Socio-Economic Benefits of Community Forest

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Abstract

Nepal's community forestry has become an example of progressive legislation and policies in the decentralization of forest management. It has attracted international attention because in Nepal, decentralization is linked with emerging issues sustainable forest management, forest governance, policy advocacy, equity, gender, poverty and the role of civil society in community forestry. The text examines the socio-economic and environmental benefits of community forestry on the local community. In the study area, which includes 240 member households, a sample of 60 households (Forest User Groups - FUGs) was selected through random probability sampling. The community forestry initiative contributes to the development of local human resources and enhances rural livelihoods. It empowers people by fostering team building, group dynamics, and self-motivation in community development. Both direct and indirect benefits from community forestry have significantly impacted the social life of the people in the study area.

The primary economic activities of the FUGs include agriculture, livestock farming, and various home-based industries. Industries such as iron-based, furniture, and bamboo-based rely on the forest for raw materials, indicating the forest's role in the local economy and its contribution to additional income. The research also highlights the forest's environmental aspect, noting the effective conservation of biodiversity through various activities.

Keywords: Community Forest, Local, Socio-economic, Environmental, Biodiversity

Introduction

Over the past three decades, the Nepalese government has made community forestry a key policy, continually updating it to meet the needs of local communities and the experiences of stakeholders involved in these projects. Local people manage forest areas to meet their needs for forest products and to enhance soil and water conservation, thereby improving the environment (Arnold, 2011). A traditional Nepali slogan, "Hariyo Ban Nepal ko Dhan," translates to "Green forest is the wealth of Nepal" (Timsina, 2002).

Several authors describe the connections between forest and farming systems (Gilmour & Fisher, 1996). In a developing country like Nepal, the forest is vital for society, providing essential materials and services for daily life, thus reflecting the mutual relationship between forests and humans. Forests are considered valuable and renewable resources (Dahal, 2008).

According to the Act, Community Forest User Groups (CFUGs) must be established and registered at the District Forest Office (DFO) before the forest is handed over to them, functioning as self-sustained institutions (Kanel, 1993). Community forestry emphasizes a shift from a technical "Classical Forest Management Approach" to a "Participatory Approach," which focuses on people

(Roe, D. Fred, N., 2009). In Nepal, community forestry aims to stabilize a partnership between the government and the forestry user group, applying business methods and technical forestry principles to benefit village communities (Singh, 2002). People's participation is crucial in Nepal's community forestry, despite challenges due to mass illiteracy and backwardness (Gilmour & Fisher, 1989). The main goal is to involve people in all stages of participation, from decision-making to benefit-sharing (MOPE, 2011).

- To analyze Community Forest on socio-economic and environmental life of local community.

Methods

This forest has various economic and environmental potentialities with having high bio-diversity maintenance. This research is targeted to identify these entire mechanisms. The study area of this study is Dumsi-Vir Community Forest of Palungtar Municipality-10 of Gorkha district of Nepal. This site was purposively selects for the following reasons. This area was found more appropriate for the research activity focusing on both sex's participation and their role in community forest management.

Altogether there are 240 member households under Community Forest a fair sample of 60 households (FUGs) were selected by using Random Sampling of Probability Sampling method. Both quantitative techniques were used as corresponding to each other rather than compete or mutual exclusive to analyze the data. The qualitative method was descriptive and analytical.

Results and Discussions

It is to be noted that the benefits that are accrued from community forestry can be categorized as direct and indirect. Most of the benefits from community forestry are in indirect form and is difficult to estimate in monetary forms.

Most of the benefits from community forestry are in indirect form and is difficult to estimate in monetary forms. Even though some incomes are distribution as follows describe.

Table 1: Respondents by Annual Income

Annual Income	No. of Households	Percent
0-50000	8	13.3
50000-100000	12	20
100000-150000	21	35
150000-200000	10	16.7
Above 200000	9	15
Total	**60**	**100.0**

Sources: Field Survey, 2017

Table 5.1 shows the annual income of the respondents. Data shows that 13.3 percent earn up to 50 thousand and 20 percent earn 50 to 100 thousands. In the same way, 35 percent earn 100-150 thousand and 16.7 percent earn 150 to 200 thousand. Only 15 percent earn more than 2000.

Table 2: Respondents by Expenditure

Expenditure	No. of Households	Percent
0-50000	14	23.3
50000-100000	7	11.7
100000-150000	25	41.7
150000-200000	8	13.3
Above 200000	6	10.0

Total	**60**	**100.0**

Sources: Field Survey, 2017

Table 2 shows the annual expenditure of the respondents. Data shows that 23.3 spend more than 50 thousands and 11.7 percent spend 50-100 thousands. In the same, 41.7 percent spend 100 to 150 thousands. 13.3 percent spend 150 to 200 and 10 percent spend more than 200. It shows that most of the respondents' expenditure is higher than income. They spend in education, cloths, celebrating festivals.

Table 3: Respondents by Saving

Annual Saving	No. of Households	Percent
0-20000	16	26.7
20000-40000	28	46.7
40000-60000	7	11.7
60000-80000	6	10.0
80000-100000	16	26.7
Above 100000	3	5
Total	**60**	**100**

Sources: Field Survey, 2017

Table 3 shows annual saving of the respondents. Data shows that 26.7 percent save up to 15 thousands and 46.7 percent save 20-40 thousands. In a similar manner, 11.7 percent save between 40,000 and 60,000, and 26.7 percent save between 60,000 and 80,000. Likewise, 5 percent save between 80,000 and 100,000.

Social Benefits

Respondents indicated that villagers managed the forest themselves before the government nationalized it. At that time, the population density was low, and resources were abundant, so there was no high demand for forest products. After nationalization, the government took over forest management through forest guards, restricting resource collection by the villagers. Consequently, people began to exploit forest resources illegally, leading to worsening forest conditions. Villagers nearly cleared the forest through land encroachment and illegal timber cutting to earn money by selling it in the local market. This depletion forced villagers to collect firewood from distant forests, hours away from the study area.

The study found that people depended on forest resources for their livelihood. They established rules and regulations for forest management, known as the constitution and operational plan. Initially, these were formulated with the help of district forest officers and involved only male members. The operational plan included activities like planting, thinning, pruning, and collecting fodder, leaf litter, and firewood. During field visits, it was observed that users strictly adhered to these rules, which varied for different resources. Violations resulted in punishments.

Collecting green trees for firewood was prohibited; only dry twigs could be collected anytime. Thinning and pruning occurred every winter in each block, and firewood from these activities was distributed equally among users. Fodder collection was restricted to twice a year, for 15 days in

winter. Timber collection was not allowed, except for house construction or repair. No evidence of timber distribution was found during the field visit. Seedling plantations typically took place in June and July, supported by the district forest office and NGOs, with various plants decided by the managing committee.

Thinning and pruning activities were organized each November, removing useless twigs and unnecessary seedlings to promote tree growth. The operational plan allowed the removal of only one-third of the twigs. The community forest (CF) fund came from entry fees, punishment fees, donations, etc., and was managed by the secretary and treasurer. This fund was used for forest management and local development activities, with 75 percent allocated to development projects like road and temple construction, and 25 percent for forest management.

Direct benefits of community forestry included the availability of forest products like fuel wood, timber, leaf litter, fodder grasses, bedding material, medicinal herbs, and plants, valued according to prices set by the Forest User Group (FUG). Community forestry significantly increased these products, contributing to the community fund, which supported community welfare.

Indirect benefits of CF included social and environmental goods and services. Forest degradation could lead to the loss of these benefits, depending on subsequent land use. Environmental benefits included reduced soil erosion, decreased downstream flooding, increased forest cover, improved soil fertility, better water sources, and increased biodiversity, including more birds and wildlife. Social benefits included employment generation, the establishment of organized FUGs, and social integration, fostering mutual cooperation to address social issues.

The majority of people, about 60 percent, in the study area depended on agriculture due to the agro-based economy. Improving agriculture through modern technology and fertilizers was crucial for raising income levels. CF helped provide water sources for irrigation, enhancing agricultural production in the village.

Economic Changes Brings by Community

Community forest support farmers by providing fuel, fodders and grass for domestic animals. Before and after establishment of community forest there found various Changes which describes as follows.
CF and buffer zone rings various programs which brings changes in income of the respondents. The following table shows the situation as;

Table 4: Positive Change in Income

Positive Change in Income	No. of Households	Percent
Yes	45	75
No	15	25
Total	**60**	**100**

Sources: Field Survey, 2017

Above table 4 shows the view of respondents on economic benefit of community forest. 75 percent of the respondents feel positive change in income whereas 25 percent have not felt positive change in income. It shows that majority of the respondents feel changes in income status.

After lunch CF program in study area respondents enhance their capacity of keeping domestic animals like goats, cows and buffalo.

Table 5: Positive Change in Animal Husbandry Pattern

Positive change in animal husbandry pattern	No. of Households	Percent
Yes	50	83.3
No	10	16.7
Total	**60**	**100**

Sources: Field Survey, 2017

Similarly, some people are getting loan from DVCFUG to start poultry farm, animal husbandry, bee keeping etc. Above table 5.5 shows that 83.3 percent feel positive change in animal husbandry pattern and 16.7 percent have not felt any change in animal husbandry pattern**.**

Income Generating Activated through Community Forestry

Micro enterprise development based on local resources/CF resources and skilled is a good option to lift the poor out of poverty and for generating income and employment at household and /or community level. It has been realized from field experience that CF had immense opportunities for creating and developing forest as well as forest based micro-enterprises.

Table 6: Forest Based Enterprises

Name of Enterprises	Number of Enterprises	Households Involved	Persons Involved
Furniture	2	-	8
Sal leaf plate	-	4	4
Beehives	10	10	-
Aran	1	1	2

Sources: Field Survey, 2017

More than one dozen household/persons have got employment and involved in income generating activities through the community forest. But it has not taken significant contribution of enterprises. People have taken advantage more by the bee hives and furniture. A Kami house has a traditional Aaran (Agricultural Equipment by Iron).

REVOLVING FUND TO THE INCOME GENERATING ACTIVITIES

Revolving fund is established in CFUG to provide soft loans to the poor/local people. Income generating activities are generally selected by CFUG based on the interest of the borrower and market opportunities.

Table 7: Revolving Fund Disbursements

Fund Utilization	No. of Households	Percent
Domestic Purpose (For basic needs)	8	27.6
Keeping goats, pigs, etc.	17	58.6
To pay loan	4	13.8
Total	**29**	**100**

Sources: Field Survey, 2017

Table 7 is found that only local users have taken fund for domestic purpose (27.6percent), keeping animal (58.6percent) and paying loan (13.8percent).

SOCIAL BENEFITS

Community forestry activities are launched in the community. It provides the benefits to the living in this community. Participation of the poor, disadvantaged people, women and Dalit in CF is the most social achievement. Structure of the CFUG is given below:

Table 8: CFUG's Organization

Type of Organization	Female	Male	Total
General assembly	-	-	60
User's group	4	7	11
Executive committee	1	4	5

Sources: Field Survey, 2017

The community forestry program has not initiated any significant income generation activities but has implemented some initiatives to support the rural poor by distributing goats, pigs, and interest-free loans to selected impoverished individuals in the community. Over the past two years, activities such as the production of tejpat and vegetables, as well as the rearing of goats, bees, and pigs, and the establishment of nurseries, have commenced. These efforts have contributed to income generation and employment opportunities for pro-poor, disadvantaged, and lower-caste groups, thereby aiding in poverty reduction.

The sustainable supply of forest products (firewood, fodder, timber) reduces conflicts that arise from shortages, promoting harmony within the community. The villagers have united to enhance their economic status, preserve resources, ensure proper utilization, and coordinate efficiently among user group members.

Economic Benefits

The anticipated economic benefits of community forestry for rural communities were expected to be non-monetary, primarily related to subsistence use. The enhanced forest resources and their proper management within the CF have provided significant economic advantages to the users. Some economic benefits experienced by community forest user groups include:

The user group has accumulated a substantial amount in its community fund through indigenous forest management, which is utilized for community welfare. For example, the CFUG harvests timber, fuelwood, and fodder, generating economic value. Forestation, reforestation, and the installation of thorny wire around the forest by CFUG have been beneficial for increasing livestock rearing, which is crucial for boosting local incomes.

Fuelwood is collected through singling, pruning, and thinning operations conducted annually in one management block. Collecting green fuelwood outside these operations is strictly prohibited. According to the operational plan, each household must send one person to participate in community cultural operations. The harvested fuelwood is distributed equally to each household for a fee of 100 rupees. Additionally, users can collect dry twigs and branches from the forest free of charge during the months of Paush and Magh.

The FUG committee conducts needs assessments for users and provides up to 30 cubic feet of timber and a few poles to those in need of materials for house and shed construction and

maintenance. Users are charged Rs. 15 per cubic foot of timber and Rs. 2000 per pole, prices set by the FUG committee to be lower than the market rate (about Rs. 40 per cubic foot) to ensure the materials are used for domestic needs rather than resale. Timber and poles are also provided free of charge to those affected by natural disasters such as landslides, floods, and fires. Additionally, timber can be used for social infrastructure development (e.g., electricity, schools, hospitals, roads) without compromising the forest's condition, in accordance with the operational plan.

The forest is protected from fire setting, cattle grazing, illicit tree felling, and the collection of forest products (e.g., medicinal herbs like harro and barro) through a strict forest monitoring system. Although there is no official forest watcher, all users patrol the forest themselves. There is a provision for punishing those found illegally in the forest, and fines collected from such punishments are added to the user group fund.

The main challenges facing community forestry include conflicts and a lack of coordination among people due to diverse ethnic groups, political ideologies, genders, and socio-economic backgrounds. Conflicts can arise from differing views or perceptions on issues, unmet interests, or encroachments on others' interests. These conflicts can occur within groups or between institutions. The effectiveness of CFUG is based on users' perceptions, with some benefiting more from CF and being satisfied with CFUG's role, while others oppose the user group.

The perceptions of the users are mentioned on the following table:

Table 9: Perception of the Users

Description	No. of Respondents	Percent
Very good	10	16.7
Good	15	25.0
Fair	8	13.3
Satisfactory	27	45.0
Total	**60**	**100.0**

Sources: Field Survey, 2017

The majority of respondents (45 percent) are dissatisfied with the work of CFUG, while a small proportion (13.3 percent) support CFUG's functions. The remaining respondents are neither satisfied nor unsatisfied. This indicates that, according to most respondents, there are still some problems that need to be resolved for users to benefit successfully. Respondents based their opinions on factors such as resource mobilization, forest condition, community participation, development activities, awareness, motivation, and the effectiveness in terms of changes in forest condition and diversity.

Conclusion

This study focuses on the economic benefits and environmental behaviors formulated by FUG in this forest. FUG's economic activities in the forest include agriculture, livestock farming, and other home-based industries. All FUG members engage in agriculture and livestock farming using resources such as fodder, irrigation channels, compost manure, fuel wood, and other forest resources. These resources contribute to the success of agriculture and livestock farming.

Additionally, forest-related economic activities, such as iron-based, furniture, and bamboo-based industries, rely on the forest for raw materials, signifying the economic activities of FUG and providing additional income from the forest. These findings highlight the main aspects of this research. Another key finding is the effective conservation of biodiversity through various activities.Except these relations, the social relation with this forest of FUG is highly attached where most of them are worshiping as incarnation of God.

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