

Generating Knowledge for Educational Management: Community Forestry Approach

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Abstract

The main objective of the paper is to present 'Community Forest Management Strategies and Livelihood Pattern' and to clarify the types of the government strategies and livelihood pattern based on community forest user group model. It was felt that the people in the community have knowledge about sustainable forest management and improvement of livelihood that is necessary to achieve quality life in the community. Global evidence and research findings have shown that all the community forests are at risk, and vulnerable environment in hills, rural areas and in plain Terai regions as well as in inner Terai regions and livelihood is difficult to maintain quality life. Rural community people were found with little knowledge on managing resources of community forest and governance of forest management as compared to people in urban areas in the sample districts. The diversity of ethnicity, level of education, occupation, and religion were found with different levels of knowledge, practice and attitude of the respondents. Most of the community members were found with the knowledge about the importance of forest and benefits of forest products, social welfare and livelihood improvement. The attitude of people was found more positive towards the behavior of changing livelihood pattern in weak physical environment including school management.

Keywords

Conservation, Livelihood, Forest resource, Community Forest User Group (CFUG), Non-timber forest products, Occupation.

Introduction

Community Forestry is the active and meaningful involvement of communities in forests. The key characteristics of Community Forestry are meaningful community involvement in, or control of, decision making about forest management and the retention of benefits of forest management and retention of benefits of forest use and management within the community (Uprety, 2007). The forests land in Nepal is under Government control; however, the Government has made provision to hand over the state owned forests to the local communities for a certain renewable period of time for conservation and sustainable utilization of forest resources.

More than half of world's poor depend heavily on natural resources for their livelihood, and in Nepal about 70% of people are forest dependent. There is a need to find an innovative ways for natural resource management for securing and enhancing livelihood. Integrated Natural Resource Management (INRM) provides new paradigms for development approaches. But, there has been very little literature that provides an adequate knowledge base in understanding the integration process at the catchment level in developing countries. Natural resources development and management, and development efforts, are typically compartmentalized along distinct political and administrative lines and implementation typically remains at the sector level.

Nepal's community forestry is a well-established legal grounding for decentralization of forest management roles and responsibilities from state to the local communities as it is three decades old in practice (Giri and Ojha, 2010, Uprety et al, 2012). The community forestry program has met with some notable successes in terms of enhancing flow of forest products, improving livelihoods opportunities for forest dependent people, strengthening social capital, and improving the biophysical condition of forest. Because of these successes, Nepal's community forestry has moved beyond its original goal of fulfilling basic forest needs

of the people including firewood, fodder, timber, and non-timber forest products (NTFPs), and hence Nepal is pioneer in terms of community-based natural resource management (Giri and Ojha, 2010).

Purpose of the Study

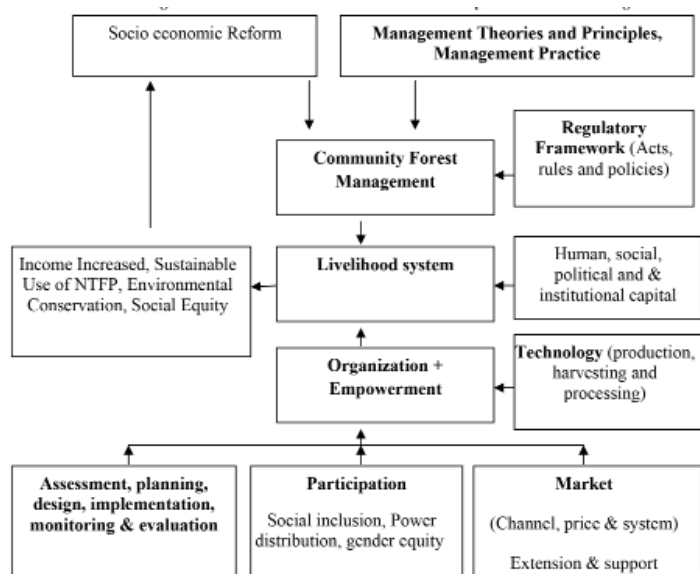
The main objective of this study was to analyze the community based forest management modalities, and explorer how such management systems have been contributing to rural livelihoods of poor and disadvantaged people and supporting to sustainable forest management in Nepal.

Review of Related Literatures

Forests, agriculture and livestock are integral parts of rural livelihoods in Nepal and elsewhere in the developing countries. People from developing countries and particularly those who live in rural areas rely on forests for meeting their livelihoods needs. In Nepal rural people depends on trees for fire-wood, fodder, timber, wood fiber, fruits, seeds, herbs and compost manure to maintain and sustain the subsistence farming system. Farm, forests and livestock are the three highly integrated constituents of the farming system and cannot be separated from each other (Acharya, 2004). The fire-wood is the most important forest product for rural people in Nepal and often only one source of energy for cooking and heating. Hence, the forest is the backbone of Nepalese agriculture, sustaining the livelihoods of its rural people (Gilmour and Fisher, 1991; Acharya, 2004). In the absence of these forests products, villages' life is unimaginable. Forestry policy in Nepal emerged in a series of milestones between 1975 and 1993; indeed some amendments are seen from 1993 to 2006. National Agriculture Policy (2004) has the provision of leasing marginal, pasture, degraded forest and unused common lands to the poor and marginalized target population for the cultivation of cash crops and horticulture-grass, forage, fodder, agro-forestry, medicinal plants, sericulture and other perennial tree crops, which would contribute to land improvement and poverty alleviation.

A theoretical model illustrating the proposed interface between community-based forest management and resource management factors and desired end results through community-based interventions is given below which indicates the relationships amongst the key variables. The figure made it explicit and this figure guided the present study.

Figure 1: Theoretical Framework of Community-Based Forest Management



Research Methodology

In this study, description schedule interview survey and focus group discussion method was used. A simple cross sectional descriptive cum exploratory study design was selected to examine, describe and predict the relationship among variables based on schedule. On the other hand, the quantitative data concerning community forest management and other related information were collected and analyzed using statistical tools. The information generated through quantitative data was studied qualitatively to generate findings regarding community forest user group and livelihood among rural people of Nepal. Six local forestry groups comprising of four community forest users groups, one leasehold forest users group, and one collaborative forest management group were selected. About 50 Households from each Forest User Group (FUG) were interviewed. Various relevant literatures were reviewed as part of designing of research, and getting in-depth knowledge about the subject of study.

The analysis of data consists of organizing, tabulating, performing statistical analysis and drawing inferences (Pant & Wolf, 2002). The coding process included the categorization of responses on the interview schedule, giving appropriate numbers for each different response and copying the responses on a code-book. The computer readable forms of coded responses were entered into SPSS and statistical analysis was done.

Results and Findings

Socio-economic status of the people determines the condition of livelihood of people how they have been living in the rural setting. The influence of the community forest management is considered as the change factor for sustainable livelihood in general. The households participated in the research rated about their status of livelihood in sample districts.

Economic Status of the Households

The households were categorized as rich, middle class, poor, woman led, Dalit, and landless to rate their economic level. The selection of households of different social and economic background has been illustrated in table.

Table 1: Economic Status of the Household

S.N	Economic Strata of the family	No. of households	Households %
1	Rich	25	7
2	Middle class	120	31
3	Poor	134	35
4	Woman led	42	11
5	Dalit	34	9
6	Landless	26	7
	Total	381	100

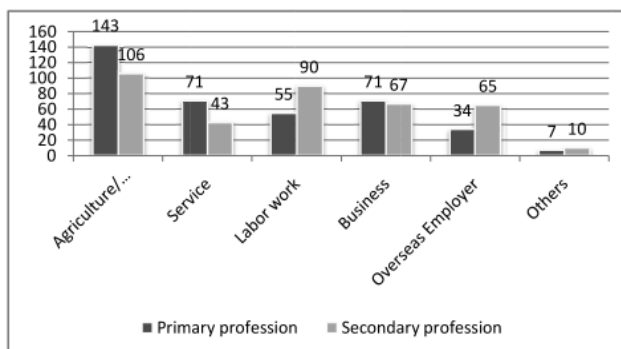
Source: Field survey, 2014

Out of 381 households, the household of rich family, middle family and poor family were rated as 7 %, 31%, and 35% respectively. Similarly, the household of woman led, Dalit and landless family were 11%, 9% and 7% respectively. The majority of the households were from middle and poor classes.

Primary and Secondary Income Sources of the family

Agriculture, livestock, service, labor work, business and overseas employment were recognized as major sources of the family in the sample areas.

Figure 2: Trend of Primary and Secondary Income Sources of the Family



Source: Field Survey, 2014

Out of 381 households, the main income source of 143 households rated agriculture and livestock as their primary profession and 104 respondents placed it in secondary source of income. Similarly, 90 households rated labor work as their primary source of income and 55 rated as secondary source. Besides these two major sources, 71 rated business as primary source and 67 rated as secondary source for their income. However, another 71, 31 and 7 respectively rated service, overseas employment and others as their primary source of employment. Majority of the people rated agriculture, livestock, business and labor works as their primary source of income.

Status of Income and Expenditure of the Family

The income and expenditure balance has been rated based on the saving the people make in each year, no save and no loss category, and loss in their income status. The status of income and expenditure of the family has been presented in table.

Table 2: Income Status of Households

S.N	Economic status of household	No. of households	No. of household (%)
1	Saving	150	39%
2	No saving & no loss	56	15%
3	Loss	175	46%
	Total	381	100%

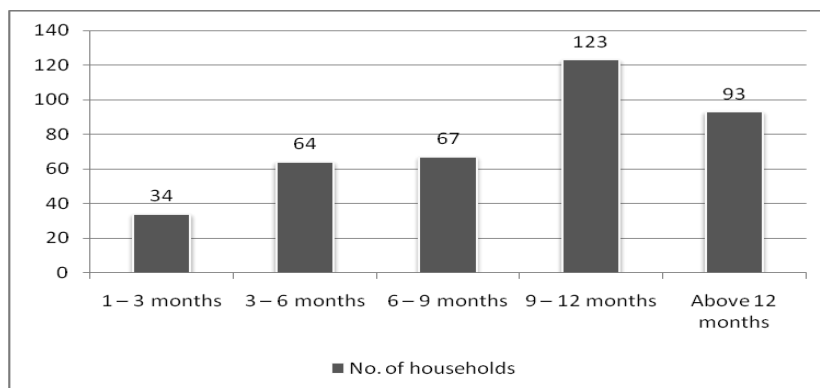
Source: Field survey, 2014

Out of 381 households, 150 households that is 39 % said that they have been able for saving their income and 56 household that is 15 % said that they neither have saving nor loss. The remaining 175 household that is 46 % said that they are living with loss; it means their lives are running very poorly and they have fell in vicious circle of poverty.

Food Production Status of Household

In the rural setting, the food produced by the family has not been found sufficiently even for their yearly food requirement. The category was rated from the sufficiency starting from three months interval exceeding even more than a year. This table is only related to agricultural professional families.

Figure 3: Food Production Status of the households



Source: Field survey, 2014

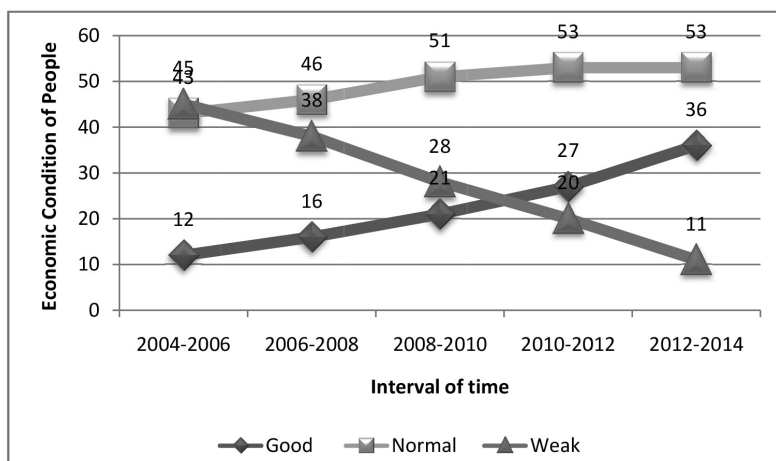
Out of 381 families, only 93 families rated that they have food sufficient for more than a year and majority of the families i.e. 123 families demonstrated that they have food sufficient for 9-19 months. The agricultural production of 34 families, 64 families, and 67 families has available food only for 1 -3 months and 3 – 6 months and 6-9 months respectively. People who participated on the survey agreed that they have not yet set any food security plan and for emergency they need to import food from out of the village.

Trends of the Economic Status of Households

The economic condition of the people from the past ten years have been rated under three categories namely as good, normal and weak in the interval of two years.

Figure 4: Trends of Economic Status of the Households

Source: Field survey, 2014



In the beginning of ten years during 2004-2006, the economic condition of the people was rated as 12% good, 45% normal and 43% weak where as in 2006-2008, the level changed to 16% good, 46% normal and 38% weak. Similarly the trend of changing economic condition has been increased in 21% good, 51% normal but weak condition reduced to 28% in 2008-2010. This trend further continued to 27% good, 53% normal and 20% weak in 2010-2012. From 2012-2014, the economic condition has been found good by

36%, normal by 53% and weak condition has fallen to 11%. The major influence of changing scenario has been realized due to community forest management as one of the effective change factor.

The various reasons have been identified behind the good income of some households in the region.

Table: 4: Reasons for Good Economic Status

Reasons for good economic Status	No. of household of good economic status	households of good economic status %
Increase in employee in national level	14	9%
Increase in overseas employment	17	11%
Increase in agricultural production	54	36%
Increase in business investments	21	14%
Increase in livestock keeping	34	23%
others	10	7%
Total	150	100%

Source: Field survey, 2014

Among the 150 families rated in the good economic status, 36% respondents realized that the increase in income is because of growth in agricultural production. Similarly, 23% of the participants rated that the increase in income is due to increase in livestock keeping and availability of fodder from the community forest. About 14% realized that their income has been good through increase in business investments and generation of employments. Some 11% respondents also agreed that overseas employment has also contributed them for having good economic status in the village. However, 9% respondents identified that because of increase in employee in national level with development interventions in the rural areas, the income has been good for them.

Expectations of households

The households were asked to respond different expectations regarding the socio economic status improvement strategies including provision of national employment, loan for overseas employment, modernization of agriculture sector, investment in business and investment in agriculture.

Table: 5: Expectation of Households

Expectation of households	No. of households	Household %
Provision of national employment	45	12%
Loan for overseas employment	46	12%
Modernization of agricultural sector	123	32%
Investment in business	56	15%
Investment in agriculture	102	27%
Others	9	2%
Total	381	100%

Source: Field survey, 2014

Out of 381 families, 123 families that is 32 % rated that their expectation was modernization of agricultural sector, 102 families that is 27 % agreed that their expectation was investment in agriculture and 56 families that is 15 % said that the expectation for improvement of their present economic status is to provide investment in business. About 12% rated expectation of provision of national employment and another 12% expected the need of loan for overseas employment to raise their socio economic status.

Increase of the forest or green coverage as compared to past years

There were various reasons found behind the increase in the green coverage as compared to past ten years. The respondents indicated the various reasons including decrease in mobile farming, control of deforestation, community awareness, increase in reforestation.

Table 6: Reasons for Increasing the Forest Resources in the Past Ten Years

S.N	Reasons for Increasing	No. of Agreed participants	No. of Agreed participants (%)
1	Decrease in mobile farming	78	20
2	Control of deforestation	80	21
3	Community awareness	135	35
4	Increase in reforestation	67	18
5	Others	21	6
	Total	381	100

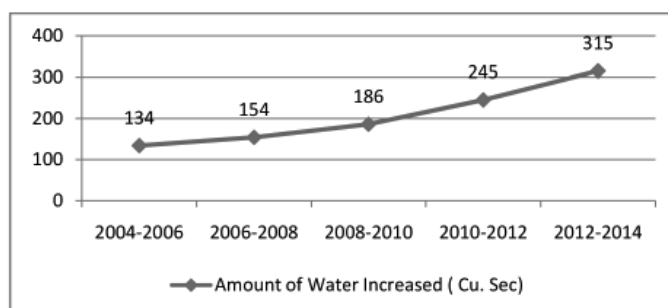
Source: Field survey, 2014

There were different views on the reasons behind the increase in the forest or green coverage. Out of 381 participants, 135 participants that is 35 percentage said that it is due to the community awareness in the recent years. Similarly, 80 participant that is 21 percentage believed on controlling of deforestation, 78 participants that is 20 percentage responded on decrease in mobile farming and 67 participants that is 18 percentage said that it is due to increase in reforestation. 21 participants that is 6 percentage said that it is due to the help of governmental and non-governmental sectors on protecting trees in farming for grass and fire wood, supporting for plantation of trees and fruits, etc.

Change in the Amount of Water in Sources in the Past Ten Years

There were various participants responding the change factors to increase in water sources in the regions. They demonstrated the amount of increase in the regions with evidences. The increase in water has been in growing trend as shown in figure.

Figure 5: Amount of water in sources of water in the interval of ten years



Source: Field Survey, 2014

Amount of water in sources of water from 10 years ago to present was found with increasing trend. Out of 381 participants, 206 participants that is 54 % said that there used to be less amount of water in sources of water. Similarly, 63 participants that are 16.5 % said it has become more and remaining 67 participants that are 17.5 % said that there is no any difference and remaining did not respond clearly.

Keeping livestock at different interval of time

The view of participants, about the number of livestock keeping in the interval of last ten years, are shown on table.

Table No.7: The number of livestock keeping in the interval of ten years

Interval of time	More Livestock (%)	Less Livestock (%)	No difference (%)
2004-2006	12	43	45
2006-2008	33	24	43
2008-2010	52	18	30
2010-2012	59	15	26
2012-2014	79	11	10

Source: Field survey, 2014

Out of 381 participants 45% realized that there was no difference in keeping livestock and in the same time 43% rated decrease of livestock during 2004-2006. Meanwhile in 2006-2008, 43% rated constant number of livestock and 33% realized increase in livestock in their houses. Similarly, 52 % participants said that there was increase in livestock during 2008-2010 which was supported by 59% in 2010-2012 and 79% in 2012-2014. There seemed increasing trend of livestock in past ten years which was decreasing in the beginning.

Additional income and Extra food production

People in the sample areas realized that before ten years they used to import various food to compensate their decrease in food production. The view of participants, about the alternative income and food for to recover the decreased production and to reduce import and increase export, are shown on table.

Table No.10: The alternative income and food production to recover the import

S.N	Additional income & food	No. of participants	Percentage
1	Labor work	39	10%
2	Service	18	5%
3	Overseas employment	71	19%
4	Medicinal herb production	56	15%
5	Cattle raising	54	14%
6	Seasonal Vegetables	30	8%
7	Cash Crops	67	18%
8	Others	46	12%
	Total	381	100%

Source: Field survey, 2014

Out of 381 participants, 71 participants i.e. 19% rated that overseas employment has been one of the major income source in the areas, 18% participants believed that cash crops has been one of the immediate alternate income source at this moment and in the same way, 15% said that medicinal herbs produced from the collection from the community forest has made a vital income source. About 14% participants realized that cattle raising is supportive to them for increase in income and increase in food production. However, some 8% pointed out the seasonal vegetables has also contributed in their income and increase in food production.

Alleviation of Poverty of Dalit, Marginal, and Excluded

One of the major contribution of community forest management through CFUG is that there is improvement in the poverty alleviation and increase in economic level of ultra poor in the areas.

Table No.11: The Poverty Alleviation Strategy to excluded and poor people

S.N	Strategies	No. of participation	No. of participation (%)
1	Forming the CFUG	129	34%
2	Forming cooperatives	62	16%
3	Participating excluded in CFUG	107	28%
4	Utilizing agro forestry practice	56	15%
5	Others	27	7%
	Total	381	100%

Source: Field survey, 2014

The people living and involving in CFUG identified different possibilities of strategies used in managing forest resource in order to alleviate poverty so that the excluded and ultra poor get maximum benefit for their economic growth. Out of 381 participants, 34% with majority of the participants said that forming CFUG with inclusion rights is the best way of alleviating poverty. Similarly, 28% people demanded the effective strategy is the reservation of excluded in the CFUG. However, 16% participants also showed that there is the effective action plan to alleviate the poverty by increasing the speed of present co-operative movement and in the same way 15% participants also rated that utilization of agro forestry practice has also contributed to alleviate poverty. Remaining 27 participants that is 7 % said that there are other programs like poverty alleviation fund; NGOs/INGOs etc. addressing the increase in income.

Reform through Forest Resource for Poverty Alleviation

The focus group discussion on the issue of poverty alleviation, were organized on the sample areas with the different stakeholders. The view of participants, about the suggestions to reform the present community forest management system as a basic platform of poverty alleviation has been summarized as:

1. There is need of the educational support for children.
2. The support for family health insurance, livestock insurance and crops insurance etc. were demanded to have immediate intervention.
3. It has been realized that the identity card for purchasing daily required materials with cheapest price through the CFUG office for economic support and income generation.
4. Provision of the subsidy for community forest management.
5. Provision of the facility of registration of forest groups and cooperatives in local level without any problem.
6. Making the rule of registration of members with reservation of excluded ones in key posts.

Options for New Organizational Poverty Alleviation Models

Good practices in the different communities needed to be replicated for the welfare of the ultra-poor so that they could get economic benefits from the community forest. The view of participants, about the options for any organizational poverty alleviation models has been summarized based on the focus group discussion results from the participants as:

1. Establishment of nationwide network of Poverty Alleviation Fund working in local levels like VDC and municipality for mobilizing fund for the well management of forest and local resources.
2. Use of co-operative in different sectors for poverty alleviation, and thus different programs applying from governmental and non-governmental sectors.
3. Use of the 'cost of carbon' for poverty alleviation program which comes from rich and industrial countries.

4. Investment by governmental and non-governmental sectors in income generating areas and solving the problem of employment.
5. Encouragement to the poor people in production sectors by the governmental and non-governmental support.

Move towards Agro-forestry

The cohesive among the diversity, people do not have differences in their social phenomenon. They helped each other during the natural as well as human made disaster. Among the diversity there is uniformity in environment related activities. The perception towards forest conservation and environmental sanitation among different ethnicity, found less in aware in Muslim and Dalit communities. The multi sectoral intervention on the improvement of forest conservation practices was felt needed in the sample districts. The forest sector, agriculture and education were reported more complementary for the improvement of agro forestry in the CFUG for livelihood improvement.

Greenery Practices in Schools and Eco-tourism

The CFUG members gave priorities in Bara, and Rautahat for increasing greeneries with some plants in the open barren ground of the community forest boundaries. The forest of Bara and Rautahat were more prepared for maintaining greenery. The people from the areas of sample CFUG of Parbat, Baglung and Kaski said that they have managed eco-tourism practices in their areas. Home stay has been established to protect homely environment and preserving culture. They have placed different products for sale made from the forest resources. Their physical environment for healthful living was environment friendly. The landscape of the community forest in these districts was found in natural environment. The resorts were developed in some places but most of the lands were used for the forest conservation. The watering facilities were sufficient and children in the school reported that they get more access on the drinking water and water for cleaning toilets now a days. In case of the schools in Bara, and Rautahat, the schools were mostly following open defecation in nearby jungles. The community awareness and capacity building of the teachers about the environment protection felt needed.

Investment Priorities on Health and Education

People of sample forest user groups invested on socio-economic activities and for welfare schemes. There is a strong association between health facility delivery, children's education, and wealth quintile. About the basic care of students' knowledge increased based on level of education.

Increasing the percentage of health facilities is important for reducing retardation in growth arising from complications of stunting. The expectation is that if complications arise during growth in children in a health facility, a skilled teacher can manage the complication or refer the parents early to the next level of care. Hence, Nepal is promoting safe schooling through initiatives such as providing financial assistance through school incentives schemes to care in a health facility. SLC and higher level of education and those in the highest use of health facilities, and nutrition has been promoted.

Establishment of Industries Based on Forest Resource

The younger the age of people, more knowledge, practice and positive thinking, behaviour were found. The statement about the affordability and accessibility of health services, they perceived that these are not the problems, majority of people disagreed with these statements. The respondents of this research, most of them disagreed with families' contribution is less on maintaining the health and environment of the school. Only the community forest resource has been the useful fund in crisis.

Conclusion

Categories were generated from the community members' experiences and their individual and collective input after using the forest resources as livelihood improvement tools and as a method of delivering resources. The forest resource management was guided by the resource management theories, principles

and policies. Some members indicated that they would prefer to use the forest resources through the government mechanism or those they should be supported primarily by the local government bodies and thereafter using the resources in long run. Despite the fact that a few preferred to receive the resource from the forest for daily hand to mouth supplement, the majority of the members' reflections on the study demonstrated that they were in line with the support of forest resource in health centers and school management. The forest resource materials and their distribution to community members were applicable to help understand the balance need of environmental factors. The management of resources from forests in diverse perspectives made it possible for them to understand the practice better. The incorporation of different practice models together with the resources offered community members the opportunity to consider the ways from different points of view for improving livelihood and for the welfare of the society. The community members confirmed that they used the resource materials to enable them to solve practical problems in the improved livelihood.

The field notes recorded from the participants' interpretation of the existing situation demonstrated that the resources mobilization was a motivating and interesting way of livelihood improvement and social welfare including quality school management. The members were happy and motivated after their involvement of forest resources themselves in sustainable manner.

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