-up examinations, these examinations are widely used to pre-select students for SLC. Both the public and the Government have a tendency to measure school success in terms of pass rate in SLC. Schools with high pass rates command respect and prestige in the society and vice versa. Pass rates are important measures to both public and private schools. Public schools need high pass rates to maintain the minimum pass rate to be able to avoid penalty. On the other hand, private schools need high pass rates to maintain or further increase their enrollment by impressing parents who often choose schools on the basis of pass rates. Both categories of schools are thus under pressure to improve their pass rates. These schools are tempted to encourage low-performing students to drop out or transfer to improve their schools, average test scores. Thus, send-up examinations serve as instruments to weed-out students perceived to be weak and performing poorly in the big test. Both types of schools abuse send-up to improve their reported results. The send-up examinations are not useful in many ways although schools use them as important political instruments. First, it is not fair to prevent a student from participating in the national examinations after having spent ten or more years of his or her life in a school. Second, any kind of screening before SLC can give a wrong signal to the public further mystifying the SLC examinations. Those who view it as the Iron Gate will continue to do so, portraying SLC as the 'impossible task.' Third, send-up examinations distort the reporting of results by causing passes to be reported as a proportion of SLC candidates, not Grades 10 students, thus hiding the true level of achievement of individual schools and also nationally. Variations in the send-up rate make it impossible to compare pass rates as a proportion of the Grades 10 group from year to year. Some argue that there is no logical reason to retain SLC in the current form. If send-up results correlate with SLC marks, then there is no point conducting either one of them. If they do not correlate with each other, then pre-selecting students would mean unfair exclusion of students who would otherwise have passed the SLC examinations. In fact, several students removed by private schools after send-up who later chose to appear in SLC from other schools are found to be passing SLC in good standing. For these reasons, the study team is firm to recommend that schools, whether private or public, must be prevented from using the send-up examinations to pre-select students.

Establish examination centers based on proper mapping. Although there have been a few attempts to undertake school mapping in the past, most schools in Nepal are established based on

political considerations rather than any hard evidence generated through any mapping. This is particularly true for secondary schools. Having a secondary school in the community is often

perceived as a symbol of power and prosperity. Data from the field suggest that examination centers are not conveniently located for a large majority of students. It is therefore suggested that MOES should consider undertaking a school mapping survey so as to identify potential sites (schools) which could be developed as examination centers. In recent years, exam centers are determined from the point of view of security. While the importance of security cannot be disputed, other pedagogical and practical matters should also be seriously considered (e.g., provision of accommodation, availability of furniture, exam hall, drinking water, toilet, distance from home to the center, etc.).

Standardize the administration of public examinations. One pre-condition of a large scale, centrally administered public examination is that they should be administered under uniform conditions. The OCE has made every effort to standardize the conditions and procedures of administration. But, our observations reveal that the actual administration has been less than uniform. We found that the SLC examines a large number of students in many scattered examination centers with test instruments that are not standardized, invigilators with varying degree of experience and qualifications, procedures lacking uniformity and quality control, and examiners with different expectations and levels of expertise. In some places, we were able to observe massive cheating taking place without any interference, while in other places cheating did not exist at all. Some examination centers were fully equipped with the required physical facilities, while in others there was a serious shortage of such facilities. Conditions under which examinations are conducted do influence student outcomes. Therefore, the study team recommends that actions be taken to standardize the administration of the SLC examinations.

Make SLC a student-friendly public examination system. Numerous attempts have been made in recent years to make SLC a student-friendly examination. However, many existing examination rules and regulations are not in favor of students. Many of the OCE operations are yet to be transparent. First, the students below 14 years of age are not eligible to appear in SLC. Second, those who pass SLC through the supplementary examinations students are not awarded the 'division' based on their performance. Even those who have secured distinction or first division marks are given a 'pass' division, while those who score third division marks also obtain the same division. This is not fair to the high performing students. Third, students are tested in unfamiliar environments and supervised by unknown people. Fourth heavy security presence in the examination halls is intimidating to students. Fifth, those who would like to re-take examinations in order to further improve their Grades or marks are not allowed to do so. Sixth, students can appeal for re-totalling of their marks, not re-evaluation of the answerbooks. These and many other examination-related rules and regulations make SLC a mystery rather than a transparent public activity. This reduces seriousness and objectivity on the part of test developers and examiners. Such unfriendly practices must end. Therefore, the study team makes the following recommendations:

First, the age requirement of 14 years to be eligible for SLC has little or no sense. Student's age should not necessarily be the eligibility criterion. The age requirement should be amended to allow even younger children to sit for SLC.

Second, those who pass SLC by taking the supplementary examinations should be treated like regular students. The present practice of giving a 'pass' regardless of the marks obtained must end.

Third, where possible, students should not be taken away from their homes and families to appear in SLC.

Fourth, the presence of security personnel inside halls should be stopped immediately.

Fifth, if students desire to improve their Grades or marks by re-taking SLC examinations, they should be allowed to do so. They should be offered an opportunity to improve their Grades through subsequent attempts in different subjects separately. Many students join the world of higher education upon completion of their secondary education. While many who manage to pass SLC will study in institutions of higher learning in Nepal, some will seek admission abroad. Higher education is becoming very competitive. Whether or not one is able to get admission into overseas institutions and obtain financial support and/or scholarships also depends on performance in SLC. Higher education institutions within the country are also gradually becoming competitive, especially with the establishment of private universities. Some students may want to improve their SLC performance by taking the test more than once. Currently, students cannot take SLC more than once after they pass it. Therefore, it is suggested that students be given an opportunity to improve their Grades. This practice is already in operation in some SAARC countries. India, Pakistan, and Sri Lanka allow students to sit for improvement examination.

Finally, if students are not satisfied with their marks and would like their answerbooks to be re-evaluated, they should be allowed to do so. Each candidate should be entitled for full appeal (rechecking and remarking of scripts) for a maximum of two subjects.

## 6. IMPROVING CERTIFICATION PRACTICES

Introduce the letter grading system. Public examinations around the world use different methods of grading and certifying the achievement of students. In Nepal, the OCE uses a very simple method of grading, where actual raw scores obtained by students in individual subjects are reported separately. It has a number of limitations. First, in the raw score method of grading students' performance is scored using a scale of 101 (0 to 100). One can obtain a maximum possible mark of 100, representing the highest 'standard.' A score of 0 would signify that the learner has not learned anything. Learning theories tell us that human ability to learn is limitless, and it does not end abruptly at any point. It is artificial to try to reduce human achievement to a single score. In real situation, it is impossible to prove that the learner has not learned anything. This system of grading is thus contrary to our commonsense as well as many proven theories of human learning. Second, the existing grading system provides very little information about the students' achievement. For instance, the pass mark of 32, which is the same across all subjects, does not really tell us anything about what a student knows or can do. Third, students are awarded 'division' by combining the marks obtained by students in different papers. This method does not take into account the element of spread of scores in different subjects variations in scores from year to year. For instance, in Mathematics, students' scores may vary from 3 to 97, and in Nepali from 33 to 61. For a person who obtains 33 in Nepali and 97 in Mathematics, the latter receives three times the weightage of the former. In this case, the mark of 61 obtained by a student in Nepali has much more value than a mark of 61 in Mathematics. Thus, the aggregation raises the possibility of the marks obtained in one subject dominating or influencing the others. In sum, there is a weak relationship between the examination results and the actual achievement of a student.

The study team feels very strongly that the deficiencies of the existing grading system must be corrected so that students' achievement is reported in a more meaningful way. We, therefore, recommend that the levels of achievement of students in different subjects be reported in terms

of Grades rather than raw scores. Grades represent a band of scores allowing the possibility of verifiable difference(s) across the Grades. Attempts are made to demonstrate relationship between Grades and achievement with the help of descriptors that define precisely what a student with a particular Grade has achieved or has not. This system treats the learning process as a continuum with no terminal point. It ensures comparability in Grades obtained by students from subject to subject and from year to year. Switching over to a new system of grading and reporting requires public acceptance. Therefore, we recommend that the MOES prepare a green paper highlighting the deficiencies of the existing system and describing how the new system of grading and reporting is to work. The green paper should then go for nationwide debate before a plan of action is prepared for implementing the Grade system.

Introduce single subject certification. The SLC represents a group certificate in which a student must pass all eight subjects to obtain a 'pass' certificate. Group certification does not acknowledge one's success in individual subjects. If a student has obtained 20 in English and 60 or more in the remaining seven subjects each, s/he will not be provided with a pass certificate until s/he achieves a minimum mark of 32 in English. Let us assume that the student is not able to achieve the minimum pass mark of 32 in English despite 10 tries. Such a situation, the student's achievement in other seven subjects is not acknowledged because of on poor performance in English. There seems to be no reason why performance which satisfies the criterion (32 in the case of SLC) in a given subject should not be given a certificate. Thus, the group certification system is not in favor of students. If the purpose of examination is to recognize the achievement of learners, it should do that. It should be noted that the new certification system will substantially increase the numbers of students receiving SLC without seriously compromising the standards. There is sufficient evidence in favor of the new system. In 2060, for instance, the pass rates in individual subjects ranged from 63% to 97%, while the overall pass rates were much lower (51%). It suggests that using individual subject certification instead of the current approach would enable a far larger number of students to advance in their academic careers. The notion of single-subject certification was introduced earlier under the Secondary Education Development Project (SEDP). Our survey data suggest public support for the single-subject certification system. Therefore, as a first step in the development of a new system of certification, the Government should move to a single subject approach immediately. It is to be noted that India and Sri Lanka are also moving towards the system.

Abolish the practice of declaring students as pass/fail in the long-term. The proposed grading and single-subject certification system described above paves the way for abolishing the current practice of declaring students as pass or fail in SLC. The grading system reports the level of learning achievement of students without categorizing them as 'pass' or 'fail.' This practice is either already in practice in other SAARC countries or being considered very seriously. The new system will reduce the very high stakes involved in SLC examinations, which have given rise to a number of undesirable practices such as teaching to the test, cheating, cramming, malpractices in examinations, the growing phenomenon of shadow schooling, etc. It also reduces the strong control of examinations on teaching and learning. The proposal to abolish the pass/fail system should be debated nationwide before its final acceptance as a policy. In particular, this calls for serious adjustments within higher education, employment, and the civil service system.<sup>1</sup>

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<sup>1</sup> Shadow schooling generally refers to supplementary tutoring provided to students outside school hours. Students attend such classes either to compensate for inadequate teaching or promote their chances of success in

Introduce alternative examination system to clear the backlog of unsuccessful students. There is a huge backlog of students who have made attempts in the past to pass SLC, perhaps several attempts, but have not managed to do so. There is a need for a second way of managing high student failure. We will need to develop an alternate SLC for students who do not possess academic skills to the desired extent but have the potential to do well when they go to the job market or elsewhere. These students would benefit from alternative arrangements that are less rigorous academically. It may be noted that many countries allow failing students to earn a diploma through waivers and exemptions, alternate and substitute tests, and alternate diplomas. It is commonly used in many states in the United States.

Reevaluate the system of giving grace marks. Nepal has a system of giving 'grace' marks in SLC. It takes place at two stages. First, the OCE instructs examiners to double-check marks obtained by students who are on the borderline (those who are very close to meeting the pass mark of 32). Often, this instruction is taken as a suggestion to be lenient towards those who are very close to passing. Second, the Examination Board at times decides to give some marks (can vary from year to year) again to the borderline students with the intent of elevating the pass percentage in SLC. Thus, there are chances of some students benefiting twice from this lenient policy of the Examination Board. Grace marks work as a means of positive discrimination favoring children who attend schools operating in poor conditions, who would have fared well had these schools been provided with sufficient resources. Many have criticized the current practice of giving grace marks because it only favors some students, not others. Some argue that it takes the form of a political decision rather than a well-justified one. This practice can be improved in two ways. First, grace marks can be agreed, based on the differences in the difficulty level of the test from year to year, making all who take SLC liable for getting these marks. Secondly, it can also be decided based on the consistency analysis of test scores.<sup>2</sup> In any event, the OCE needs to reevaluate the system and formulate a sound policy concerning grace marks that is more evidence-based rather than political, as many have claimed. In India, Maldives, Pakistan, and Sri Lanka the examiner cannot adjust a mark even if it falls close to the boundary line.

Take concrete actions to restore public faith in the SLC examinations. Our focus group discussions with hundreds of thousands of parents, students, teachers, and other local stakeholders reveal low public faith in OCE and SLC examinations. The activities of OCE are not perceived to be fair, objective, and professional. It is perceived as a bureaucratic, inefficient, and lethargic institution. The media analysis also drew the same conclusion: there is little public faith in the OCE and its leadership. It is not healthy for a public examination of national importance to be perceived this way. Restoring public faith will require a number of actions such as increased transparency, higher level of professionalism, constant communication and dialogue with the public, publishing standard operating procedure (SOP), etc.

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high-stake examinations such as SLC. In some places, it is known as double schooling. Such classes can be very expensive.

<sup>2</sup> Consistency analysis involves marking of the same set of answerbooks by three different examiners. This is done to find out if a student obtains the same marks if his or her answerbook is marked by different examiners.

## 7. USING EXAM RESULTS FOR ENHANCING EDUCATIONAL IMPROVEMENT AND ACCOUNTABILITY

Extend the scope of student registration. Test and measurement experts have long argued for using the results of public examinations for educational improvement. These results are meaningful only when they can be understood and interpreted. The SLC results could be better understood if they could be analyzed in terms of school characteristics, student characteristics, and family characteristics. One way to do this is to establish a link between the national Educational Management Information System (EMIS) under the Department of Education (DOE) and SLC results. This is not very easy. One other promising option is to extend the scope of student registration requiring schools and children to submit most important information such as age, sex, caste/ethnicity, parental literacy or educational attainment, parental occupation, school location, etc. It does not add any financial or administrative burden but may help understand and analyze SLC results in a more meaningful way.

Make answerbooks of the best performing students available. In recent years, the practice of identifying and honoring best performing students seems to be on the rise. Business firms, industries, political parties, non-governmental organizations, associations of ethnic groups, and several others are found giving awards and honors to the best performing students. The answerbooks of these best performing students can be released to help teachers and other students prepare for future tests. These answerbooks can serve as standards or examples to the hundreds of thousands of students who sit for SLC. The ultimate goal is to improve the entire education system. Therefore, we recommend that the answerbooks of these students be made available to schools and students. This practice can help the OCE regain its public faith and support.

Establish a strong system of analyzing test results and feeding this information back into school system. There is ample amount of information within the OCE, which is never analyzed and disseminated, either to help senior policymakers and managers make decisions or share information and experience amongst and inform the public and schools. Test experts stress the formative use of summative tests such as SLC to improve the quality of teaching and learning in schools. This information can contribute to the quality of teaching and learning in schools by identifying aspects of curriculum that appear to be misunderstood or simply ignored by students. If analyzed properly, educational administrators, both central and district, are able to identify disparities in educational achievement in terms of gender, ethnic/caste group, school type, eco-region, and a host of other variables of interest.

Improve communication with the education system as a whole. The OCE is disconnected from the hundreds of thousands of schools and teachers. The entire education system must know what is happening inside the OCE and the system must be constantly updated about new developments. Therefore, we recommend that OCE take a systematic approach towards informing schools and teachers about how students have performed on examinations. It should publish a *newsletter*, which should be circulated to all schools in the country. The newsletter can contain item-analysis data for each examination paper. Examples of good, average, and poor answers to questions can be presented in the newsletter for the benefit of students and teachers. The newsletter can become an excellent medium of establishing communication with school system as a whole. Through the newsletter, the OCE can also share expectations with schools, teachers, students, and parents so that they know what they need to do to achieve success in SLC. Further, we have witnessed large increases or decreases in pass rates in SLC. These

fluctuations are generally acceptable if they can be traced back to identifiable causes and if these causes are clearly communicated to the public when SLC results are released. They undermine the education system if they appear to occur for no reason. Such unreasonable changes cause the public to lose faith in the examination system. At times, 'wild swings' in pass rates are often understood to be indicative of indiscriminate marking. Therefore, it is essential to be in touch with school system and the public as a whole through some means of communication.

Prepare and publish a report card of each and every school. The District Education Office should prepare a performance profile of each secondary school through extensive analysis of the SLC test scores and the profile must be made public to create pressure on schools for higher level of performance. Based on the past performance in SLC, the DEO should set performance goals for each school and measure how well school is meeting the performance goals. In addition to the overall pass rate, performance profile can contain: average pass rates for different categories of students (e.g., gender, language group, socio-economic status, literacy level of parents, ethnic group, Dalit); average marks obtained by different groups of students in different subjects; overall standing of school compared to other schools in the district, region, and the nation; etc.

Identify low performing schools and require them to prepare a time-bound reform plan. Addressing the problem requires more than making rules and more rules. It requires identifying which schools could not meet the minimum standards and why. Punishment is never the solution to improving low performing schools. Low performing schools are most likely to be those that are operating in difficult circumstances and serve the children coming from poor households, ethnic minorities, and disadvantaged communities. Such low performing schools should be identified and causes for their poor performance analyzed. Each school should prepare a learning achievement improvement plan (LAIP), which should be thoroughly discussed with SMC members, parents, community members, students, teachers, and all other relevant stakeholders. The plan should be time-bound, and must identify strategies and actions that would lead to increased student performance. As for the present nothing is being done to help the districts, schools, and students at risk.

Review the existing reward and punishment and incentive system. Under the current Education Regulations, schools that perform below 15% level (in terms of pass rate) for three consecutive years are penalized. Most recently, schools with a pass rate of 50% or more in SLC are rewarded with a sum of Rs. 300,000. These policies may have good intentions: encourage schools for higher level of performance. The equity impact of these policies is severe. It does reward those schools and communities that are already rewarded, but does injustice to those schools that are operating in poor communities lacking even the most basic resources required for good performance. Our own research suggests that performance in SLC is not the outcome of school actions alone. Children coming from poor communities do perform poorly in high stake examinations like SLC due to their several disadvantages (e.g., language). It is not fair to punish the institution and the community based on SLC results. Existing reward and punishment system can further widen the performance gap between schools. Any scheme to reward good performance should be combined with the appropriate strategies to support the poor performers.

Make districts accountable for performance. In recent years, the use of SLC results for accountability purpose has grown significantly. While it is important to ensure that schools and teachers are accountable for student performance, SMC members, educational administrators, school supervisors, trainers, and curriculum and textbook developers should also be made

accountable for performance. A number of actors outside school should also take some of the responsibility. Above all, the DEO influences school outcomes in many ways because many critical decisions affecting school performance (e.g., allocation of financial and human resources, teacher development, teacher management) are taken at the district level. Therefore, we recommend that the degree of accountability being applied to the teachers and schools should also be applied to the district officials as well.

Develop a regulatory framework to regulate the ever expanding phenomenon of shadow schooling. Supplementary tutoring, students receiving instruction in school subjects outside school hours, is found to be pervasive throughout school system, regardless of school type or location. Educational economists define this phenomenon of supplementary tutoring as 'shadow schooling,' where an informal schooling system runs parallel to the formal schooling system. There are mainly two forms of supplementary tutoring: coaching and private tutoring. Coaching generally refers to classes organized outside school hours either by schools or a group of teachers or some voluntary or commercial firms. Private tutoring, on the other hand, refers to instruction obtained either on a one-to-one basis or in small groups from school teachers or somebody else. More than 80% of the total schools in our sample indicated that they organize coaching classes to enhance student performance in SLC. Normally, students are charged a fee ranging from Rs. 100 per month per subject to Rs. 300 for coaching classes. Private tutoring can be more expensive than coaching. Of the total students surveyed, some 90% reported having received some form of supplementary tutoring, whether coaching private, prior to sitting for the SLC examinations. Most students took coaching or private tutoring in Mathematics, English, and Science – often known to be the killer subjects. This is common both in the rural and urban areas. Parents and students of public schools believed that coaching classes reduce the likelihood of failing. On the other hand, parents and students of private schools were firm to say that coaching or private tutoring enhances the likelihood of achieving higher Grades (divisions). Contrary to popular beliefs and expectations, our survey found a negative association between supplementary tutoring and school achievement. The study found a number of reasons such as inadequate teaching, poor academic base, lack of remedial support in schools, overloaded curriculum, teacher pressure, and high stakes involved in SLC that prompt parents and students to go for additional tutoring. It is often impossible to stop this growing phenomenon of shadow schooling for the simple reason that parents will always adopt every possible measure to enhance their students' performance in public examinations. Supplementary tutoring can add a heavy burden on the poor parents. It can also have an adverse effect on regular teaching learning in schools. The scale of coaching or private tutoring has increased to the extent that some kind of policy response is in order. Current non-interventionist approach of the Government toward supplementary tutoring can ruin the formal system of schooling. Therefore, it is strongly recommended that the Government take a more active role by devising a regulatory framework where parameters under which supplementary tutoring can operate are identified.

## 8. ENSURING EQUITY IN SCHOOLING OUTCOMES

Improving the status of girls' education. A strong positive association was found between gender and performance in SLC. Boys are found to do much better than girls. This is not surprising in a society where girls receive discriminatory and differential treatment both at home and at school. There are two compelling reasons why girls perform so poorly in comparison to boys. First, focus group discussions and informal interviews revealed that most families do not offer conditions at home necessary for girls to do well in schools. For instance, girls do not get

enough time to study at home. Most girls interviewed revealed that they must spend significant hours in household chores (more than 6 hours per day in some cases). Secondly, our case studies reveal that the amount of support and attention that girls receive inside and outside classrooms from their teachers is minimal compared to the boys. Classroom observations showed that the opportunity to learn in classrooms is much lower for girls than the boys. Elsewhere, it has been reported that teachers, whether male or female, have low expectations of girls. Teachers perceive the girl students to be incompetent, lazy, submissive, and less aggressive as compared to the boys (Bista, 2005). There are cultural and social barriers for girls to be effective in their learner role in classrooms. Often, girls cannot communicate with the male teachers. Interestingly, girls themselves do not have faith in their ability to learn subjects like Mathematics and Science. Current Government interventions are directed toward increasing girls' access to schools through scholarships and incentives. While these are necessary, such interventions alone might not be enough in improving the learning achievement of girls. A number of actions are suggested to enhance girls' performance. First, public awareness campaigns are necessary to teach the importance of girls' education in the society as a whole. Such campaigns are necessary also to dispel negative impressions and misconceptions about girls' ability to learn from the minds of parents, teachers, and girls themselves. Second, teachers should be made aware of girls' needs, learning difficulties, and their learning styles through training courses. Third, girls' pass rates should be the criterion of rewarding schools and teachers.

Design and target appropriate interventions to combat poverty, social exclusion, and illiteracy.

All available data seem to suggest that student performance is linked to poverty, illiteracy or low level of educational attainment, and social exclusion based on caste/ethnicity, eco-region, language group, and gender. Both our disparity analysis and equity analysis have documented sufficient evidence to suggest that failure and/or under-performance is a phenomenon occurring frequently in districts or geographical areas with a low HDI. We observed a correlation between HDI and SLC pass percentage, districts with low HDI doing poorly than the others. The survey data also confirmed that the family's socio-economic status, measured in terms of annual expenditure, number of SLC graduates in the family, and hours spent by children in household chores, is significantly correlated with SLC performance. Likewise, the children belonging to Janjati groups and Dalits have a significantly much lower level of performance than other groups. Evidently, school performance is not a school phenomenon alone. It is deeply rooted in the socio-economic and ethnic composition of the society. Purely educational strategies such as curriculum reform, teacher training, or better student assessment tools alone will not thus be enough to address the chronic problem of failure and poor performance. Therefore, the study team recommends that interventions that aim at addressing poverty, illiteracy, inequitable distribution of basic service, social exclusion, and gender discrimination should be implemented with a high priority. In particular, socio-economic programs and educational incentives targeted to the poor, women, ethnic and linguistic minorities, and Dalits are needed. The most recent decision of the Government to provide free education up to secondary level to the children in the Karnali zone is a major step. While the areas-targeted are necessary, such interventions can sometimes serve one group more than the other. The best bet therefore would be to identify the family or the child in need. This requires proper identification of the target group.

Mobilize the entire nation against the war on student failure. Addressing the problem of failure is a shared responsibility. Educators, policymakers, students, parents, teacher unions, political parties, members of the civil society all have a role to play.

## 9. IMPROVING THE RELEVANCE OF SECONDARY EDUCATION

Enhance the relevance of secondary education to higher education. Some 68% of the total students contacted as a part of the tracer study were found to be pursuing higher education, of which some 45% were involved in full-time studies, while the rest were either employed or self-employed. It appears that many choose to go to higher education after their secondary education. Should this be the case, secondary education ought to be relevant to higher education – meaning that the former should provide all the competencies generally required to pursue the latter. Our data reveal that, on an overall basis, students pursuing higher education do not find the subjects they studied at school level to be relevant, suggesting the need to revisit the courses offered at school level. University professors in general are found to have a low rating of school graduates. They see school graduates lacking the following: good study habits, a sound base of English language, basic understanding of the subject matter, ability to solve problems, analytical mind, and ability to work independently. These observations of SLC graduates and university teachers call for two things. First, there is an urgent need for improving the quality of teaching in schools. And, second, there is a greater need for ensuring greater harmony and integration between school curriculum and the curricula of HSEB and universities. A holistic approach to education is the need of the hour.

Increase the relevance of secondary education to life and employment. The results of the tracer study suggest that those who join the world of work after SLC also find their school education to be less relevant to their current work. Many said that schooling did not provide them the kinds of skills and competencies required to compete in the job market. Several parents, community members, and employers also did not have a high opinion about the relevance of secondary education. It was emphasized over and over again that schooling had failed to prepare children for active participation in adult life and that they did not have the required skills to take part in the outside world of work. During our survey, we observed a significant popular demand for vocational and life skills so that school leavers are able to conduct their life after schooling. Our past experience with vocational education has not been very encouraging. A bifurcated education system where academically weak students are encouraged to join vocational education and others to continue an education with an academic emphasis is also perhaps not the right strategy. A right balance has to be maintained between vocational and general education. While it is necessary to provide some vocational skills that are relevant, functional, and timely for specific jobs at hand, it is also necessary to give our children the general knowledge and competencies that enable them to learn new skills and adapt to the new demands of the constantly changing job market. Children can benefit from an education that gives them a mixed bag of competencies and skills – some of which are immediately useful and can be translated into employment and others that are more general, are robust enough to last a lifetime, which can provide the basis for new and updated competencies. In the above context, it is essential that the sharp divide between general education and vocational education must end. A vocational education that is not backed by strong general education would soon render youngsters helpless because skills become outdated as a result of changes in the economy and technology. A broad general education enables children to learn new things as per the demand of the changing times. On the other hand, a general education not combined with some vocational education will not prepare children for active participation in adult life. In today's world, jobs are becoming increasingly educational and education is becoming increasingly

vocational as a part of the process of life-long learning. We would need an educational strategy that ensures the convergence of general and vocational education.

### **Plan for Implementation of Recommendations**

This section provides a implementation schedule.

#### First Column

Under the heading "Recommended Intervention" this column lists key actions to be taken by various agencies in the Government.

#### Second Column

Under the heading "Responsibility for Implementation" this column lists the institutions that will be responsible to carry out each of the activities listed under the first column. Although one institution will be responsible in implementing a particular intervention, other institutions will be assisting it in various ways.

#### Third to Fifth Column

These columns show the time for implementation of various activities. The shaded blocks indicate that the specified activity has to be performed in a given timeframe – immediate (2005/2006), short term (2007-2010) and long term (2010 to 2015).

## Plan for implementation of recommendations

Recommended Intervention	Responsibility for implementation	Timeframe for implementation		
		Immediate 2005/06	Medium term 2007 - 2010	Long term 2010 - 2015
I. Developing institutional capacity of OCE/SEB				
Create in OCE for transitional period a Development Fund in accordance with the provision of the Office Operation Fund Act 2043 and the Regulation of 2050	MOES/OCE			
Prepare and implement Plan to raise funds for OCE by various sources	OCE			
Initiate works for establishing Secondary Education Board (SEB)	MOES/OCE			
Amend the current HSEB ACT 2046 and promulgate a new act to create an independent Secondary Education Board (SEB) by merging OCE and HSEB with a mandate to conduct Grade 12 examinations in addition to Grade 10 examinations.	MOES			
Establish Regional and District Examination Offices under SEB and transfer them the authority to conduct Grade 10 examinations.	OCE/SEB			
Develop a national system of assessment and testing	OCE/SEB			
II. Reforming the existing secondary curriculum				
Make decision to limit SLC test papers on Grade 10 curriculum materials only	MOES/CDC			
Explore the possibility of testing and certification in additional subjects.	MOES/CDC			
Develop basic courses in Mathematics and Science and introduce them in SLC.	CDC/OCE			
Teach Nepali as a second language in early Grades	MOES,CDC			
Start a process to streamline the number of subjects offered in school curriculum.	MOES,CDC			
III. Improving teaching-learning conditions in schools				
Start a system of selecting head teachers through a competitive and transparent system.	MOES,DOE RED,DEO			
Amend the Education Regulations so as to bring improvement in the appointment of new head teachers.	MOES,DOE			
Appoint a expert to revisit the exiting provision of training head teachers and propose necessary revision	MOES,NCED			
Introduce a policy on homework	DOE			
Amend the exiting Education Regulation to introduce policy of mandatory provision of frequent testing of students in public schools	MOES,DOE OCE/SEB			
Set up library in each secondary school	DOE			
Bring reform in the secondary curriculum to give grater emphasis to	CDC			

Recommended Intervention	Responsibility for implementation	Timeframe for implementation		
		Immediate 2005/06	Medium term 2007 - 2010	Long term 2010 - 2015
reading in Nepali and English				
Make a careful study to explore possibility of school merger in the Terai and urban areas	DOE			
Make study to explore the possibility of residential schools in the mountain and remote district	DOE			
Prepare proper mapping of schools	DOE			
Initiate actions to improve teacher management in public schools	DOE			
Increase allocations in secondary education and make change in Education Act to permit schools to raise funds locally	MOES			
Initiate action to make it mandatory for DEOs to regularly visit schools, particularly those that are poorly performing.	MOES,DOE			
Introduce reform to minimize the negative effect of SLC through reform in curriculum, test paper and class room teaching	DOE,CDC OCE/SEB			
Prepare the academic and professional profile of Science, Mathematics and English teachers	DOE,DEO			
Reintroduce National Development Services (NDS) as a way of meeting the shortage of qualified teachers in English, Mathematics and Science	MOES			
Make preparation for and introduce the open education system in secondary education	MOES			
Start preparing for post-conflict reconstruction of school education system	MOES			
IV. Improving the quality of test paper				
Start a system of accreditation or licensing of head examiners, question setters etc.	OCE/SEB			
Organize regular training courses in testing and measurement for head examiners, question setters and other examiners.	OCE/SEB			
Start organizing item-writing workshop	OCE/SEB			
Collect test items prepared and used by school teachers	OCE/SEB			
Develop a pool of test items	OCE/SEB			
Undertake gender and /or equity analysis of test materials and bring appropriate improvement in question paper	CDC			
Strengthen the conference marking system	OCE/SEB			
Adopt a system of double or panel marking	OCE/SEB			

Recommended Intervention	Responsibility for implementation	Timeframe for implementation		
		Immediate 2005/06	Medium term 2007 - 2010	Long term 2010 - 2015
Make a system of testing marking schemes before use	OCE/SEB			
Develop prototype test and make them available to schools	OCE/SEB			
Establish a system of on line assessment	OCE/SEB			
V. Improving the administration of public examination				
Start conducting Grade 8 examinations in a more formal and serious manner	DOE,DEO			
Abolish send-up examination	MOES,OCE/S EB			
Start a system of establishing examination centers based on proper mapping	OCE/SEB,DO E			
Make amendments in the Educational Regulation to allow even younger than 14 years of age to sit for SLC	MOES,OCE/S EB			
Make decision to award divisions to candidates who pass SLC in supplementary examinations	MOES,OCE/S EB			
Make amendment in the Education Regulation to let students improve their Grades or marks by retaking the SLC examinations	MOES,OCE/S EB			
Make amendment in the Regulation to make students entitled for full (rechecking and remarking of scripts) for a maximum of two subjects	MOES,OCE/S EB			
VI. Improving Certification practices				
Prepare a green paper highlighting the deficiencies of the exiting system and proposing a new system of letter grading and bring it to nation wide debate	OCE/SEB			
Introduce single subject certification system	OCE/SEB			
Bring to debate the practice of declaring students as pass or fail	OCE/SEB			
Prepare a plan to introduce alternative SLC examination system	MOES			
Reevaluate the system of giving grace marks	MOES,OCE/S EB			
Take concrete action to restore public faith in the SLC Examination				
VII. Using examination results for enhancing educational improvement and accountability				
Extend the scope of student registration for SLC examination to help understand and analyze SLC results in a more meaningful way	OCE/SEB DOE,DEO			
Make answer book of best performing students available	OCE/SEB			
Establish a strong system of analyzing test result and feeding this information back into school system	OCE/SEB			

Recommended Intervention	Responsibility for implementation	Timeframe for implementation		
		Immediate 2005/06	Medium term 2007 - 2010	Long term 2010 - 2015
Publish OCE/SEB newsletter	OCE/SEB			
Prepare and publish report cards of each and every school	DOE,DEO			
Identify low performing schools and require them to prepare time-bound reform plan	DOE,DEO			
Review the existing reward and punishment and incentive system	MOES			
Make DEOs accountable for school performance	MOES,DOE			
Develop regulatory framework to regulate the ever increasing practice of private tutoring and coaching lessons	MOES,DOE			
Take action to improve the status of girls' education	MOES			
Design and target appropriate interventions to combat poverty, social exclusion and illiteracy	NPC			
Mobilize the entire nation for the war on student failures	MOES			
IX. Improving the relevance of secondary education				
Enhance the relevance of secondary education to higher education	MOES CDC,DOE			
Increase the relevance of secondary education to life and employment	MOES CDS,DOE			

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## Chapter II : Historical Genealogy of the SLC Examination System

### Annex 1. Chronology

1825	A scholarship of fifty rupees a month established by premier Bhimsen Thapa for Nepali students to study English in India
1854	The first western - style school Durbar School (Palace School) started in the palace of the Maharaja Jung Bahadur Rana
1891	Admission to Durbar School was made open for children of the commoners
1854-1918	Durbar School affiliated with Calcutta University
1929-1933	Durbar School and Tri-Chandra College (the only college in Nepal then) affiliated with Patna University. (SLC exams conducted by Patna University for Nepali students for period 1929-1933)
1934	SLC Board established as the secretariat of the Office of the Controller of Examinations (OCE). (First SLC Examination conducted for 33 students with one absent)
1940	First Education Ordinance issued, setting the norms for two exams every year twice a year.
1952	Board of Education established to prepare a long-range plan for educational development and systematize the uncontrolled growth of educational institutions in Nepal under local initiative
1956	National Education Planning Commission (NNEPC) established as per the recommendation of the Board of Education
1961	All-Round National Education Committee (ARNEC) formed to integrate education with the Panchayat philosophy.
1971	National Education System Plan (NESP) launched introducing internal assessment at all levels of education and decentralizing the management of SLC examinations.
1993	Changes made in the structure of school education by defining Grade 9-10 instead of 8-10 as secondary education
1997-1998	Secondary Education Perspective Plan (SEEP) prepared under the Secondary Education Development Project (SEDP, 1997) proposing a number of strategies for bringing changes in the SLC system. The changes proposed include introduction of letter grading, doing away with the send-up examination at the end of Grade 9 and giving students wide range of choices in optional subjects
1998	High Level National Education Commission suggests a number of reform measures to improve SLC examination system including rationalization of SLC exams, development of OCE as an autonomous institution and holding of SLC exams at the end of Grade 12
2001	Report presented to the Ministry of Education and Sports by a committee working on SLC reform. Recommendations to reform the technical aspects of SLC include making specification grids available to teachers, an establishing 2-item bank and introducing letter grading.

## Annex 2. SLC Curriculum

The SLC curriculum has undergone changes from time to time. Since the copies of all sets of curricula (from 1934 to 2003) are not readily available even at OCE, only the curricula of four different periods are listed below.

Year	Subject	Full Marks	Pass Marks	Remarks
1934	English I & II Vernacular	200	75	Minimum 30 marks in each paper
	Comp. Mathematics	100	36	
	Comp. Sanskrit	100	30	
	Comp. History	100	30	
	Comp. Geography	100	30	
	Optional subject	100	30	
		100	25	
	Full Marks	800		
1944	English I & II	200	75	Minimum 30 marks in each paper
	Elementary Nepali	100	36	
	Comp. Mathematics	100	30	
	Oriental Language	100	30	
	Gen. Science or Domestic Science	100	30	
	History or Geography			
	Extra - Optional	100	30	
		100	25	
1947	English I & II	200	75	Minimum 30 marks in each paper
	Compulsory Nepali	100	36	
	Mother Tongue	100	36	
	Comp. Mathematics	100	30	
	Comp. Sanskrit	100	30	
	Comp. History	100	30	
	Comp. Geography	100	30	
	Additional Subject	100	25	
1957	English I & II	200	75	Minimum 30 marks in each paper
	Elementary Nepali & Sanskrit	100	36	
	Comp. Mathematics	100	30	
	Oriental Language	100	36	
	General Science or Domestic Science	100	30	
	History or Geography	100		
	Extra - Optional	100	25	
	Full Marks	800		

### Annex 3. Parallel SLC Systems

Considering the high rates of failure at the SLC examination and with a view to introduce simplified courses of study, two educationists had started separate alternative examination systems more or less equivalent to the regular SLC examination system. Mr. Gopal Pandey, the Chairperson of Nepali Shikshya Parishad conducted an examination known as Prabeshika Parikshya, during 1953-1973 (2010-2030 BS). The courses of study, weightage, and pass marks of this examination were as follows:

Subject	Full Marks	Pass Marks
Nepali I	100	30
Nepali II	100	30
Nepali III	100	30
Arithmetic	50	10
Ain Shresta	50	10
History or Geography	100	30
Civics	100	30
Optional Nepali or Optional English	100	30
General Knowledge (Compulsory)	100	30
Full Marks	800	

A look at the courses indicates the heavy emphasis given to the learning of Nepali language. There were four papers in Nepali, including Optional Nepali. Other features were the low priority given to the English, a subject in which most of the candidates failed. Other subjects were Arithmetic instead of Mathematics (also a subject with a heavy rate of failure), Ain Shresta for acquainting students with the laws of the land and the skills of book-keeping, Civics for education on the rights and responsibilities of citizens in a democratic environment recently set up in the country, and General Knowledge. The purpose of this parallel system was more to prepare graduates for employment and self-employment and less for

higher education. Obviously, for those unable to pursue further education or unlikely to do so, this alternative system offered a good opportunity.

Gyaneshwar Mishra, a teacher at a high school at Birgunj, started another system in 1961 (Registrar of the *Nepal Rasthriya Vidyapith*). The Vidyapith system examined students in eight subjects with total weightage of 800 marks and examinations continued for 13 years, from 1961 to 1973 (2018-2030 BS).

Both pioneers of the alternative SLC system made immense efforts to get their systems recognized by the government as equivalent to the SLC. Since the recognition didn't follow, the two systems were discontinued after 1973.

## Chapter IV : Equity Analysis of SLC Examination

### Annex 1: NER by Gender and Eco-Development Regions

	Total	Primary		Lower Secondary			Secondary		
		Girls	Boys	Total	Girls	Boys	Total	Girls	Boys
Eastern Dev. Region	80.8	77.0	84.5	48.8	45.7	51.8	34.7	32.8	36.5
Eastern Mountains	90.2	87.8	92.4	49.2	45.7	52.7	28.4	26.2	30.6
Eastern Hills	91.3	91.5	91.2	54.2	52.6	55.7	30.1	27.9	32.4
Eastern Tarai	74.4	68.3	80.3	45.9	41.8	49.7	38.3	36.8	39.8
Central Dev. Region	79.8	70.8	88.4	41.1	35.8	45.9	33.9	30.1	37.5
Central Mountains	91.7	89.8	93.6	41.7	36.2	47.1	18.6	15.8	21.2
Central Hills	88.6	85.3	91.9	40.0	34.9	44.9	28.1	25.0	31.2
Central Tarai	70.7	56.3	84.2	28.7	23.0	33.5	28.2	22.5	33.2
Western Dev. Region	86.7	83.0	90.3	47.8	47.1	48.6	30.4	28.0	32.9
Western Mountains	90.1	93.9	86.2	30.7	29.9	31.5	16.2	15.8	16.6
Western Hills	92.7	91.8	93.6	56.3	55.4	57.2	33.6	31.0	36.2
Western Tarai	77.7	69.6	85.4	34.6	33.6	35.5	24.7	22.3	27.0
Mid-Western Dev. Region	88.4	82.1	94.6	35.9	29.7	41.6	15.8	12.1	19.4
Mid-Western Mountains	76.0	60.1	92.0	28.6	16.6	39.6	14.0	6.6	20.8
Mid-Western Hills	90.2	85.4	95.0	37.3	30.6	43.5	15.9	12.1	19.7
Mid-Western Tarai	89.4	83.7	94.8	35.3	30.4	39.9	15.8	12.7	18.9
Far-Western Dev. Region	89.5	84.1	94.7	34.4	27.0	41.3	18.8	13.3	24.2
Far-Western Mountains	88.8	82.3	95.1	30.3	21.4	39.0	18.1	11.3	24.6
Far-Western Hills	88.9	80.4	97.3	34.9	23.5	45.6	16.7	9.4	23.9
Far-Western Tarai	90.1	87.6	92.6	35.5	31.7	39.0	20.7	17.1	24.3
Nepal	83.5	77.5	89.4	42.9	38.7	46.8	29.5	26.3	32.7

**Annex 2. HDI, Literacy Rates and the SLC Pass %in 2004 at the District Level**

District Name	Eco-Development Region	HDI	Total Literacy rate 2001	Male Literacy Rate 2001	Female Literacy Rate 2001	Male %	Pass Female %	Pass Total Pass%
Achham	2. Far western hill	0.350	33.8	54.1	16	26.6	23.6	25.8
Arghakhanchi	8. Western hill	0.471	56.1	67.2	46.9	50.4	34.9	43.3
Baglung	8. Western hill	0.492	61.7	73.1	52.3	48.1	36.8	43.1
Baitadi	2. Far western hill	0.391	51.9	71.5	33.8	29.9	22.2	27.6
Bajhang	1. Far western mountain	0.333	35.5	57.6	15.2	54.1	46.7	52.8
Bajura	1. Far western mountain	0.310	34.1	51.2	17.3	16	12.5	15.2
Banke	6. Mid western Tarai	0.479	57.8	66	49.2	46.5	40.6	44.2
Bara	12. Central Tarai	0.465	42.7	55.2	29.1	31.6	26.5	29.9
Bardia	6. Mid western Tarai	0.429	45.7	55.5	35.9	26.2	13.3	21.2
Bhaktapur	16. KTM	0.595	70.6	81.1	59.6	74.4	60.9	68.3
Bhojpur	14. Eastern Hill	0.472	54.8	66.1	44.4	24.3	15.3	20.2
Chitwan	12. Central Tarai	0.518	71.1	79.3	63	66.8	52.4	60.5
Dailekh	5. Mid western hill	0.381	48	64.7	32.3	11.5	5.9	9.4
Dadeldhura	2. Fare western hill	0.434	51.9	72.2	33.3	32.4	24.2	29.8
Dang	6. Mid western Tarai	0.409	58	69.3	46.9	53	39.1	47.9
Darchula	1. Far western mountain	0.424	49.5	67.4	32.5	28.4	18.3	24.5
Dhading	11. Central Hill	0.410	43.7	53.9	34	53.7	38.8	47.4
Dhankuta	14. Eastern Hill	0.507	64.5	74.5	54.5	29.4	19.5	24.7
Dhanusha	12. Central Tarai	0.449	48.7	60.1	36.3	34.3	26	31.6
Dolakha	10. Central Mountain	0.450	51.1	64	38.8	42.1	26.2	35.7
Dolpa	4. Mid western mountain	0.371	35	49.6	19.8	14.6	27.3	18.3
Doti	2. Fare western hill	0.402	43.7	61.2	26	33.5	16.4	28.9
Gorkha	8. Western hill	0.454	54.3	64.4	45.7	84	70.1	78.1
Gulmi	8. Western hill	0.467	57.8	70.1	48.1	61.7	52.2	57.3
Humla	4. Mid western mountain	0.367	27.1	41.3	11.8	0.8	0	0.8
Illam	14. Eastern Hill	0.521	66.5	74.4	58.6	61.2	45.1	54.2
Jajarkot	5. Mid western hill	0.343	39.5	49.4	29.1	16.8	13.6	15.8
Jhapa	15. Eastern Tarai	0.494	67.1	75.6	58.8	50.8	32.1	42.6
Jumla	4. Mid western mountain	0.348	32.5	47	16.8	28	39.5	30.4
Kailali	3. Far western Tarai	0.442	52.6	64	41	45.4	35.7	42.1
Kalikot	4. Mid western mountain	0.322	38.5	54.2	17.8	14.9	8.5	13
Kanchanpur	3. Far western Tarai	0.463	60.1	72.8	47.2	37.4	19	30
Kapilvastu	9. Western Tarai	0.437	41.8	53.3	29.5	29.2	17.1	24.3
Kaski	8. Western hill	0.593	72.1	83.2	61.8	74.3	60.2	68
Kathmandu	16. KTM	0.652	77.2	86.5	66.6	79.6	72.5	76.3
Kavrepalanchok	11. Central Hill	0.543	64	75.7	52.8	52.7	32.1	43.6
Khotang	14. Eastern Hill	0.442	50.2	62.3	38.8	17.4	13.8	15.8
Lalitpur	16. KTM	0.588	70.9	81	60.4	73.4	65.5	69.7
Lamjung	8. Western hill	0.492	56.9	69	46.3	70.2	49	61.2
Mahottari	12. Central Tarai	0.407	34.7	45.9	22.4	34.5	23	31
Makwanpur	12. Central Tarai	0.479	63.4	72.6	53.9	56.8	47.2	52.9
Manang	7. Western mountain	0.502	60.4	67.3	52.7	42.9	65.8	54.8
Morang	15. Eastern Tarai	0.531	57	67.1	46.8	52	40.1	46.8
Mugu	4. Mid western mountain	0.304	28	45.1	9.3	5.2	2.9	4.8
Mustang	7. Western mountain	0.482	52.1	61.1	41.1	62.5	78.3	69.1
Myagdi	8. Western hill	0.498	56	67.9	45.9	75.8	63.8	70.7
Nawalparasi	9. Western Tarai	0.482	53.3	66	40.9	55.8	36.1	46.9

District Name	Eco-Development Region	HDI	Total Literacy rate 2001	Male Literacy Rate 2001	Female Literacy Rate 2001	Male %	Pass Female %	Pass Total Pass%
Achham	2. Far western hill	0.350	33.8	54.1	16	26.6	23.6	25.8
Arghakhanchi	8. Western hill	0.471	56.1	67.2	46.9	50.4	34.9	43.3
Baglung	8. Western hill	0.492	61.7	73.1	52.3	48.1	36.8	43.1
Baitadi	2. Far western hill	0.391	51.9	71.5	33.8	29.9	22.2	27.6
Bajhang	1. Far western mountain	0.333	35.5	57.6	15.2	54.1	46.7	52.8
Nuwakot	11. Central Hill	0.463	51.4	62.4	40.7	37.2	25.4	32.2
Okhaldhunga	14. Eastern Hill	0.481	49.3	63.6	36.3	37.3	33.1	35.4
Palpa	8. Western hill	0.486	66.2	76.2	57.8	47.1	28.2	38.2
Panchthar	14. Eastern Hill	0.484	55.4	65.7	45.6	30.5	16.7	23.5
Parbat	8. Western hill	0.504	57	68.2	47.7	66.9	58.2	62.6
Parsa	12. Central Tarai	0.448	42.6	55.5	28.2	61.2	53.4	58.7
Pyuthan	5. Mid western hill	0.416	46.9	62.4	34	53	50.1	51.8
Ramechhap	11. Central Hill	0.434	39.4	53.8	26.6	43.8	33.5	39.4
Rasuwa	10. Central Mountain	0.394	34.3	42.8	24.8	50.8	38.7	45.6
Rauthat	12. Central Tarai	0.409	32.7	42.9	21.7	21.5	19.2	20.7
Rolpa	5. Mid western hill	0.384	37.5	53.1	23.1	25.9	10.1	20.5
Rukum	5. Mid western hill	0.386	40.3	51	29	19.2	16	18.1
Rupandehi	9. Western Tarai	0.546	66.2	76.2	55.9	66.5	50	59.7
Salyan	5. Mid western hill	0.399	48.5	60.2	36.2	25.7	19	23.4
Sankhuwasabha	13. Eastern mountain	0.481	54.2	63.7	45.1	41.8	30.4	37
Saptari	15. Eastern Tarai	0.453	49.8	63.2	35.5	33.6	23.7	30.2
Sarlahi	12. Central Tarai	0.408	36.5	46.9	25.4	36.2	27.5	33
Sindhuli	11. Central Hill	0.469	50.5	62.6	38.5	36.7	25.1	32
Sindhupalchok	11. Central mountain	0.414	40.6	51.8	29.5	58.1	38.8	50.2
Siraha	12. Eastern Tarai	0.427	40.7	53.6	27.1	28.1	16.2	23.9
Solukhumbu	13. Eastern mountain	0.479	45.9	56.7	35.5	30.4	15	24
Sunsari	15. Eastern Tarai	0.500	60.6	70.9	50.3	46.2	34.4	40.9
Surkhet	5. Mid western hill	0.486	62.7	73.9	51.7	20.7	10.7	16.5
Syangja	8. Western hill	0.535	66.7	77.9	57.7	62.4	42.2	53.1
Tanahu	8. Western hill	0.524	62	72.6	53	63.1	48.8	57
Taplejung	13. Eastern mountain	0.467	52.6	62.9	42.8	36.3	22	59.6
Tehrathum	14. Eastern Hill	0.523	59.3	71.3	48.2	49.3	46.9	48.2
Udayapur	14. Eastern Hill	0.488	53.6	64.8	42.5	42.7	30.7	37.5

## Chapter IX : Financial Analysis

### Annex 1A . Annual Household Expenditure per Student at Lower Secondary Level in Public Schools, 2061

in Rs.

Particulars	Vishwa Niketan Sec.School, Katmandu	Patan High School, Lalitpur	Ratna Rajya Sec. School, Ktm.	Kanti Iswori Sec. School, Ktm.	Rasuwa Sec. School, Rasuwa	Kalinchok Sec. School, Dolakha	Sri Pokhariya Sec. School, Biratnagar	Mahendra Sec. School, Biratnagar	Tri Sec. School, Nepalgunj	Annapurna Sec. School, Morang	Average
1. Admission Fees (New)	100			933	100	93	105	100	83	20	153
2. Tuition Fees ( Annual ) (Average of related grades)	630		1117	250		470	467	420	460		381
3. Examination Fees	167	275	100		65	40	30	50	105	76	91
4 Other School Fees	1509	625									213
<b>Total</b>	<b>2406</b>	<b>900</b>	<b>1217</b>	<b>1183</b>	<b>165</b>	<b>603</b>	<b>602</b>	<b>570</b>	<b>648</b>	<b>96</b>	<b>839</b>

Note: (1) Maximum tuition fee ( annual) Rs. 1,117, minimum Rs. 250 (2) Percentage of Admission, Tuition, and Examination Fees: 74.6, percentage of 'other fees' 25.4% (3) Eight of the 10 schools do not charge 'other school fees'.

### Annex 1B. Annual Household Expenditure per Student at Secondary Level in Public Schools, 2061

in Rs.

Particulars	Vishwa Niketan Sec.School, Katmandu	Patan High School, Lalitpur	Ratna Rajya Sec. School, Ktm.	Kanti Iswori Sec. School, Ktm.	Rasuwa Sec. School, Rasuwa	Kalinchok Sec. School, Dolakha	Sri Pokhariya Sec. School, Biratnagar	Mahendra Sec. School, Biratnagar	Tri Sec. School, Nepalgunj	Annapurna Sec. School, Morang	Average
1. Admission Fees ( New )	100			1000	100	130	105	100	100	35	167
2. Tuition Fees ( Annual ) (Average of related grades)	950		XX	300		650	600	500	560		504
3. Examination Fees	250	300			75	50	35	50	108	130	100
4 Other School Fees	2110	800									291
<b>Total</b>	<b>3410</b>	<b>1100</b>	<b>1475</b>	<b>1300</b>	<b>175</b>	<b>830</b>	<b>740</b>	<b>650</b>	<b>768</b>	<b>165</b>	<b>1061</b>

XX = collected as help from parents

Note: (1) Maximum tuition fees (Annual): Rs 1475, Minimum Rs 300 (2) Percentage of admission, tuition and examination fees:72.6 percentage of 'other fees' 27.4 (3) Eight of the 10 schools do not charge 'other school fees'.

**Annex 2A. Annual Household Expenditure per Student at Lower Secondary Level in Private (Institutional) Schools, 2061**

In Rs.

Particulars	Bhanubhakta Memorial School, Kathmandu	Kavre Sec. School, Kavre	Bal Kalyan School, Biratnagar	Devkota Memorial School, Biratnagar	Angels High School, Nepalgunj	Jaya Bageshwori Sec. School, Nepalgunj	Average
1. Admission Fees ( New )	1667	400	550	1000	480	200	<b>716</b>
2. Tuition Fees ( Annual )							
Average of related grades	7367	5550	5500	7000	7200	6000	<b>6436</b>
3. Examination Fees	650	97	500		267	200	<b>286</b>
4 Other School Fees	1192	1200	3245	2800	XX 1200	2005	<b>1940</b>
<b>Total</b>	<b>10876</b>	<b>7247</b>	<b>9795</b>	<b>10800</b>	<b>9147</b>	<b>8405</b>	<b>9378</b>

Note: Migration certificate fee not included in other school fees.

XX = for computer instruction.

Note: (1) Maximum tuition fee (annual) Rs 7,367; minimum tuition fee Rs 5,500.

(2) Percentage of admission, tuition and examination fees: 79.3 percentage of other fees: 20.7

**Annex 2B. Annual Household Expenditure per Student at Secondary Level in Private (Institutional) Schools, 2061**

In Rs.

Particulars	Bhanubhakta Memorial School, Kathmandu	Kavre Sec. School, Kavre	Bal Kalyan School, Biratnagar	Devkota Memorial School, Biratnagar	Angels High School, Nepalgunj	Jaya Bageshwori Sec. School, Nepalgunj	Average
1. Admission Fees ( New )	5000	400	675		540	300	<b>1153</b>
2. Tuition Fees ( Annual )							
Average of related grades	8500	7200	6750	8000	8400	7600	<b>7742</b>
3. Examination Fees	1050	150	500		300	200	<b>367</b>
4 Other School Fees	1515	1200	3795	3200		2680	<b>2065</b>
<b>Total</b>	<b>16065</b>	<b>8950</b>	<b>11720</b>	<b>11200</b>	<b>9240</b>	<b>10780</b>	<b>11326</b>

Note: Migration certificate fee not included in other school fees.

Note: (1) Maximum tuition fee (annual) Rs 8,500; minimum tuition fee Rs. 6,750. (2) Percentage of admission, tuition and examination fees: 81.8, percentage of other fees: 18.2

**Annex 3. Estimated Income and Expenditure of The Office of Controller of Examination ( 2060/61 )**

Income				Expenditure			
S. No.	Sources	Amount (‘000 Rs.)	Percentage	S.No.	Expenditure Heads	Amount (‘000 Rs.)	Percentage
1	Registration fees from students at grade 9 (Rs. 100 per student)	38,500	33.25	1	Question paper preparation (preparation, translation, moderation, marking scheme preparation, etc)	500	0.54
2	Application fees from students appearing in SLC exam (Rs. 200 per student)	73,000	63.04	2	Question paper printing (Rs.1.49 per question paper)	5,462	5.94
3	Other fees and incomes			3	Answer books (Main answer books and additional answer books)	10,825	11.77
	a) Retotalling fees (Rs. 200 per paper)	3,200	2.76	4	Examination center operation: 900 centers (Rs.25,000 per center)	22,500	24.46
	b) Fees for correction of names, date of birth, etc. and certificates, duplicate fees	700	0.60	5	Marking of answer books including Head Examiners services (Rs. 9 per answer book marked)	22,880	24.87
	c) Sale of old answer books	400	0.35	6	Coding and decoding of answer books	1,820	1.98
				7	Result tabulation and verification	592	0.64
				8	Computer entry (Registration, Application, Mark entry, etc.)	520	0.57
				9	Result publication	1,500	1.63
				10	Fund allocated to REDs for conducting and monitoring examination (Rs. 1 lakh per RED)	500	0.54
				11	Fund allocated to DEO offices (Rs. 10,000 per DEO)	750	0.82
				12	Stationery, printing of forms, maintenance of OCE physical facilities	15,486	16.83
				13	Salaries of OCE staff, meeting allowance of SLC board and mini-boards member	5,655	6.15
				14	Others (Fuel, TA, DA, Telephone etc.)	3,000	3.26
	Total	115,800	100.00		Total	91,990	100.00

Note:1) Most of the fees are collected at the district levels and the amounts are deposited in HMG Treasury

2) The above accounts are not officially audited accounts.

Source: Based on the estimates of the OCE, 2061

## Annex 4. Summary of Unit Cost Estimates

Types of cost	Estimates	Sources
1. Unit costs of students of Secondary level ( Government Expenditure on Public and Community schools )	Rs. 2160 in 2002 Rs. 2094 in 2003	Estimates based on government Budgetary allocations and school Enrolments ( Public schools and Community schools)
2. Costs to parents ( Average Expenditure per student per year ): Fees only 2004	<b>Public schools</b> Rs. 839 for lower secondary level Rs. 1061 for secondary level <b>Private schools</b> Rs. 9378 for lower secondary level Rs. 11,326 for secondary level	Data collected for the study "Study on students Performance in SLC ".
3. Household Expenditure per student (Annual ) (Average of 1995/96 and 1996/97 )	Rs. 2407 for Public Schools Rs. 8977 for Private Schools	Cost Sharing Options for Quality Secondary Education, METCON, 1999
4. School Expenditure per Student ( Annual). "Best" and "Worst Schools" ( Average of 1995/96 and 1996/97 )	<b>Unit Expenditure</b> "Best Schools" Rs. 3096 "Worst Schools" Rs. 1707 <b>Share of government in Exp. per student</b> "Best schools " : 41.5 % "Worst schools": 78.1 %	Cost Sharing Option for Quality Secondary Education, METCON, 1999
5. Per student Household Expenditure (Public schools) 2000	<b>Secondary level</b> Rs. 2019 for Boys Rs. 2185 for girls	Nepal : Cost Sharing Research in Education, KEF, 2000
6. Unit cost of SLC Examination, 2060	Unit cost of Appearing students : Rs. 360 Unit cost of successful (Pass ) students : Rs. 944	Estimates for the SLC study "Students Performance in SLC".
7. Text book costs grade 9 and 10 ( Set per student) prescribed text books only	Rs. 400 to Rs. 500 ( depending on optional subject chosen) per year.	JEMC text books price list.
8. Opportunity Cost per Secondary schoolage Child (10-14yrs)	Rs 44 per day Asumption:Wage employment is available.  Annual opportunity cost estimate (school opening days): Rs. 8906	Poverty at the turn of the 21 <sup>st</sup> Century, World Bank, 1999(Using data of Nepal Living Standards Survey, 1996)
9. OCE fees for Examination(per student)	Registration at grade 9: Rs 100 Application fee at grade 10:Rs 200	OCE

## Annex 5. Rates of Fees in Public Schools, 2004 (2061)

Types of Fees	Class	Vishwa Niketan, Ktm.	Patan H.S., Lalitpur	RatnaRajya Sec. Sch, Ktm.	Kanti Iswari Sec. Sch, Ktm.	Rasuwa Sec. Sch, Rasuwa	Kalinchowk Dec. Sch, Dolakha	SriPokhariya Sec. Sch, Biratnagar	Mahendra Sec. Sch, Biratnagar	Tri Sec. School, Nepalgunj	Annapurna, Manang
<b>Admission Fee</b>	6	100				100	80	105	100	75	10
	7	100				100	90	105	100	75	20
	8	100				100	110	105	100	100	30
	9	100				100	120	105	100	100	40
	10	100				100	140	105	100	100	
<b>Tuition Fee (monthly)</b>	6	60		92.5	22.5		40	45	40	42	
	7	60		110.0	22.5		45	45	40	46	
	8	70		132.5	30.0		55	50	45	50	
	9	95		142.5	30.0		60	60	50	54	
	10	95		152.5	30.0		70	60	50	58	
<b>Examination Fee (Annual)</b>	6	150	275			60	35	30	50	120	60
	7	150	275			65	40	30	50	120	70
	8	200	275			70	45	30	50	120	100
	9	250	300			75	50	35	50	140	110
	10	250	300			75	50	35	50	75	150
<b>Other School Fee (depending on grade)</b>											
Computer Instruction Fee (Monthly)		75 to 125									
Library Fee (Annual)		50 to 100	50 each grade								
Lab Fee (Annual)		50 to 100	50 to 125 50 each grade								
Sports Fee (Annual)		225 to 250									
Poor Student Support (Annual)		50 each grade									
Repair Maintenance (Annual)		50 to 100	150 to 200								
Schooling Cleaning (Annual)		50 each grade									
Educational Materials (Annual)											
First Aid (Annual)		100 each grade	25 each grade								

Types of Fees	Class	Vishwa	Patan	RatnaRajya	Kanti	Rasuwa	Kalinchowk	SriPokhariya	Mahendra	Tri Sec.	Annapurna,
		Niketan, Ktm.	H.S., Lalitpur	Sec. Sch, Ktm.	Sec. Sch, Ktm.	Sec. Sch, Rasuwa	Dec. Sch, Dolakha	Sec. Sch, Biratnagar	Sec. Sch, Biratnagar	School, Nepalgunj	Manang
Extra Curricular Fee (Annual)			300 to 350								
ID card & school bag		60 each grade									
Migration Certificate		100									

Source: Data collected for the study 'Students Performance in SLC', 2061.

Note: Eight of 10 public schools in the sample do not charge 'other fees'.

**Annex 6. Rates of Fees in Private (Institutional) Schools 2004 (2061)****In Rs.**

Types of Fees	Class	Banubhakta Memorial Sch, Ktm.	Kavre Sec. Sch. Kavre	Bal Kalyan Sch, Biratnagar	Devkota Memorial Sch, Biratnagar	Angels H.S., Nepalgunj	JayBageshwori Sec. Sch, Nepalgunj
Admission Fee (New Entrants)	6	1500	400	550	1000	450	200
	7	1500	400	550	1000	450	200
	8	2000	400	550	1000	540	200
	9	5000	400	675		540	300
	10	5000	400	675		540	300
Tuition Fee (monthly)	6	680	520	550	700	660	600
	7	680	560	550	700	660	600
	8	850	585	550	700	840	600
	9	850	720	675	800	840	760
	10	850	720	675	800	840	760
Examination Fee (Annual)	6	600	90	500		250	200
	7	600	90	500		250	200
	8	750	110	500		200	200
	9	900	150	500		300	200
	10	1200	150	500		300	200
Other Fees							
Library Fee (Annual)		20 at grade 6, 7 30 at grade 8,9,10	100 to 150 depending on grade	20 each grade 70 to 125 depending on grade			100 to 200 depending on grade 125 to 150 depending on grade
Computer Education Fee (Monthly)		600 to 1000 depending on grade		200 each grade 25 each grade		120 at grade 5-8	300 to 400 10 each grade
Games (Annual)		250 each grade					
First Aid (Annual)		400 to 600 depending on grade					
Educational Materials (Annual)		50					
Migration Certificate							
Identity Card		20 each grade		20 each grade			
School Diary		200 each grade					
Others					2800 at grade 6-8 3200 at grade 9-10		

Source: Data collected for the study 'Students Performance in SLC', 2061. (Sec.= Secondary, Sch.= School, H.S.= Higher Secondary School, Ktm.= Kathmandu)

## Chapter X: Determinants of Student Performance in the SLC Exams

### Annex 1. Descriptive statistics

Variable	All Students		Students Who Failed		Students Who Passed	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
SLC total score (out of 100)	46.556	11.656	38.966	7.214	54.837	9.791
SLC pass rate (%)	0.478	0.500				
School Input Variables						
General school resources						
Spending per student (Rs. 000)	3.929	4.643	3.496	4.079	4.401	5.148
Student-teacher ratio in secondary school	37.514	26.518	40.952	25.433	33.763	27.162
Educational materials and school facilities						
Delay in textbook delivery (days)	20.513	47.207	25.836	53.387	14.704	38.547
Pukki buildings‡	0.901	0.299	0.890	0.313	0.912	0.283
Grade 10 class size	77.907	52.900	80.324	51.994	75.269	53.752
Adequate library‡	0.346	0.476	0.285	0.451	0.413	0.492
Adequate science lab‡	0.127	0.333	0.097	0.296	0.160	0.366
Teacher Input Variables						
Teaching experience	14.452	5.348	14.836	5.236	14.033	5.436
Teaching experience squared	237.449	170.742	247.517	171.041	226.463	169.748
Teachers with B.Ed. degrees (%)	0.581	0.270	0.600	0.255	0.560	0.284
Teachers with 10-month SEDU training (%)	0.107	0.138	0.116	0.145	0.096	0.130
Average short-term training days	3.856	4.887	4.085	4.892	3.607	4.870
Teacher turnover (%)	0.111	0.196	0.107	0.181	0.116	0.210
School Process Variables						
Head teacher effectiveness (1 to 4)	2.829	0.589	2.785	0.589	2.876	0.585
Hours of instruction per week	31.197	7.760	30.118	7.099	32.374	8.264
School academic policies						
Maximum failures allowed in 9 & 10	1.580	1.000	1.783	0.882	1.359	1.072
Number of times tested in 9 & 10	9.999	6.826	8.399	5.046	11.745	7.988
Regular homework required	0.460	0.498	0.380	0.486	0.546	0.498
Teaching load/approach						
Interactive teaching approach‡	0.330	0.470	0.268	0.443	0.399	0.490
Teaching load (hours per day)	3.451	0.456	3.441	0.461	3.463	0.451
Course completion rate (%)	93.362	7.366	92.040	7.818	94.804	6.541
Instruction time X class size	2403.508	1705.751	2425.200	1686.941	2379.839	1725.855
Course completion X family expenditure	8331.532	6467.929	7664.229	6156.373	9059.678	6716.833
Highest degree expected						
Intermediate/+2 ‡	0.165	0.371	0.212	0.409	0.114	0.318
Bachelors‡	0.205	0.403	0.230	0.421	0.177	0.382
Masters +‡	0.412	0.492	0.335	0.472	0.497	0.500
No idea‡	0.126	0.332	0.100	0.300	0.155	0.362
Student Input Variables						
Demographic characteristics						
Age	16.721	1.244	16.986	1.333	16.433	1.065
Sex (1 = male, 0 = female)	0.543	0.498	0.495	0.500	0.594	0.491
Ethnicity						
Chhetri‡	0.207	0.405	0.215	0.411	0.199	0.399
Newar‡	0.114	0.317	0.076	0.265	0.155	0.362
Janjati‡	0.147	0.354	0.168	0.374	0.125	0.331
Dalit‡	0.023	0.151	0.027	0.163	0.019	0.136
Other ‡	0.151	0.358	0.170	0.376	0.130	0.336
Language (1=Nepali, 0=Other)	0.742	0.437	0.729	0.445	0.757	0.429
Study habits, educational background and peer influence						

Variable	All Students		Students Who Failed		Students Who Passed	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
School days missed	6.697	8.167	7.650	8.811	5.656	7.260
Regular study hours per day	5.215	2.445	5.030	2.351	5.417	2.528
Read magazines regularly‡	0.246	0.431	0.186	0.390	0.311	0.463
No. of friends passing SLC	3.127	1.506	2.580	1.427	3.724	1.356
Months of coaching / tuition	8.966	9.774	9.030	10.028	8.897	9.490
No. of grade repetitions	1.788	1.009	2.098	1.052	1.450	0.837
Grade 9 score ( 0 to 100)						
Student's personal situation during examination						
Commuted daily‡	0.553	0.497	0.486	0.500	0.626	0.484
Prepared own food‡	0.224	0.417	0.289	0.453	0.153	0.360
Sick‡	0.151	0.358	0.167	0.373	0.133	0.340
Nepali medium ‡	0.726	0.446	0.826	0.379	0.618	0.486
Family Input Variables						
Distance of school from home (mins)	29.823	29.429	32.755	31.071	26.623	27.170
Demographic characteristics						
Living with both parents‡	0.661	0.473	0.643	0.479	0.680	0.466
Family size	6.470	2.474	6.647	2.499	6.276	2.431
Income and wealth						
Family's annual expenditure (Rs.000)	88.966	67.850	83.231	65.801	95.223	69.486
Family's wealth ( Rs. 00000)	13.022	30.822	9.720	21.273	16.624	38.315
Education background of family						
No. of SLC graduates in family	1.852	1.374	1.530	1.304	2.203	1.362
Support from family and academic environment at home						
No. of books at home	16.333	41.807	11.098	29.001	22.045	51.721
Hours spent on household chores	1.829	1.641	2.110	1.654	1.524	1.570
National Context Variables						
SLC Year 2003‡	0.247	0.431	0.246	0.431	0.249	0.432
SLC Year 2004‡	0.568	0.495	0.570	0.495	0.566	0.496
Community Context Variables						
HDI	0.481	0.057	0.471	0.053	0.493	0.060
No. private schools	3.490	4.079	2.792	3.140	4.252	4.788
District headquarter‡	0.227	0.419	0.158	0.365	0.302	0.459
Permanent bazaar+motorable road ‡	0.633	0.482	0.577	0.494	0.694	0.461
School Context Variables						
Learning environment						
Quiet neighborhood‡	0.855	0.352	0.844	0.363	0.867	0.339
School size	731.272	342.117	734.944	331.538	727.265	353.280
School governance structure						
Public, not fully funded school‡	0.217	0.412	0.248	0.432	0.182	0.386
Private school ‡	0.159	0.366	0.041	0.199	0.288	0.453
No. of supervisions visits	9.952	8.867	10.222	8.690	9.658	9.048
No. of PTA meetings	1.997	2.467	1.927	2.469	2.074	2.463
Socio-economic characteristics of student body						
Dalit/Janjati (%)	39.981	26.209	41.124	24.984	38.735	27.432
Girls (%)	47.769	11.995	48.102	12.539	47.405	11.362
Non-Nepali speakers (%)	25.213	33.809	26.223	34.305	24.112	33.226
Poor (%)	12.456	19.088	14.926	20.115	9.760	17.508
SLC examination center environment						
Exam room adequacy ( 1 to 6 )	1.697	1.137	1.668	1.142	1.729	1.131
No. of observations	14243		7432		6811	
‡(1 = Yes, 0 = No )						

## Annex 2. OLS Regression Results for Aggregate SLC Performance

### Dependent Variable: Average SLC Score of Student

Variable	Model (1)		Model (2)		Model (3)		Model (4)		Model (5)		Std. coeff.	Model (6)	
	Coeff	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value		Coeff.	p-value
Constant	51.529***	(0.000)	9.355	(0.175)	35.268***	(0.000)	32.196***	(0.000)	28.680***	(0.003)	[2.461]	13.699	(0.441)
<b>School Input Variables</b>													
<i>General school resources</i>													
Log of Spending per student ( Rs. 000)	2.676***	(0.000)	1.315***	(0.006)	0.670**	(0.049)	0.563*	(0.076)	0.846***	(0.004)	[0.049]	0.887**	(0.033)
Student-teacher ratio in secondary school	-0.024**	(0.029)	-0.011*	(0.065)	-0.007	(0.124)	-0.006	(0.135)	0.006	(0.494)	[0.015]	0.007	(0.695)
<i>Educational materials and school facilities</i>													
Delay in textbook delivery (days)	-0.030***	(0.000)	-0.018***	(0.000)	-0.006**	(0.027)	-0.004**	(0.035)	-0.004**	(0.014)	[-0.017]	-0.005**	(0.025)
Pukki buildings‡	2.407*	(0.073)	1.678	(0.129)	0.640	(0.513)	0.613	(0.504)	0.029	(0.960)	[0.001]	0.634	(0.506)
Grade 10 class size	0.008	(0.455)	0.068	(0.113)	0.039	(0.211)	0.039	(0.153)	0.003	(0.861)	[0.013]	-0.041	(0.260)
Adequate library‡	3.867***	(0.001)	1.179	(0.130)	1.028*	(0.096)	1.068*	(0.072)	0.836	(0.166)	[0.034]	0.030	(0.972)
Adequate science lab‡	2.098*	(0.092)	0.903	(0.431)	0.672	(0.397)	0.479	(0.519)	0.241	(0.661)	[0.007]	0.554	(0.627)
<b>Teacher Input Variables</b>													
Teaching experience	-0.763	(0.154)	-0.213	(0.455)	-0.132	(0.488)	-0.164	(0.366)	0.047	(0.747)	[0.022]	-0.122	(0.686)
Teaching experience squared	0.015	(0.302)	0.003	(0.699)	0.001	(0.865)	0.002	(0.759)	-0.003	(0.492)	[-0.043]	0.006	(0.507)
Teachers with B.Ed. degrees (%)	-2.544	(0.235)	0.257	(0.825)	0.347	(0.698)	0.411	(0.649)	1.113	(0.185)	[0.026]	0.620	(0.700)
Teachers with 10-month SEDU training (%)	-11.531***	(0.000)	-3.516*	(0.074)	-1.676	(0.262)	-1.365	(0.360)	-1.836	(0.163)	[-0.022]	-0.681	(0.720)
Average short-term training days	-0.122	(0.369)	-0.120*	(0.056)	-0.060	(0.169)	-0.062	(0.163)	-0.084**	(0.047)	[-0.035]	-0.002	(0.976)
Teacher turnover (%)	1.472	(0.414)	1.528	(0.168)	1.372	(0.111)	1.276	(0.167)	-0.764	(0.482)	[-0.013]	-1.986	(0.380)
<b>School Process Variables</b>													
Head teacher effectiveness ( 1 to 4 )			0.659	(0.251)	0.338	(0.442)	0.308	(0.468)	-0.021	(0.945)	[-0.001]	0.630	(0.232)
Hours of instruction per week			0.210**	(0.023)	0.126**	(0.039)	0.120**	(0.017)	0.030	(0.373)	[0.020]	0.063	(0.361)
<i>School academic policies</i>													
Maximum failures allowed in 9 & 10			-1.656***	(0.001)	-0.984***	(0.007)	-0.782**	(0.019)	-0.069	(0.835)	[-0.006]	0.304	(0.358)
Number of times tested in 9 & 10			0.237***	(0.001)	0.127***	(0.010)	0.103**	(0.036)	-0.001	(0.979)	[-0.001]	-0.113	(0.140)
Regular homework required			1.800***	(0.007)	1.250***	(0.004)	1.193***	(0.003)	1.373***	(0.001)	[0.059]	-0.133	(0.844)
<i>Teaching load/approach</i>													
Interactive teaching approach‡			2.438***	(0.001)	1.424**	(0.011)	1.394**	(0.013)	0.465	(0.354)	[0.019]	0.245	(0.740)
Teaching load ( hours per day )			1.018	(0.198)	1.061*	(0.076)	1.124*	(0.070)	1.269*	(0.079)	[0.050]	0.320	(0.693)
Course completion rate (%)			0.204***	(0.000)	0.121***	(0.003)	0.118***	(0.005)	0.057	(0.137)	[0.036]	0.042	(0.266)
Instruction time X class size			-0.002	(0.114)	-0.001	(0.188)	-0.001	(0.133)	-0.001	(0.215)	[-0.083]	0.001	(0.376)
Course completion X family expenditure			-0.000***	(0.000)	-0.000***	(0.004)	-0.000	(0.583)	-0.000	(0.353)	[-0.013]	0.000	(0.235)
<i>Highest degree expected</i>													
Intermediate/+2 ‡			0.911	(0.135)	0.201	(0.652)	0.255	(0.567)	0.226	(0.408)	[0.007]	0.228	(0.619)
Bachelors‡			2.719***	(0.003)	1.208**	(0.037)	1.122**	(0.047)	1.123**	(0.017)	[0.039]	0.337	(0.448)

	Model (1)		Model (2)		Model (3)		Model (4)		Model (5)		Model (6)		
Variable	Coeff	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Std. coeff.	Coeff.	p-value
Masters +‡			6.296***	(0.000)	2.974***	(0.000)	2.613***	(0.000)	2.608***	(0.000)	[0.110]	1.366***	(0.001)
No idea‡			5.609***	(0.000)	2.656***	(0.000)	2.533***	(0.000)	1.865***	(0.000)	[0.053]	0.423	(0.415)
Student Input Variables													
Demographic characteristics													
Age					-0.839***	(0.000)	-0.701***	(0.000)	-0.861***	(0.000)	[-0.092]	-0.659***	(0.000)
Sex ( 1 = male, 0 = female )					1.841***	(0.000)	1.957***	(0.000)	2.021***	(0.000)	[0.086]	1.362***	(0.000)
Ethnicity													
Chhetri‡					-0.374	(0.269)	-0.018	(0.955)	-0.351	(0.130)	[-0.012]	-0.153	(0.641)
Newar‡					1.578*	(0.052)	1.760**	(0.037)	0.287	(0.494)	[0.008]	0.501	(0.342)
Janjati‡					-1.298***	(0.008)	-0.724*	(0.088)	-1.008***	(0.004)	[-0.031]	-0.787**	(0.034)
Dalit‡					-0.782	(0.247)	-0.008	(0.990)	0.039	(0.929)	[0.001]	-0.728	(0.284)
Other ‡					-1.627**	(0.018)	-1.250*	(0.068)	-0.716*	(0.085)	[-0.022]	-0.294	(0.616)
Language ( 1=Nepali, 0=Other)					0.871	(0.147)	0.715	(0.210)	0.431	(0.119)	[0.016]	0.479	(0.310)
Study habits, educational background, and peer influence													
School days missed					-0.066***	(0.000)	-0.059***	(0.000)	-0.046***	(0.000)	[-0.032]	-0.029*	(0.071)
Log of Regular study hours per day					0.475*	(0.056)	0.263	(0.281)	0.518**	(0.034)	[0.022]	0.191	(0.440)
Read magazines regularly‡					1.371***	(0.000)	1.118***	(0.000)	0.919***	(0.000)	[0.034]	0.414	(0.128)
No. of friends passing SLC					1.736***	(0.000)	1.575***	(0.000)	1.304***	(0.000)	[0.168]	0.821***	(0.000)
Months of coaching / tuition					-0.028*	(0.086)	-0.041**	(0.011)	-0.032**	(0.027)	[-0.027]	-0.002	(0.915)
No. of grade repetitions					-1.620***	(0.000)	-1.529***	(0.000)	-1.470***	(0.000)	[-0.127]	-0.824***	(0.000)
Grade 9 score ( 0 to 100)												0.439***	(0.000)
Student's personal situation during examination													
Commuted daily‡					0.928**	(0.046)	0.814*	(0.060)	0.106	(0.662)	[0.005]	0.681	(0.116)
Prepared own food‡					-0.920***	(0.000)	-0.502**	(0.013)	-0.403**	(0.010)	[-0.014]	-0.617**	(0.027)
Sick‡					-0.436*	(0.053)	-0.330*	(0.097)	-0.318	(0.139)	[-0.010]	-0.131	(0.685)
Nepali medium ‡					-2.291***	(0.000)	-2.048***	(0.000)	-0.782**	(0.019)	[-0.030]	-0.095	(0.768)
Family Input Variables													
Distance of school from home (mins)							-0.001	(0.903)	-0.002	(0.468)	[-0.006]	-0.003	(0.529)
Demographic characteristics													
Living with both parents‡							0.075	(0.668)	0.124	(0.394)	[0.005]	0.104	(0.592)
Family size							-0.245***	(0.000)	-0.202***	(0.000)	[-0.043]	-0.264***	(0.000)
Income and wealth													
Log of Family's annual expenditure (Rs.000)							0.415**	(0.039)	0.413*	(0.063)	[0.025]	-0.409	(0.102)
Log of Family's wealth ( Rs. 00,000)							0.325**	(0.026)	0.113	(0.193)	[0.012]	0.298***	(0.008)
Education background of family													
No. of SLC graduates in family							0.957***	(0.000)	0.870***	(0.000)	[0.103]	0.658***	(0.000)
Support from family and academic environment at home													
No. of books at home							0.007**	(0.031)	0.006*	(0.076)	[0.020]	0.001	(0.688)
Hours spent on household chores							-0.172**	(0.020)	-0.142**	(0.036)	[-0.020]	-0.187***	(0.003)

Variable	Model (1) Coeff. p-value	Model (2) Coeff. p-value	Model (3) Coeff. p-value	Model (4) Coeff. p-value	Model (5) Coeff. p-value	Std. coeff.	Model (6) Coeff. p-value
<b>National Context</b>							
SLC Year 2003‡					0.373 (0.284)	[0.014]	-0.471 (0.329)
SLC Year 2004‡					1.438* (0.061)	[0.061]	0.624 (0.199)
<b>Community Context</b>							
HDI					20.012** (0.013)	[0.098]	29.822 (0.228)
No. private schools					-0.036 (0.340)	[-0.013]	-0.214** (0.023)
District headquarter‡					0.824 (0.154)	[0.030]	-0.238 (0.791)
Permanent bazaar+motorable road ‡					-0.375 (0.385)	[-0.016]	-0.567 (0.458)
<b>School Context</b>							
<i>Learning environment</i>							
Quiet neighborhood‡					1.413* (0.062)	[0.043]	0.060 (0.944)
School size					0.007*** (0.000)	[0.192]	0.004** (0.032)
<i>School governance structure</i>							
Public, not fully funded school‡					0.244 (0.663)	[0.009]	0.170 (0.851)
Private school‡					8.420*** (0.000)	[0.264]	8.076*** (0.001)
No. of supervision visits					-0.013 (0.607)	[-0.010]	-0.021 (0.614)
No. of PTA meetings					0.038 (0.662)	[0.008]	-0.080 (0.402)
<i>Socio-economic characteristics of student body</i>							
Dalit/Janjati (%)					0.004 (0.603)	[0.008]	-0.015 (0.317)
Girls (%)					-0.020** (0.033)	[-0.021]	-0.021 (0.438)
Non-Nepali speakers (%)					-0.006 (0.263)	[-0.019]	-0.029** (0.030)
Poor (%)					-0.009 (0.502)	[-0.015]	-0.004 (0.861)
<i>SLC examination center environment</i>							
Exam room adequacy ( 1 to 6 )					0.274*** (0.001)	[0.027]	0.266*** (0.008)
Observations	16579	15858	15672	14960	14243		3902
Adjusted R-squared	0.168	0.327	0.463	0.475	0.531		0.686

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; ‡(1 = Yes, 0 = No )

### Annex 3. Ranking of Statistically Significant Coefficients in Model (5)

Variable	Model (5)		
	Coeff.	Std. Coeff	Var. Type
School type: Private school‡	8.420***	0.2640	C
School size	0.007***	0.1920	C
No. of friends passing SLC	1.304***	0.1680	ST
No. of grade repetitions	-1.470***	-0.1270	ST
Highest degree expected: Masters +‡	2.608***	0.1100	SCH
No. of SLC graduates in family	0.870***	0.1030	F
HDI	20.012**	0.0980	C
Age	-0.861***	-0.0920	ST
Sex ( 1 = male, 0 = female )	2.021***	0.0860	P, ST
SLC Year 2004‡	1.438*	0.0610	C
Regular homework required	1.373***	0.0590	P, SCH
Highest degree expected: No idea‡	1.865***	0.0530	SCH
Teaching load ( hours per day )	1.269*	0.0500	P, SCH
Log of spending per student ( Rs. 000)	0.846***	0.0490	P, SCH
Quiet neighborhood‡	1.413*	0.0430	C
Family size	-0.202***	-0.0430	F
Highest degree expected: Bachelors‡	1.123**	0.0390	SCH
Average short-term training days	-0.084**	-0.0350	P, SCH
Read magazines regularly‡	0.919***	0.0340	ST
School days missed	-0.046***	-0.0320	P, ST
Ethnicity: Janjati‡	-1.008***	-0.0310	P, ST
Nepali medium ‡	-0.782**	-0.0300	P, ST
Exam room adequacy ( 1 to 6 )	0.274***	0.0270	PC
Months of coaching / tuition	-0.032**	-0.0270	ST
Log of family's annual expenditure (Rs.000)	0.413*	0.0250	P, F
Log of regular study hours per day	0.518**	0.0220	C
Ethnicity: Other ‡	-0.716*	-0.0220	ST
Girls (%)	-0.020**	-0.0210	SCH
No. of books at home	0.006*	0.0200	F
Hours spent on household chores	-0.142**	-0.0200	F
Delay in textbook delivery (days)	-0.004**	-0.0170	P, SCH
Prepared own food‡	-0.403**	-0.0140	P, ST

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1% ‡(1 = Yes, 0 = No )

P=Policy variable; C=Context variable; F=Family variable; SCH=School variable; ST=Student variable

**Annex 4. Logit Regression Results for Aggregate SLC Performance Dependent variable: pass/fail status of students (1=pass, 0=fail)**

Variable	Model 1			Marginal effect	Model 2		
	Coef.	P-value	St.Coeff		Coef.	P-value	St.Coeff
Constant	-2.814*	(0.095)			-7.044	(0.194)	
School Input Variables							
General school resources							
Log of spending per student ( Rs. 000)	0.202**	(0.021)	[0.077]	0.050	0.236*	(0.059)	[0.090]
Student-teacher ratio in secondary school	0.001	(0.613)	[0.023]	0.000	0.004	(0.480)	[0.070]
Educational materials and school facilities							
Delay in textbook delivery (days)	-0.001	(0.331)	[-0.018]	0.000	-0.001	(0.193)	[-0.031]
Pukki buildings‡	-0.026	(0.865)	[-0.005]	-0.007	0.564*	(0.064)	[0.097]
Grade 10 class size	-0.003	(0.627)	[-0.092]	-0.001	-0.011	(0.433)	[-0.329]
Adequate library‡	0.128	(0.310)	[0.035]	0.032	-0.614**	(0.035)	[-0.166]
Adequate science lab‡	0.187	(0.204)	[0.039]	0.047	0.295	(0.311)	[0.062]
Teacher Input Variables							
Teaching experience	0.007	(0.880)	[0.020]	0.002	-0.087	(0.388)	[-0.256]
Teaching experience squard	-0.000	(0.941)	[-0.009]	0.000	0.002	(0.461)	[0.223]
Teachers with B.Ed. degrees (%)	-0.123	(0.620)	[-0.018]	-0.031	-0.469	(0.330)	[-0.070]
Teachers with 10-month SEDU training (%)	-0.089	(0.837)	[-0.007]	-0.022	0.781	(0.187)	[0.058]
Average short-term training days	-0.011	(0.430)	[-0.030]	-0.003	0.015	(0.501)	[0.041]
Teacher turnover (%)	-0.079	(0.772)	[-0.009]	-0.020	-0.491	(0.484)	[-0.053]
School Process Variables							
Head teacher effectiveness ( 1 to 4 )	-0.038	(0.665)	[-0.012]	-0.010	-0.035	(0.818)	[-0.011]
Hours of instruction per week	0.002	(0.884)	[0.008]	0.000	-0.006	(0.809)	[-0.026]
School academic policies							
Maximum failures allowed in 9 & 10	-0.024	(0.711)	[-0.014]	-0.006	0.081	(0.433)	[0.046]
Number of times tested in 9 & 10	0.002	(0.814)	[0.009]	0.001	-0.011	(0.654)	[-0.043]
Regular homework required	0.328***	(0.004)	[0.090]	0.082	-0.016	(0.929)	[-0.004]
Teaching load/approach							
Interactive teaching approach‡	-0.058	(0.616)	[-0.015]	-0.015	-0.138	(0.521)	[-0.037]
Teaching load ( hours per day )	-0.031	(0.821)	[-0.008]	-0.008	-0.742***	(0.001)	[-0.198]
Course completion rate (%)	0.006	(0.465)	[0.022]	0.001	0.004	(0.733)	[0.015]
Instruction time X class size	-0.000	(0.691)	[-0.073]	0.000	0.000	(0.518)	[0.282]
Course completion X family expenditure	-0.000	(0.817)	[-0.005]	0.000	-0.000	(0.550)	[-0.023]
Highest degree expected							
Intermediate/+2 ‡	-0.016	(0.878)	[-0.003]	-0.004	0.126	(0.475)	[0.025]
Bachelors‡	0.186*	(0.057)	[0.041]	0.047	0.095	(0.600)	[0.021]
Masters +‡	0.402***	(0.000)	[0.109]	0.100	0.393**	(0.017)	[0.107]
No idea‡	0.303***	(0.005)	[0.058]	0.076	0.156	(0.432)	[0.030]
Student Input Variables							
Demographic characteristics							
Age	-0.118***	(0.000)	[-0.080]	-0.029	-0.011	(0.804)	[-0.007]
Sex ( 1 = male, 0 = female )	0.371***	(0.000)	[0.102]	0.092	0.431***	(0.000)	[0.118]
Ethnicity							
Chhetri‡	-0.072	(0.300)	[-0.016]	-0.018	-0.094	(0.426)	[-0.021]
Newar‡	-0.015	(0.885)	[-0.003]	-0.004	0.158	(0.442)	[0.030]
Dalit‡	-0.110	(0.154)	[-0.021]	-0.027	0.002	(0.988)	
Janjati‡	0.088	(0.554)	[0.007]	0.022	-0.151	(0.626)	[-0.013]
Other ‡	-0.100	(0.384)	[-0.020]	-0.025	-0.022	(0.916)	[-0.004]
Language ( 1=Nepali, 0=Other)	0.082	(0.321)	[0.020]	0.021	0.281*	(0.079)	[0.068]
Study habits, educational background, and peer influence							
School days missed	-0.007**	(0.030)	[-0.030]	-0.002	-0.004	(0.529)	[-0.020]

Variable	Model 1			Marginal effect	Model 2		
	Coef.	P-value	St.Coeff		Coef.	P-value	St.Coeff
Log of regular study hours per day	0.144**	(0.011)	[0.040]	0.036	-0.012	(0.911)	[-0.003]
Read magazines regularly‡	0.109**	(0.027)	[0.027]	0.027	0.189*	(0.071)	[0.046]
No. of friends passing SLC	0.268***	(0.000)	[0.224]	0.067	0.252***	(0.000)	[0.210]
Months of coaching / tuition	0.001	(0.639)	[0.007]	0.000	0.011	(0.158)	[0.058]
No. of grade repetitions	-0.571***	(0.000)	[-0.314]	-0.143	-0.592***	(0.000)	[-0.326]
Grade 9 score ( 0 to 100)					0.090***	(0.000)	[0.610]
Student's personal situation during examination							
Commutated daily‡	-0.029	(0.726)	[-0.008]	-0.007	-0.055	(0.701)	[-0.015]
Prepared own food‡	-0.113*	(0.084)	[-0.025]	-0.028	-0.289**	(0.015)	[-0.065]
Sick‡	-0.117**	(0.034)	[-0.023]	-0.029	-0.064	(0.597)	[-0.013]
Nepali medium ‡	-0.149**	(0.048)	[-0.038]	-0.037	-0.162	(0.231)	[-0.042]
Family Input Variables							
Distance of school from home (mins)	-0.001	(0.189)	[-0.018]	0.000	-0.002	(0.224)	[-0.032]
Demographic characteristics							
Living with both parents‡	0.054	(0.239)	[0.014]	0.013	0.039	(0.665)	[0.010]
Family size	-0.046***	(0.000)	[-0.062]	-0.011	-0.076***	(0.000)	[-0.103]
Income and wealth							
Log of family's annual expenditure (Rs.000)	0.033	(0.578)	[0.013]	0.008	0.091	(0.371)	[0.036]
Log of family's wealth ( Rs. 00000)	-0.006	(0.813)	[-0.004]	-0.001	0.063	(0.122)	[0.044]
Education background of family							
No. of SLC graduates in family	0.228***	(0.000)	[0.175]	0.057	0.191***	(0.000)	[0.147]
Support from family and academic environment at home							
No. of books at home	0.001*	(0.073)	[0.031]	0.000	-0.001	(0.340)	[-0.026]
Hours spent on household chores	-0.040***	(0.005)	[-0.036]	-0.010	-0.055**	(0.037)	[-0.050]
National Context							
SLC Year 2003‡	0.084	(0.334)	[0.020]	0.021	0.057	(0.774)	[0.014]
SLC Year 2004‡	0.309***	(0.000)	[0.084]	0.077	0.309*	(0.069)	[0.084]
Community Context							
HDI	5.806***	(0.004)	[0.197]	1.450	7.718	(0.303)	[0.262]
No. of private schools	-0.005	(0.716)	[-0.011]	-0.001	-0.002	(0.953)	[-0.006]
District headquarters‡	0.418***	(0.008)	[0.102]	0.104	0.435	(0.129)	[0.106]
Permanent bazaar+motorable road ‡	-0.268**	(0.037)	[-0.070]	-0.067	-0.290	(0.167)	[-0.076]
School Context							
Learning environment							
Quiet neighborhood‡	0.199	(0.183)	[0.037]	0.049	0.016	(0.946)	[0.003]
School size	0.001***	(0.000)	[0.341]	0.000	0.001*	(0.053)	[0.225]
School governance structure							
Public, not fully funded school‡	0.209	(0.124)	[0.047]	0.052	0.671***	(0.007)	[0.151]
Private school	1.055***	(0.000)	[0.237]	0.253	1.705**	(0.044)	[0.383]
No. of supervision visits	-0.007	(0.277)	[-0.033]	-0.002	0.001	(0.964)	[0.003]
No. of PTA meetings	0.016	(0.411)	[0.022]	0.004	-0.003	(0.926)	[-0.004]
Student socio-economic characteristics							
Dalit/Janjati (%)	-0.001	(0.798)	[-0.009]	0.000	0.007	(0.185)	[0.106]
Girls (%)	-0.005	(0.322)	[-0.035]	-0.001	-0.015	(0.141)	[-0.105]
Non-Nepali speakers (%)	-0.001	(0.748)	[-0.012]	0.000	0.005	(0.245)	[0.095]
Poor (%)	-0.002	(0.576)	[-0.020]	0.000	0.004	(0.570)	[0.039]
SLC examination center environment							
Exam room adequacy ( 1 to 6 )	0.034	(0.107)	[0.022]	0.008	0.086**	(0.031)	[0.055]

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%, ‡(1 = Yes, 0 = No ), Marginal effect =  $dy/dx$

## Annex 5. OLS Regression Results for Each of the Six Compulsory Subjects

**Dependent variable: Total score in the subject**

[illegible]

Variable	Model (1): Nepali			Model (2): English			Model (3): Math		
	Coef.	P-value	Std. coef.	Coef.	P-value	Std. coef.	Coef.	P-value	Std. Coef.
Intermediate/+2 ‡	1.471***	(0.002)	[0.048]	0.781	(0.118)	[0.018]	0.764	(0.282)	[0.013]
Bachelors‡	1.455***	(0.002)	[0.052]	1.408***	(0.006)	[0.034]	2.236***	(0.001)	[0.042]
Masters +‡	2.870***	(0.000)	[0.123]	3.271***	(0.000)	[0.098]	5.080***	(0.000)	[0.117]
No idea‡	3.043***	(0.000)	[0.088]	2.556***	(0.000)	[0.051]	3.368***	(0.000)	[0.053]
Student Input Variables									
Demographic characteristics									
Age	-0.936***	(0.000)	[-0.101]	-0.960***	(0.000)	[-0.072]	-1.263***	(0.000)	[-0.073]
Sex ( 1 = male, 0 = female )	0.587**	(0.029)	[0.026]	1.710***	(0.000)	[0.052]	5.475***	(0.000)	[0.127]
Ethnicity									
Chhetri‡	-0.366	(0.251)	[-0.013]	0.071	(0.839)	[0.002]	-1.149**	(0.023)	[-0.022]
Newar‡	-0.483	(0.337)	[-0.014]	0.477	(0.405)	[0.009]	1.188	(0.208)	[0.018]
Dalit‡	-1.250***	(0.004)	[-0.038]	0.073	(0.879)	[0.002]	-1.026	(0.110)	[-0.017]
Janjati‡	0.448	(0.516)	[0.006]	-0.342	(0.647)	[-0.003]	-0.839	(0.479)	[-0.006]
Other ‡	-1.775***	(0.001)	[-0.056]	0.505	(0.447)	[0.011]	-1.061	(0.272)	[-0.018]
Language ( 1=Nepali, 0=Other)	0.394	(0.380)	[0.015]	0.594	(0.187)	[0.016]	0.028	(0.966)	[0.001]
Study habits, educational background, and peer influence									
School days missed	-0.048***	(0.000)	[-0.035]	-0.060***	(0.000)	[-0.030]	-0.109***	(0.000)	[-0.041]
Log of regular study hours per day	0.409	(0.109)	[0.018]	0.311	(0.220)	[0.010]	0.920**	(0.037)	[0.022]
Read magazines regularly‡	1.418***	(0.000)	[0.053]	1.066***	(0.001)	[0.028]	0.639	(0.148)	[0.013]
No. of friends passing SLC	1.058***	(0.000)	[0.140]	1.426***	(0.000)	[0.129]	2.315***	(0.000)	[0.163]
Months of coaching / tuition	0.098	(0.482)	[0.011]	-0.247***	(0.000)	[-0.038]	-0.125*	(0.080)	[-0.018]
No. of grade repetitions	-0.923***	(0.000)	[-0.081]	-1.530***	(0.000)	[-0.093]	-2.688***	(0.000)	[-0.126]
Student's personal situation during examination									
Commutated daily‡	0.189	(0.653)	[0.008]	0.754	(0.107)	[0.023]	-0.002	(0.998)	[-0.000]
Prepared own food‡	0.031	(0.927)	[0.001]	-0.573*	(0.089)	[-0.014]	-0.633	(0.246)	[-0.012]
Sick‡	-0.061	(0.827)	[-0.002]	-0.565*	(0.060)	[-0.012]	-0.476	(0.390)	[-0.008]
Nepali medium ‡	-0.703**	(0.029)	[-0.027]	-1.695***	(0.002)	[-0.046]	-1.044	(0.116)	[-0.022]
Family Input Variables									
Distance of school from home (mins)	-0.002	(0.763)	[-0.004]	-0.010**	(0.036)	[-0.017]	-0.000	(0.994)	[-0.000]
Demographic characteristics									
Living with both parents‡	-0.079	(0.747)	[-0.003]	0.266	(0.280)	[0.008]	0.221	(0.567)	[0.005]
Family size	-0.188***	(0.001)	[-0.041]	-0.124**	(0.012)	[-0.019]	-0.311***	(0.000)	[-0.038]
Income and wealth									
Log of family's annual expenditure (Rs.000)	1.215***	(0.000)	[0.073]	0.947***	(0.005)	[0.038]	0.770	(0.125)	[0.025]

Variable	Model (1): Nepali			Model (2): English			Model (3): Math		
	Coef.	P-value	Std. coef.	Coef.	P-value	Std. coef.	Coef.	P-value	Std. Coef.
Log of family's wealth ( Rs. 00000)	0.191*	(0.076)	[0.021]	0.233*	(0.057)	[0.018]	0.114	(0.483)	[0.007]
Education background of family									
No. of SLC graduates in family	0.864***	(0.000)	[0.103]	0.871***	(0.000)	[0.072]	1.789***	(0.000)	[0.116]
Support from family and academic environment at home									
No. of books at home	0.003	(0.375)	[0.009]	0.011***	(0.000)	[0.028]	0.009*	(0.064)	[0.016]
Hours spent on household chores	-0.183***	(0.005)	[-0.026]	-0.320***	(0.000)	[-0.032]	-0.327***	(0.004)	[-0.025]
National Context									
SLC Year 2003‡	0.976*	(0.088)	[0.037]	-1.350**	(0.019)	[-0.035]	1.189*	(0.080)	[0.024]
SLC Year 2004‡	0.078	(0.896)	[0.003]	2.452***	(0.000)	[0.074]	5.904***	(0.000)	[0.137]
Community Context									
HDI	26.527*	(0.076)	[0.123]	2.686	(0.809)	[0.009]	13.344	(0.513)	[0.035]
No. private schools	0.008	(0.932)	[0.003]	0.167*	(0.051)	[0.037]	-0.007	(0.938)	[-0.001]
District headquarter‡	0.803	(0.356)	[0.030]	1.868*	(0.063)	[0.048]	2.455**	(0.031)	[0.049]
Permanent bazaar+motorable road ‡	0.478	(0.482)	[0.020]	0.226	(0.778)	[0.006]	-0.117	(0.905)	[-0.003]
School Context									
Learning environment									
Quiet neighborhood‡	2.091**	(0.011)	[0.061]	1.189	(0.126)	[0.026]	0.901	(0.484)	[0.014]
School size	0.002	(0.104)	[0.070]	0.003**	(0.047)	[0.070]	0.010***	(0.000)	[0.136]
School governance structure									
Public, not fully funded school‡	-0.348	(0.665)	[-0.012]	0.602	(0.389)	[0.015]	1.255	(0.256)	[0.024]
Private school‡	3.608**	(0.013)	[0.110]	14.330***	(0.000)	[0.317]	8.939***	(0.000)	[0.165]
No. of supervisions visits	0.015	(0.632)	[0.011]	-0.011	(0.765)	[-0.006]	-0.059	(0.208)	[-0.022]
No. of PTA meetings	-0.008	(0.955)	[-0.001]	-0.051	(0.696)	[-0.008]	-0.015	(0.939)	[-0.001]
Student socio-economic characteristics									
Dalit/Janjati (%)	0.005	(0.755)	[0.010]	-0.010	(0.430)	[-0.016]	0.016	(0.317)	[0.020]
Girls (%)	-0.013	(0.548)	[-0.014]	-0.032	(0.175)	[-0.023]	-0.043	(0.183)	[-0.024]
Non-Nepali speakers (%)	-0.022*	(0.077)	[-0.066]	-0.002	(0.888)	[-0.003]	-0.024	(0.114)	[-0.039]
Poor (%)	-0.015	(0.369)	[-0.023]	0.040***	(0.003)	[0.046]	-0.028	(0.276)	[-0.023]
SLC examination center environment									
Exam room adequacy ( 1 to 6 )	0.121	(0.251)	[0.012]	0.145	(0.202)	[0.010]	0.128	(0.471)	[0.007]
Observations	9185			9688			9242		
Adjusted R <sup>2</sup>	0.309			0.576			0.440		

# Annex 6. OLS Regression Results for Each of the Six Compulsory Subjects

Dependent variable: Total score in the subject

Variable	Model (4): Science			Model (5): Social Studies			Model (6): HPE		
	Coef.	P-value	Std. coef.	Coef.	P-value	Std. coef.	Coeff.	P-value	Std. coef.
Constant	31.659***	(0.001)	[2.126]	31.202***	(0.000)	[2.512]	42.131***	(0.000)	[3.613]
School Input Variables									
General school resources									
Log of spending per student ( Rs. 000)	0.695	(0.115)	[0.032]	0.493	(0.348)	[0.026]	0.041	(0.936)	[0.002]
Student-teacher ratio in secondary school	-0.010	(0.484)	[-0.018]	-0.027*	(0.051)	[-0.059]	-0.006	(0.762)	[-0.014]
Educational materials and school facilities									
Delay in textbook delivery (days)	-0.006*	(0.082)	[-0.019]	-0.002	(0.493)	[-0.007]	-0.006*	(0.074)	[-0.025]
Pukki buildings‡	1.803*	(0.057)	[0.040]	0.645	(0.545)	[0.016]	-1.603	(0.102)	[-0.043]
Grade 10 class size	-0.034	(0.382)	[-0.118]	-0.016	(0.659)	[-0.070]	0.014	(0.598)	[0.064]
Adequate library‡	0.327	(0.620)	[0.010]	1.771**	(0.014)	[0.068]	0.403	(0.588)	[0.016]
Adequate science lab‡	0.154	(0.852)	[0.004]						
Teacher Input Variables									
Teaching experience	-0.168	(0.291)	[-0.072]	0.162	(0.247)	[0.103]	0.116	(0.422)	[0.078]
Teaching experience squared	0.003	(0.606)	[0.037]	-0.005	(0.146)	[-0.128]	-0.003	(0.425)	[-0.080]
Teachers with B.Ed. degrees (%)	0.188	(0.767)	[0.006]	-0.805	(0.291)	[-0.030]	0.036	(0.956)	[0.001]
Teachers with 10-month SEDU training (%)	0.557	(0.534)	[0.014]	-0.270	(0.756)	[-0.007]	0.089	(0.924)	[0.002]
Average short-term training days	-0.050	(0.241)	[-0.024]	0.050	(0.123)	[0.033]	-0.061	(0.300)	[-0.034]
Teacher turnover (%)	-0.173	(0.902)	[-0.003]	-0.216	(0.866)	[-0.004]	0.279	(0.827)	[0.005]
School Process Variables									
Head teacher effectiveness ( 1 to 4 )	1.427***	(0.006)	[0.057]	-1.482**	(0.011)	[-0.067]	0.453	(0.399)	[0.023]
Hours of instruction per week	0.325	(0.631)	[0.022]	0.004	(0.994)	[0.000]	0.813*	(0.090)	[0.071]
School academic policies									
Maximum failures allowed in 9 & 10	-0.033	(0.927)	[-0.002]	-0.181	(0.657)	[-0.014]	-0.007	(0.981)	[-0.001]
Number of times tested in 9 & 10	0.000	(0.999)	[0.000]	0.024	(0.668)	[0.014]	0.050	(0.317)	[0.029]
Regular homework required	0.004	(0.995)	[0.000]	-0.445	(0.544)	[-0.016]	-0.722	(0.264)	[-0.024]
Teaching load/approach									
Interactive teaching approach‡	-0.627	(0.331)	[-0.019]	-1.047	(0.137)	[-0.039]	0.731	(0.301)	[0.027]
Teaching load ( hours per day )	0.640	(0.241)	[0.027]	1.642***	(0.001)	[0.083]	0.607	(0.189)	[0.032]
Course completion rate (%)	0.022	(0.442)	[0.016]	0.059**	(0.044)	[0.044]	0.133***	(0.000)	[0.103]
Instruction time X class size	0.008	(0.360)	[0.120]	-0.002	(0.834)	[-0.034]	-0.002	(0.815)	[-0.028]
Course completion X family expenditure	-0.000	(0.875)	[-0.002]	-0.000	(0.283)	[-0.018]	0.000	(0.519)	[0.013]
Highest degree expected									
Intermediate/+2 ‡	0.386	(0.418)	[0.010]	1.618***	(0.002)	[0.049]	0.711	(0.119)	[0.023]

Variable	Model (4): Science			Model (5): Social Studies			Model (6): HPE		
	Coef.	P-value	Std. coef.	Coef.	P-value	Std. coef.	Coef.	P-value	Std. coef.
Bachelors‡	1.120**	(0.036)	[0.030]	1.996***	(0.000)	[0.065]	1.218***	(0.006)	[0.042]
Masters +‡	2.556***	(0.000)	[0.084]	3.514***	(0.000)	[0.139]	2.180***	(0.000)	[0.092]
No idea‡	1.448**	(0.030)	[0.033]	2.525***	(0.000)	[0.068]	1.571***	(0.002)	[0.044]
Student Input Variables									
Demographic characteristics									
Age	-1.139***	(0.000)	[-0.094]	-0.724***	(0.000)	[-0.072]	-0.730***	(0.000)	[-0.077]
Sex ( 1 = male, 0 = female )	2.904***	(0.000)	[0.097]	2.320***	(0.000)	[0.093]	1.086***	(0.000)	[0.046]
Ethnicity									
Chhetri‡	-0.345	(0.338)	[-0.009]	-0.031	(0.929)	[-0.001]	0.314	(0.367)	[0.011]
Newar‡	0.542	(0.341)	[0.012]	-0.283	(0.623)	[-0.007]	0.647	(0.203)	[0.016]
Dalit‡	-1.267***	(0.002)	[-0.030]	-1.414***	(0.001)	[-0.040]	-1.456***	(0.000)	[-0.045]
Janjati‡	0.576	(0.428)	[0.006]	-0.484	(0.477)	[-0.006]	0.127	(0.896)	[0.002]
Other ‡	-0.993	(0.127)	[-0.024]	-0.876	(0.144)	[-0.026]	-1.550***	(0.005)	[-0.048]
Language ( 1=Nepali, 0=Other)	1.118**	(0.021)	[0.034]	0.291	(0.537)	[0.010]	-0.137	(0.754)	[-0.005]
Study habits, educational background and peer influence									
School days missed	-0.032*	(0.052)	[-0.018]	-0.050***	(0.001)	[-0.033]	-0.035***	(0.008)	[-0.025]
Log of regular study hours per day	1.020***	(0.000)	[0.034]	0.227	(0.380)	[0.009]	0.268	(0.281)	[0.012]
Read magazines regularly‡	0.916***	(0.002)	[0.027]	0.752***	(0.006)	[0.026]	0.657***	(0.009)	[0.024]
No. of friends passing SLC	1.508***	(0.000)	[0.153]	1.240***	(0.000)	[0.150]	1.167***	(0.000)	[0.150]
Months of coaching / tuition	-0.160**	(0.017)	[-0.028]	-0.084	(0.473)	[-0.007]	-0.014	(0.916)	[-0.001]
No. of grade repetitions	-1.852***	(0.000)	[-0.125]	-0.835***	(0.000)	[-0.067]	-1.276***	(0.000)	[-0.110]
Student's personal situation during examination									
Commuted daily‡	0.399	(0.321)	[0.013]	0.224	(0.608)	[0.009]	0.451	(0.295)	[0.019]
Prepared own food‡	-0.205	(0.590)	[-0.006]	-0.312	(0.348)	[-0.010]	-0.825**	(0.012)	[-0.030]
Sick‡	-0.583	(0.101)	[-0.014]	-0.390	(0.184)	[-0.011]	-0.561*	(0.056)	[-0.018]
Nepali medium ‡	-0.854**	(0.041)	[-0.026]	-0.259	(0.532)	[-0.009]	-0.664*	(0.055)	[-0.025]
Family Input Variables									
Distance of school from home (mins)	-0.001	(0.912)	[-0.001]	-0.011**	(0.020)	[-0.024]	0.004	(0.296)	[0.011]
Demographic characteristics									
Living with both parents‡	0.176	(0.489)	[0.006]	0.108	(0.664)	[0.004]	0.281	(0.234)	[0.011]
Family size	-0.220***	(0.000)	[-0.038]	-0.145***	(0.008)	[-0.030]	-0.128**	(0.013)	[-0.027]
Income and wealth									
Log of family's annual expenditure (Rs.000)	0.507	(0.170)	[0.023]	0.930**	(0.023)	[0.050]	0.037	(0.924)	[0.002]
Log of family's wealth ( Rs. 00000)	0.079	(0.546)	[0.007]	-0.038	(0.723)	[-0.004]	0.015	(0.898)	[0.002]

Variable	Model (4): Science			Model (5): Social Studies			Model (6): HPE		
	Coef.	P-value	Std. coef.	Coef.	P-value	Std. coef.	Coeff.	P-value	Std. coef.
Education background of family									
No. of SLC graduates in family	0.977***	(0.000)	[0.090]	0.644***	(0.000)	[0.071]	0.589***	(0.000)	[0.069]
Support from family and academic environment at home									
No. of books at home	0.003	(0.387)	[0.008]	0.003	(0.490)	[0.009]	0.002	(0.390)	[0.007]
Hours spent on household chores	-0.106	(0.178)	[-0.012]	-0.228***	(0.001)	[-0.030]	-0.105	(0.189)	[-0.015]
National Context									
SLC Year 2003‡	3.300***	(0.000)	[0.096]	0.331	(0.646)	[0.012]	-1.669**	(0.010)	[-0.062]
SLC Year 2004‡	5.070***	(0.000)	[0.169]	-0.372	(0.596)	[-0.015]	-0.697	(0.255)	[-0.030]
Community Context									
HDI	26.903*	(0.096)	[0.098]	31.227**	(0.025)	[0.136]	30.392	(0.109)	[0.139]
No. of private schools	-0.084	(0.356)	[-0.021]	-0.184**	(0.018)	[-0.057]	-0.012	(0.923)	[-0.004]
District headquarters‡	2.383**	(0.012)	[0.067]	0.733	(0.367)	[0.025]	0.148	(0.891)	[0.005]
Permanent bazaar+motorable road ‡	-1.090	(0.133)	[-0.035]	-0.405	(0.597)	[-0.016]	0.005	(0.995)	[0.000]
School Context									
Learning environment									
Quiet neighborhood‡	1.403	(0.118)	[0.033]	1.972**	(0.041)	[0.055]	1.157	(0.312)	[0.030]
School size	0.005***	(0.001)	[0.119]	0.006***	(0.003)	[0.156]	0.002	(0.221)	[0.057]
School governance structure									
Public, not fully funded school‡	1.424*	(0.070)	[0.040]	1.107	(0.176)	[0.036]	0.306	(0.729)	[0.011]
Private school‡	12.018***	(0.000)	[0.309]	6.041***	(0.000)	[0.181]	5.984***	(0.000)	[0.183]
No. of supervisions visits	0.002	(0.957)	[0.001]	-0.041	(0.288)	[-0.027]	-0.031	(0.483)	[-0.022]
No. of PTA meetings	0.059	(0.635)	[0.009]	0.067	(0.625)	[0.011]	0.086	(0.360)	[0.019]
Student socio-economic characteristics									
Dalit/Janjati (%)	-0.004	(0.758)	[-0.007]	0.022	(0.140)	[0.045]	0.013	(0.388)	[0.027]
Girls (%)	-0.039	(0.249)	[-0.031]	-0.002	(0.906)	[-0.003]	-0.003	(0.932)	[-0.003]
Non-Nepali speakers (%)	-0.021*	(0.072)	[-0.049]	-0.018	(0.112)	[-0.050]	-0.038***	(0.006)	[-0.109]
Poor (%)	0.010	(0.594)	[0.012]	-0.024	(0.251)	[-0.035]	0.009	(0.648)	[0.014]
SLC examination center environment									
Exam room adequacy ( 1 to 6 )	0.245*	(0.058)	[0.019]	0.386***	(0.001)	[0.035]	0.270***	(0.007)	[0.026]
Observations	8924			8680	0.362	0.36	8442		
Adjusted R <sup>2</sup>	0.490			0.362			0.364		

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%, ‡(1 = Yes, 0 = No )

## Annex 7. Consistency among the Subject-wise Regressions in Annex 5

Dependent variable: Total score in the subject					
Explanatory variable	Direction of relationship	Stability of relationship	Consistent with 5.2?	Table	Variable type
Highest degree expected: Bachelors‡	+	Highly stable	Yes		SCH
Highest degree expected: Masters +‡	+	Highly stable	Yes		SCH
Highest degree expected: No idea‡	+	Highly stable	Yes		SCH
Age	-	Highly stable	Yes		ST
Sex ( 1 = male, 0 = female )	+	Highly stable	Yes		P, ST
School days missed	-	Highly stable	Yes		P, ST
No. of friends passing SLC	+	Highly stable	Yes		ST
No. of grade repetitions	-	Highly stable	Yes		ST
Family size	-	Highly stable	Yes		F
No. of SLC graduates in family	+	Highly stable	Yes		F
School type: Private school‡	+	Highly stable	Yes		C
Read magazines regularly‡	+	Stable	Yes		ST
SLC Year 2003‡	+/-	Stable	No		C
Delay in textbook delivery (days)	-	Stable	Yes		P, SCH
Ethnicity: Janjati‡	-	Stable	Yes		P, ST
Nepali medium ‡	-	Stable	Yes		P, ST
Hours spent on household chores	-	Stable	Yes		F
School size	+	Stable	Yes		C
Adequate library‡	+	Weakly stable	Yes <sup>†</sup>		P, SCH
Course completion rate (%)	+	Weakly stable	Yes <sup>†</sup>		P, SCH
Months of coaching / tuition	-	Weakly stable	Yes		ST
Log of family's annual expenditure (Rs.000)	+	Weakly stable	Yes		F
SLC Year 2004‡	+	Weakly stable	Yes		C
HDI	+	Weakly stable	Yes		C
District headquarters‡	+	Weakly stable	No		C
Non-Nepali speakers (%)	-	Weakly stable	No		C
Exam room adequacy ( 1 to 6 )	+	Weakly stable	Yes		P, C
‡(1 = Yes, 0 = No ), †Consistent with Model (4) in Table 5.2					
P=Policy variable; C=Context variable; F=Family variable; SCH=School variable; ST=Student variable					

## Annex 8. Number of Sample Schools in Each Sample District

District	Region	No. of public schools				No. of private schools				Grand total
		Small	Medium	Large	Total	Small	Medium	Large	Total	
Jhapa	E. terai	2	6	12	20	8	6	2	16	36
Saptari		2	6	4	12	1	0	1	2	14
Chitwan	C. terai	1	8	7	16	4	3	1	8	24
Dhanusha		4	5	6	15	1	1	1	3	18
Rupandehi	W. terai	5	5	6	16	5	2	2	9	25
Dang	M.W. terai	5	4	1	10	4	1	1	6	16
Kanchanpur	F.W. terai	3	4	3	10	1	1	0	2	12
<i>Terai</i>		<i>22</i>	<i>38</i>	<i>39</i>	<i>99</i>	<i>24</i>	<i>14</i>	<i>8</i>	<i>46</i>	<i>145</i>
Dhankuta	E. hill	7	4	2	13	2	0	0	2	15
Okhaldhunga		2	4	4	10	0	0	0	0	10
Udayapur		4	3	4	11	2	0	0	2	13
Dhading		5	5	3	13	1	0	0	1	14
Kavre	C. hill	5	9	5	19	2	1	1	4	23
Arghakhanchi		3	10	5	18	1	0	0	1	19
Lamjung	W. hill	11	6	2	19	1	1	0	2	21
Myagdi		8	2	1	11	1	1	0	2	13
Tanahun		14	7	3	24	3	4	1	8	32
Dailekh	M.W. hill	4	4	1	9					9
Surkhet		6	4	2	12					12
Achham	F.W. hill	4	3	1	8					8
Doti		6	2	0	8					8
<i>Hill (no K.V.)</i>		<i>79</i>	<i>63</i>	<i>33</i>	<i>175</i>	<i>13</i>	<i>7</i>	<i>2</i>	<i>22</i>	<i>197</i>
Solukhumbu	E. mountain	6	2	1	9					9
Rasuwa	C. mountain	7	2	1	10					10
Mustang	W. mountain	2	0	0	2					2
Humla	M.W. Mountain	2	0	0	2					2
Kalikot	F.W. mountain	4	0	0	4					4
Bajhang		5	2	1	8					8
<i>Mountain</i>		<i>26</i>	<i>6</i>	<i>3</i>	<i>35</i>					<i>35</i>
Bhaktapur	Kathmandu Valley	3	3	3	9	10	2	2	14	23
Lalitpur		6	6	2	14	28	7	3	38	52
<i>Kathmandu Valley</i>		<i>9</i>	<i>9</i>	<i>5</i>	<i>23</i>	<i>38</i>	<i>9</i>	<i>5</i>	<i>52</i>	<i>75</i>
<b>Nepal</b>		<b>136</b>	<b>116</b>	<b>80</b>	<b>332</b>	<b>75</b>	<b>30</b>	<b>15</b>	<b>120</b>	<b>452</b>

## Annex 9. Descriptions of context variables

Variable	Description
A. NATIONAL CONTEXT	
1. <i>SLC year</i>	Year when student took the most recent SLC exam
B. COMMUNITY CONTEXT	
2. <i>HDI</i>	Human development index of the district
3. <i>No. private schools</i>	Number of private schools in the vicinity of the sample school
4. <i>No. public schools</i>	Number of public schools in the vicinity of the sample school
5. <i>District HQ</i>	Whether or not school is located in the district headquarters (1 if yes, 0 otherwise)
6. <i>Permanent bazaar+ motorable road</i>	Whether or not there are a motorable road and permanent bazaar within one hour walking distance from the school (1 if yes, 0 otherwise)
7. <i>Eco-development region</i>	Eco-development region to which the school belongs (one of 16 regions)
C. SCHOOL CONTEXT	
<u>Learning environment</u>	
8. <i>Quiet Neighborhood</i>	Whether or not school is located in a quiet neighborhood (1 if yes, 0 otherwise)
9. <i>School size</i>	Number of students from the smallest grade till grade 10
<u>School governance structure</u>	
10. <i>School type</i>	The type of school (1=public, fully govt. funded; 2=public, partially government funded; 3=private, trust/company)
11. <i>No. supervision visits</i>	Number of school supervision visits last year by officials from MOES, DOE, and other institutions within MOES
12. <i>No. PTA meetings</i>	Number of Parent Teacher Association (PTA) meetings held last year
<u>Socio-economic characteristics of student body</u>	
13. <i>Dalits/Janajatis</i>	Percent of Dalits and Janajatis in the school
14. <i>Girls</i>	Percent of Girls in the school
15. <i>Non-Nepali speakers</i>	Percent of non-Nepali speakers in the school
16. <i>Poor</i>	Percent of extremely poor students in the school
<u>SLC exam center environment</u>	
17. <i>Exam room adequacy</i>	Adequacy in terms of furniture, light, ventilation, space, quietness, drinking water availability (0=inadequate in all six areas; 1=adequate in one area only; ...., 6=adequate in all six areas)

## Annex 10. Descriptions of student input variables

Variable	Description
<u>Demographic characteristics</u>	
1. <i>Age</i>	Age when student took the most recent SLC exam
2. <i>Sex</i>	Student's gender (1 if male, 0 otherwise)
3. <i>Ethnicity</i>	Student's ethnicity (Hill Brahman=1; Chettri = 2; Newar = 3; Janajati = 4; Dalit = 5; Other = 6) <sup>1</sup>
4. <i>Language</i>	Language spoken by student at home (1 if Nepali, 0 otherwise)
<u>Study habits, educational background and peer influence</u>	
5. <i>School days missed</i>	Percentage of school days student missed in grade 10
6. <i>Daily study hours</i>	Number of hours student spent studying each day during the last 6 months before SLC
7. <i>Read magazines regularly</i>	Whether student read magazines and newspapers regularly in secondary school (1 if yes, 0 otherwise)
8. <i>No. friends passing SLC</i>	Among student's five closest friends, the number that passed the SLC exams
9. <i>Months of coaching/ tuition</i>	Total months spent by students on coaching classes in grades 9 & 10
10. <i>No. of repetitions</i>	Number of times student repeated class in secondary and lower secondary school, including SLC repetition
11. <i>Grade 9 aggregate score</i>	Aggregate score (out of 100) of student in grade 9
<u>Student's personal situation during exam</u>	
12. <i>Whether commuted daily</i>	Whether exam center was within daily commute distance (1 if yes, 0 if no)
13. <i>Prepared own food</i>	Whether student had to prepare own food during SLC
14. <i>Sick</i>	Whether student was sick during SLC (1 if yes, 0 if no)
15. <i>Nepali medium</i>	Language in which student wrote the SLC exams (1 if Nepali, 0 otherwise)

<sup>1</sup> The survey actually allowed the students to be categorized into 76 different caste/ethnic groups. In the current analysis, the 76 caste/ethnic groups listed in the survey questionnaires have been grouped into six broad categories to facilitate the analysis process. It might be noted that the Census of 2001 has identified a total of 100 different caste/ethnic groups for data collection purposes (Dahal 2001).

**Annex 11. Descriptions of family input variables**

Variable	Description
<u>Location</u>	
1. <i>Distance of school from home</i>	Minutes taken to commute to school daily
<u>Demographic characteristics</u>	
2. <i>Living with both parents</i>	Whether student lived with both parents in 10th grade (1 if yes, 0 otherwise)
3. <i>Family size</i>	Number of people who ate in the same kitchen
<u>Income, wealth, and employment</u>	
4. <i>Family's annual expenditure</i>	Total of all expenditure including consumption of goods produced at home or received in-kind
5. <i>Family's wealth</i>	Total monetary value of all assets
<u>Educational background of family</u>	
6. <i>No. of SLC graduates in family</i>	Number of SLC graduates in family
<u>Support from family and academic environment at home</u>	
7. <i>No. books at home</i>	Number of books, apart from textbooks, at home
8. <i>Hours spent on household chores</i>	Number of hours per day spent by student on household chores

## Annex 12. Descriptions of school and teacher input variables

Variable	Description
A. SCHOOL INPUT VARIABLES	
<u>General school resources</u>	
1. <i>Spending per student</i>	Annual school expenditure per student in rupees
2. <i>Student-teacher ratio in secondary school</i>	Student-teacher ratio in secondary school
<u>Educational materials and school facilities</u>	
3. <i>Delay in textbook delivery</i>	The total number of days students had to wait after starting school before obtaining all the textbooks (in grade 9 + in grade 10)
4. <i>Pukki buildings</i>	Whether the secondary school buildings are primarily "pukki" or "kucchi" (1 if pukki, 0 otherwise)
7. <i>Grade 10 class size</i>	Number of students in grade 10
8. <i>Adequate library</i>	Whether a library exists (1 if there are rooms dedicated for library use, 0 otherwise)
9. <i>Adequate science lab</i>	Whether school has an adequate science lab (1 if yes, 0 otherwise)
B. TEACHER INPUT VARIABLES	
10. <i>Teaching experience</i>	Average years of teaching experience of secondary school teachers (see Teacher Questionnaire--B.14)
11. <i>Teacher with B. Ed. degrees</i>	Percentage of secondary school teachers who have a B. Ed. degree or have any BA plus a one-year M. Ed.
12. <i>Teachers with 10-month SEDU training</i>	Percentage of secondary school teachers who have taken the 10-month SEDU training
13. <i>Average short-term training days</i>	Average number of days spent on short-term trainings by a teacher in one year
14. <i>Teacher turnover</i>	Ratio of total number of teachers who either resigned, retired, passed away, transferred, were fired, or were deputed elsewhere to total number of teachers in the school in 2004.

## Annex 13. Descriptions of school process variables

Variable	Description
A. SCHOOL LEVEL	
<i>1. Head teacher effectiveness</i>	Teachers' opinions regarding how effective the head teacher was in managing the schools (1 = not at all effective, ..., 4=very effective)
B. CLASSROOM/TEACHER LEVEL	
<u>Time on task</u>	
<i>2. Hours of instruction per week</i>	Number of hours allocated per week for instruction (sum of hours allocated for the 6 compulsory and 2 optional subjects).
<u>School's academic policies</u>	
<i>3. Maximum failures allowed in 9 &amp; 10</i>	Maximum number of subjects a student can fail and still be promoted in secondary school
<i>4. Number of times tested in 9 &amp; 10</i>	Number of times per year students are tested (includes all tests from unit tests to annual exams)
<i>5. Regular homework required</i>	Whether teachers are required to assign homework regularly (means on average one homework per week per subject) (1 if required, 0 otherwise)
<u>Teaching load and approach</u>	
<i>6. Interactive teaching approach</i>	Whether teachers, on average, mainly lecture in class or use an interactive teaching style (1 if interactive, 0 otherwise)
<i>7. Teaching load</i>	Average teaching load per teacher (in hours per day)
<i>8. Course completion rate</i>	Percentage of the SLC course completed before the SLC exams
<u>Student level</u>	
<i>9. Highest degree expected by student</i>	Highest degree student expected to achieve {1 = SLC, 2=Intermediate/+2, 3=Bachelors, 4=Masters +, 5=No idea}

## Chapter XI : Case Study of Effective and Ineffective Schools

**Annex 1. School Traits and Practices**

Trait or Practice	Schools																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Adequate physical facilities	+	+	+	+	+	+	+	+	+	+	+	+		+				+	–							+	+	+
Active head teacher	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	–		+				+	+	+	
Stable head teacher	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+		+			+	+		+	+
All subject teachers	+	+	+	+	+	+	+		+	+	+	+		+											+	+	+	
Teachers meetings	+	+	+	+	+	+	+			+	+		+	+			+	–										
Teacher collegiality	+		+	+	+	+	+		+	+	+	+	+	+				+	+	+	+			+	+			
Assign homework	+	+	+	+	+	+	+	+		+	+	+		+			+		+		+		+		+			
Check homework	+	+	+	+	+		+				+			+														
Extra coaching		+	+			+	+				+		+			+			+						+			
Personal attention	+	+	+		+		+			+	+		+	+					+	+								
Projects/problems	+		+			+	+				+														+			
Group works	+	+	+				+				+																	
Students ontask	+	+	+	+	+		+			+	+		+	+	+	+			+	+	+				+		+	
Course completion	+	+	+	+	+		+	+		+	+			+											+			
Frequent testing	+	+	+		+		+		+		+			+				+										
Feedback to student	+	+	+	+	+		+			+	+			+							+	+			+			
Learning focus		+	+		+	+	+	+			+		+	+			+			+		+	+		+			
Parents involved	+	+	+		+		+	+	+			+		+									+			+		
Active SMC	+		+	+	+		+	+	+	+	+	+		+		+		+							+	+		
Reward system	+	+		+	+				+		+		+	+							+							
Public support	+		+	+	+	+	+	+	+	+	+	+	+	+	+			+	+		+	+	+	+	+	+	+	
Public image (+ve)	+		+	+	+	+	+	+	+	+	+	+	+	+			+	+		+	+		+		+	+		
Supervision	+	+		***			+		+		+			+														
Conflict affected		+	+		N	+	+	N	+	N	N	N	N	N	+	N	+	+	+	N	+	+	+		+	N	N	
					A			A		A	A	A	A	A		A				A			T			A	A	

Note: + = practice exists, = practice does not exist, \*\* = Doubt?, T = Threat, NA = Information not available

## Annex 2. Brief Profile of Case Schools

No	Name and address of the school	Type		Year of Establishment	Total No of Students	Total No of Teachers	Student Teacher Ratio	No of Students in Secondary Level			No of SLC Pass in Year			Average No of Graduates per Year
		Urban	Rural					Grade 9	Grade 10	Total 9+10	2058	2059	2060	
1	Gyanodaya Secondary School, Sanepa, Lalitpur	Urban		1963P/1982S	1784	63	28.3	150	131	281	84	75	90	83
2	Gems Secondary Boarding School, Sanepa hight Lalitpur	Urban		1984	3036	146	20.8	NA*	NA	NA	114	136	130	126.6
3	Nava Jagriti Chandi Secondary School, Gorkha		Rural	1962	703	12	58.6	47	23	70	25	44	33	34
4	Khaireni Secondary School, Khaireni VDC4,Tanahu	Urban		1969	852	24	35.5	174	120	294	13	69	36	39.3
5	TriPadma Secondary School , Lalitpur	Urban		1947	887	43	20.6	70	38	108	28	37	35	33.3
6	Amar Jyoti Secondary School, Jarbuta VDC, Surkhet	Urban		1965	1175	22	53.4	387	116	503	46	72	52	56.7
7	Sagarmatha Boarding School, Panchali, Sub Metropolitan, Biratnagar 15, Morang	Urban		1996	1432	59	24.27	86	78	164	33	49	77	53
8	Balambhu Secondary School, Kathmandu	Urban		1971	736	23	32	61	45	106	37	38	37	37.3
9	Public Bindeshowri Secondary School, Rajbiraj, Saptari	Urban		1946	1127	26	43.3	230	123	353	14	32	44	30
10	Bal Kumari Kanya Madhyamic Vidyalaya, Chitwan	Urban		1951	2317	61	38	142	105	247	55	60	46	53.7
11	Janahit Secondary School, Jomsom, Mustang		Rural	1954	164	13	12.6	36	25	61	15	14	14	14.3
12	Janajyoti Secondary School, Municipality13, Udaypur,	Urban		1962	1025	20	51.3	57	24	81	24	10	37	23.7
13	Saudiyar Secondary School, Saudiyar, Dang	Urban		1973	1412	21	67.2	93	67	160	4	4	10	6
14	Sramik Santi Secondary School, Chasyal, Lalitpur District	Urban		1955	994	22	38.5	47	42	89	30	27	29	28.7

No	Name and address of the school	Type		Year of Establish-ment	Total No of Students	Total No of Teachers	Student Teacher Ratio	No of Students in Secondary Level			No of SLC Pass in Year			Average No of Graduates per Year
		Urban	Rural					Grade 9	Grade 10	Total 9+10	2058	2059	2060	
15	Tilleshwar Secondary School,Guth, Teliya Village Development Committee, Ward 2, Dhankuta		Rural	1951	2782	12	231	22	26	48	0	0	5	1.7
16	Deurali Secondary School, Jumlakot, Malikasthan VDC 2, Jumla		Rural	1960	184	11	16.7	9	6	15	0	0	0	0
17	Sri Nirku Bhume Secondary School, Saramthali, Rasuwa.		Rural	1962	367	14	26.2	33	20	53	8	1	13	7.3
18	Sri Changesthan Secondary School, Kerung, Solukhumbu		Rural	1961	428	12	35.6	54	34	88	1	0	1	0.7
19	Sri Bhrikuti Secondary School, Khimadi, Pandaun, Kailali		Rural	2000	191	7	27.3	10	11	21	0	0	0	0
20	Panchoday Secodary School, Nakharhi, Mugu		Rural	1965	129	8	16.2	10	8	18	0	0	0	0
21	Bindhyabasini Secondary School, Accham.		Rural	1973	358	12	29	30	29	59	0	0	0	0
22	Siddha Secondary School, Gadhi VDC, Mehelpani, Surkhet		Rural	1968	268	12	22.3%	9	21	30	14	13	8	11.7
23	Raling Secondary school,Bargaun6, Humla		Rural	1976	137	11	12.5	5	5	10	6	1	0	2.3
24	Siddhi Ganesh Secodnary School, Nagadesh, Bhaktapur	Urban		1980	NA	NA	NA	23	28	51	10	10	10	10
25	Radha Krishna Secondary School, Doti		Rural	1952	510	13	39.2	34	37	71	19	19	20	19.3
26	Laxmi Secondary School, Dodhara, Kanchanpur		Rural	1909	1000	26	38.5	102	31	133	5	5	5	5
27	Krishna Secondary School, Maidan, Arghakhanchi		Rural	1954	447	15	29.8	51	67	118	4	2	3	3
28	Purkot Secondary School, Mulabari, Tanahun		Rural	1924	374	12	31.2	29	36	65	1	0	0	0.3

\* Data not available

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