Analysing the Financial Governance of Community Forestry in Mid-Hills of Nepal: A Case Study from Tanahu District

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Abstract

In Nepal, community forestry (CF) is a renowned functional community-based institution, contributing to various development interventions at the local level. While numerous studies have focused on conservation aspects of CF, empirical studies on its financial governance are limited. This case study of 246 CFs from Tanahu district in Mid Hills of Nepal analyses the income and expenditure patterns of community forestry user groups (CFUGs) to understand its economic contribution to the local development. A two part model, comprising a logistic regression and a generalised linear model, was used to assess the impacts of significant factors on income level, examining the factors affecting income of the CFUGs. Additionally, the paper also explores the pro-poor programmes priortised by the CFUGs, along with challenges and opportunities of mobilising community forestry funds for local government planning and development in the changing political context.

Keywords: Community development, Community forest, Expenditure, Financial governance, Forest income

INTRODUCTION

Community forestry (CF) in Nepal, a decentralised forest management regime, not only provides rights to the communities for forest management but also offers an opportunity for local taxation of forest use and investment of forestry funds in community development. Recent data reported a total number of 23,000 community forest user groups (CFUGs) involving 2,461,549 households (around 35 per cent of the total population) and managing 2.3 million ha (30 per cent of national forest) of forest land (Bista *et al.* 2023). The CF program in Nepal was initially introduced to supply forest products to the local community and maintain ecological balance through sustainable forest management and conservation (Adhikari 2005; Gurung *et al.* 2013). However, over the years, its overall management goals have been evolved to encompass broader development objectives, including poverty reduction, livelihood upliftment, community development (GC *et al.* 2016; Gurung *et al.* 2013; Gurung *et al.* 2011; Ojha *et al.* 2009). CF has been successful in restoring degraded forest cover (Ojha *et al.* 2009), increasing biodiversity (Birch *et al.* 2014), contributing to the improvement of rural livelihoods (Gurung *et al.* 2011; Lamsal *et al.* 2015), empowering the poor, marginalised and women (Giri and Darnhofer 2010; Gurung *et al.* 2013; Parajuli *et al.* 2015), and generating ecosystem services and goods (Bhatta *et al.* 2016; Bhatta *et al.* 2015; Paudyal *et al.* 2017; Paudyal *et al.* 2015). CF has contributed to rural livelihoods by providing access to forest products to individual

households as well as through community development activities (Malla 2000; Pokharel 2002; Parajuli *et al.* 2015). While all these positive socio-economic outcomes have been realised from the CF in Nepal, it has not been able to harness the optimum economic benefit (Paudel *et al.* 2022). Realisation of full potential benefits from CF can be achieved through an enhanced understanding of the financial governance of CFUGs. Additionally, the CF in rural areas have also been considered a potential institution for public financing for local infrastructure and overall community development (Bhandari *et al.* 2019; Chhetri *et al.* 2012).

The income generated from CF has been a major source of incentive for forest conservation and a source of rural development such as road or trail construction, support to local schools and water supply (Bhandari *et al.* 2019). Studies have argued that CFUGs as an institution, have been an effective platform for local development, as CFUGs invest a major share of their annual income to the local development (Chapagain and Banjade 2009; Devkota *et al.* 2017). CF policy provision requires to spend 25 per cent of the annual income from CFUGs on forest development, conservation, and protection; 35 per cent on pro-poor activities, targeting women, Dalit, and indigenous people; and the rest of the 40 per cent on community development and office management (GoN 2009). Despite the legal provision of investment of revenue generated from CFUGs, very few studies have analysed the expenditure and their income sources (Bampton and Cammaert 2007; Bhandari *et al.* 2019). Even within the same landscape, CFUGs vary substantially in terms of forest area, species composition, household involvement, years of conservation, geographic location, resulting in diverse income sources (Bhandari *et al.* 2019). While studies have shown that the income levels vary significantly across CFUGs, (Bhandari *et al.* 2019; Chhetri *et al.* 2012; Lund *et al.* 2014), the factors influencing these income differences remain largely unexplored.

The Forest Act 2019 and Forestry sector Strategy (2016-2025) strongly embrace the role of community-based forest management to achieve multiple outcomes, such as sustainable production, and supply of forest products; improvement of biodiversity, watersheds, and ecosystem services; inclusive and accountable forestry sector institutions and organisation; climate-resilient society and forest ecosystems; including contribution to national economic development. Recent forest policy development in Nepal endeavours towards a shift from protection-oriented to production-oriented forest management approach. In 2014, the government introduced 'Scientific Forest Management Guidelines' to maximise economic return and benefits from the forests by following timber-centric management and increasing forest product supply (Poudyal *et al.* 2020). The government has initiated "Scientific Forest Management" in more than 607 CFs to enhance the economic return from them (Basnyat 2020). However, a detailed understanding of the financing potential of CF from the existing management approach remains limited. It is imperative to examine the income and expenditure patterns of CFUGs to achieve the national goal of "Forest for prosperity". Having a better understanding of the income sources and expenditure patterns of CFUGs offers better evidence to articulate the role of CF in achieving the Sustainable Development Goals (SDG) (Aryal *et al.* 2020). A study shows that the forest sector contributes to achieving 28 targets related to 10 different SDGs (FAO 2018).

CFUGs in rural area had been pivotal for local development during the absence of locally elected government, especially in last two

decades. It has been recognised as a vehicle for rural development (Pokharel *et al.* 2015), filling the void left by the absence of local government from 2002 to 2016 through their engagement and involvement in the development process. During the absence of locally elected members, local leaders exercised leadership through CFUGs, which also served as conduits for various development projects from International/National Non-government Organisations (I/NGOs) and INGOs (Devkota *et al.* 2017). This highlights the significant contributions of CFUGs to community development. However, since the local government elections, infrastructure development activities previously contributed by the CFUGs have become a foremost priority for the local government. Though the local government has a wider niche to contribute to the overall economic, social, and environmental wellbeing of the communities, CF and local government have some common objectives of supporting pro-poor livelihoods and local infrastructure development. Therefore, in this evolving political context, it is crucial to discuss the challenges and opportunities of integrating CF funds into local government planning and development. A better understanding of cumulative CF income at the local municipality level, compared to the total municipality budget, will provide valuable insights into the prospects of leveraging CFUG funds for local development.

This assessment is driven by three key rationales. Firstly, while numerous studies have explored the contribution of forests to households' livelihoods, few have examined income and expenditure patterns at the CFUG level (Bhandari *et al.* 2019; Chhetri *et al.* 2012). Secondly, previous studies have selectively focused on high income CFUGs, neglecting those with zero or a minimal income (Bhandari *et al.* 2019; Chhetri *et al.* 2012). This leads to a possible overestimation of CFUGs average income and fails to capture a more representative picture of the economic impact of CFUGs. This assessment used a two-part model to account for the true zero income of CFUGs in the study. The two-part model consists of a logistic regression to predict the probability of a CFUG having zero income and a linear regression model to track the income of CFUGs with positive income, allowing us to accurately capture the financial dynamics of all CFUGs, including those with zero income. Thirdly, after the 2017 local election, the local government has become fully functional, priortising local development activities, which were previously a major expense category for CF funds. This paper study examines the income and expenditure patterns of CFUGs, the factors determining CF income, and the pro-poor activities of CFUGs, while also discussing the prospects of integrating CFUG funds into local development taking the case of Tanahu district, Nepal.

STUDY AREA AND RESEARCH METHODS

The study was conducted in Tanahu district, located in Gandaki Province (Figure 1). Tanahu district spans an altitude ranges from around 187 to 2134 meters above mean sea level, covering a total area of 156,000 hectare (ha). The district has a total forest area of 82,449 ha (52.8%) with 616 CFUGs. As of the latest CFUG database, Tanahu ranks third in the number of CFUGs, following Dhading and Palpa district. Currently, 51,783 ha of the forest are under CFUG management, catering to 67,087 households and 323,288 residents. The district's varied altitude and climate, support a diverse range of vegetation, including tropical, sub-tropical, and temperate.

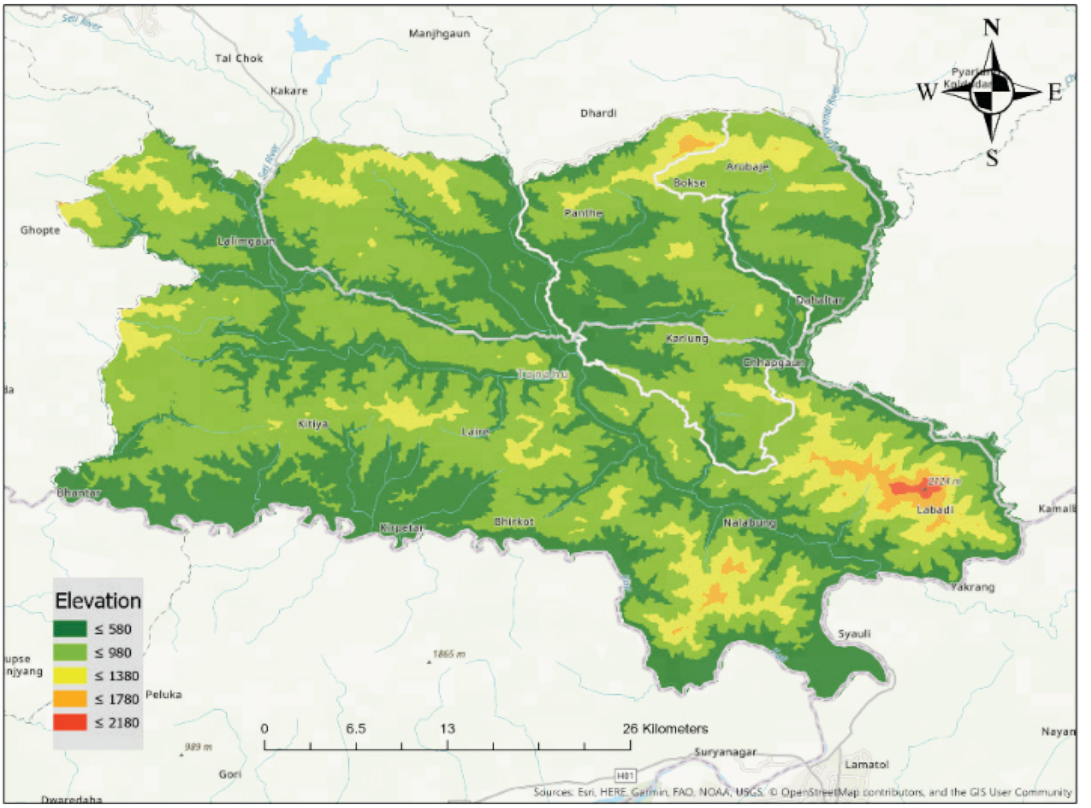

Figure 1: Map of Tanahu district

This case study is based on the information derived from a systematic analysis of monitoring and evaluation documents from 246 CFUGs', collected by the Division Forest Office, Tanahu. We reviewed the monitoring and evaluation documents for the fiscal year 2018/19 for individual CFUGs and converted the available information into a quantitative framework by coding and entering all the information into an Excel sheet. The standarised template used across districts enabled us to create codes, identify the variables of interest, and analyse data for patterns. We primarily used quantitative research methods, with the questions coded into explicit categories and then described and drew conclusion using descriptive statistics. Additionally, we also synthesised the budget of ten local governments (4 urban and 6 rural municipalities) from Tanahu district to compare cumulative financing potential of CFUGs at the local government level. The CFUGs were selected randomly, without censoring the income level. Some of the previous studies have censored the average annual income of CFUGs at a certain limit to analyse the income and expenditure patterns. The findings may be biased if censoring is present (Boulton and Williford 2018).

The descriptive statistics of each variable are presented in Table 1. We categorised the income into wood-based income, non-wood-based income, users' contributions, and external supports. Similarly, expenditure patterns were categorised into forest management, community development, Income Generation Activities (IGA),

training, and administration. The CF income was further analysed using a two-part model, following a statistical model design proposed by Belotti (Belotti *et al.* 2015). The two-part model accounts for semi-continuous variables with a significant number of true zeros (Boulton and Williford 2018). In our dataset, we had large numbers of CFUG's income with true zero values, i.e., CFUGs with zero income. In the first-part model, a binary variable was created indicating whether the CF income had income or not. A continuous variable only containing non-zero values (CFUGs with a certain amount of income) was created and value of zero income in the original outcome were considered missing in the new variable for the second part model. In the first part, we fit a logistic regression model to the binary indicator, and in the second part, regression model for all the non-zero values was used. We used a generalised linear model (GLM) with a gamma distribution to model positive (non-zero) outcome. Mean, expected sign and assumptions of the explanatory variables are presented in Table 1.

Table 1: Descriptive statistics of the variables used in the two-part model with their expected signs showing a relationship with CFUG income as the dependent variable

Variables	Description	Mean	Expected relation and assumptions
CF years	Years of CF formation	16.09	(+) Positive relation with the age of CF, majority of the older CFs well-stocked compared to the initial stage of CF formation
Administrative Unit	Binary (0 = Rural Municipality, 1= Urban Municipality)	0.65	(-) Access to alternative (in the urban municipality) reduce the utilisation of forest products resulting in the lower CFUG income
Women Percentage	Percentage of women in the CFUG executive committee	31	(+) Higher proportion of women reinforces good governance which results in a higher economic return
Household number	Number of HH in a CFUG	96.48	(+) Larger number of users increases the demand, and so does the economic return from sales of forest products
Forest type	Binary (1 = Sal Forest, 0 = Other Forest)	0.49	(+) Sal forests (*Shorea robusta*) offer a higher economic return due to a higher market value, CF income largely depends on the presence of the high-value timber (Bhandari et al., 2019)
CFUGs Area	Area of community forests in hectare	65.12	(+) Larger size of CF allows more surplus forest products to be sold
Community meeting	(0 = no community meeting, 1 = Community meeting)	0.60	(+) Proxy for CF governance, better the rule of law, higher chances of having positive outcomes on CF income

RESULTS AND DISCUSSION

Income and Expenditure of CFUG

We found an average annual CFUG income is Nepalese Rupees (NPR) 147,466 with a minimum of 0 and a maximum of 5.9 million NPR per year. Out of 246 CFUGs, around 56 per cent of the CFUGs had an annual income of less than NPR 5000, 10 per cent of the CFUGs had an annual income between NPR 5,000 to 50,000, around 18 per cent of the CFUGs earned more than NPR 50,000 and less than 0.5 million, whereas 16 per cent of the CFUGs were in the higher end with an income of above 0.5 million. Table 2 shows that the wood products contribute around 82 per cent of the CFUGs income, followed by user contributions. User contribution includes penalty fees, membership fees, interest from loans, and fees for using services that CFUG provides. Users contribute in average around 13 per cent of the income, equivalent to an average amount of NPR 18,874 per CFUG. On average, a single CFUG earns NPR 123,463 from forest products (wood and non-wood-based forest products). Timber is one of the significant contributors of CFUG income, comprising around 75 per cent of the total CFUG income. Similarly, support from government agencies and development projects contribute 3.47 per cent of the total income. In most of the CFUGs, thatch grass and dry fuelwood are either free or charged nominally. Therefore, the contribution of non-wood sources to CFUG income is minimal. Most CFUGs allow collecting dry fuelwood at certain times of the year, mostly without any cost. Average amount of the income we found in our study is higher than the amount reported by other studies (Chhetri *et al.* 2012; SANDEE 2008) and lower than the amount reported by Bhandari *et al.* (2019). A study conducted by MoFSC (2013) found the average annual CFUG income of NPR 260,000 and the annual expenditure of NPR 179,000. The variation in the CFUG's average income was attributed to the difference in the survey design and data collection procedure (Chhetri *et al.* 2012) as well as geographic location of the study sites. The model below (table 4) shows the factors that contribute to income variation across the CFUGs. On average, the CFUG maintained NPR 131,666 as the previous year balance, which we did not consider in the annual income for the current year.

Table 2: CFUGs' income categories and their annual average income (in NPR)

Source	Category	Amount (NPR)	Percentage
Timber	Timber (internal)	104,105	70.60
	Timber (outside)	6643	4.50
	Pole Sale	2691	1.82
	Agriculture Tools	7527	5.10
	Subtotal	**120,966**	**82.02**
Non-timber	Fodder/Fuelwood	977	0.66
	NTFP	1520	1.03
	Sub total	**2497**	**1.69**
DFO/Donor	Grant Local	500	0.34
	Other Grant	4629	3.14
	Sub total	**5129**	**3.47**

Users	Loan	385	0.26
	Fines	4257	2.89
	Interest	6226	4.22
	Other (membership /eco-tourism entry)	8006	5.43
	Sub total	**18,874**	**12.79**
	Total annual income	**147,466**	
	Last year's balance (carry over)	131,666	

On average, CFUG invests NPR 152,770 per year for different activities. Table 3 shows that CFUGs invest higher share of expenditure on community development, followed by forest development and IGA/ forest-based enterprise, accounting around 85 per cent of the total expenditure. Silvicultural operation, NTFP cultivation, seedling production, forest protection, and forest product collection are the major forest development activities. Most of the forest development activities were guided by the operational plan. The CFUG guideline requires to spend 25 per cent of the total income on forest conservation, management, and utilisation. The study reveals that the community invested 22 per cent of its income on multiple forest development related activities and another 3 per cent on forest management related trainings and extension activities. On average, we found CFUGs invested NPR 33,346 per year for different kinds of forest management activities. Other studies have reported varying ranges of expenditure in forest management activities, including 46.6 per cent in a study from Gorkha (Chhetri *et al.* 2012), 37 per cent in study from Kaski (Bhandari *et al.* 2019), and 22 per cent in study from Kavrepalanchowk (Manandhar and Shin 2013).

CFUGs allocate approximately half (48 per cent) of their annual expenditure on community development activities. On average, each CFUG spends NPR 74,177 on different community infrastructures, including education, drinking water, road/ trail construction, electricity, health/ sanitation, ecotourism, and community building. Such expenditure on local infrastructure contributes to the quality of local life and generates economic opportunity within the community (Devkota *et al.* 2017). The expenditure spent on rural infrastructure and development reported in this study is comparable to the percentage reported by Bhandari *et al.* (2019). Other studies have observed a higher proportion of expenditure in community development activities (Baral *et al.* 2019; Chhetri *et al.* 2012). Chhetri found that 45.2 per cent of the total expenditure went to local services and infrastructure (Chhetri *et al.* 2012). Similarly, a study conducted in three mid-hill districts found that 55 per cent of the expenditure was made in community development (Pokharel 2009). Several studies have found that CFUGs have the potential to act as local service providers and can function as a vehicle for local community development (Chhetri *et al.* 2012; Devkota *et al.* 2017; Bhandari *et al.* 2019). However, the poor households do not necessarily benefit from the infrastructure projects (Lund *et al.* 2014), therefore, future policies and interventions should focus on equitable distribution of benefits rather than only investing in infrastructure (Karki and Poudyal 2021).

On average, each CFUG invests NPR 22,692 (14% of total income) in enterprise development and IGA activities. Although such expenditure made by the CFUGs are claimed to be a part of pro-poor activities, it may not necessarily contribute to the well-being of the poor households (Baral *et al.* 2019). Studies have criticised that the CF expenditure on IGA and enterprise development mostly benefit well-off households (Lund *et al.* 2014; SANDEE 2008). (Chapagain and Banjade 2009) found that only 20 per cent of the poor households benefit from IGA. Despite realising the importance of commercialisation of CF resources, limited success has been achieved in terms of developing forest-based enterprises. An assessment showed that the community forestry enterprises are struggling financially, except for some which are supported by development projects (Adhikary *et al.* 2017). Most CFUGs are very small in area and are less capable of generating sufficient funds, which implies that such CFUGs are less likely to initiate forest-based enterprise and IGA activities. Although there is a scenario of investing on forest-based enterprises by partnering among CFUGs (Adhikary *et al.* 2017), sustainability of such initiatives is always challenging due to lack of coordination mechanisms.

On average, each CFUG spends around NPR 15,550 (9%) of their income on administration, including staff salary, room rent, communication, stationary, donations, meeting and assembly fees, and prizes. In line with our study, Chhetri *et al.* (2012) and Bhandari *et al.* (2019) also found the average administrative cost is around 14 per cent and 8 per cent respectively. Management literature suggests that administrative costs less than 15 per cent are considered efficient for non-profit institutions, such as CF. In fact, it is noteworthy that CFUGs are able to invest substantial amount of income in community development at low administrative cost. In our analysis, we found CFUGs invested an average amount of around NPR 7,183 (5%) on different types of trainings and awareness activities. Regular trainings and awareness activities are important to ensure the sustainability of forest management works. Additionally, such trainings are not only important to enhance skills and knowledge for forest management, but also essential to motivate the community towards conservation.

Table 3: Annual average CFUGs expenditure (in NPR) in different activities

Category	Activities	Average (NPR)	Percentage
Forest Development	Conservation/Protection	6,551	4.28
	Forest Product Collection	2,063	1.35
	NTFPs Cultivation	9,532	6.23
	Forest Management/Silviculture	5,343	3.49
	Plantation	1,508	0.99
	Fireline Construction	1,238	0.81
	Seedling Production	7,146	4.67
	Sub-total	**33,346**	**21.82**
Community Development	Education	8,161	5.34
	Drinking water	7,312	4.78
	Road/trail	14,024	9.17
	Electricity	10,729	7.01
	Community Building	11,136	7.28
	Ecotourism	1,378	0.90
	Health/Sanitation	21,433	14.01
	Sub-total	**74,177**	**48.49**
IGA and Enterprise Development	Timber based Enterprise	8,119	5.31
	Non-timber-based enterprise	1,174	0.77
	Income generating enterprise	4,770	3.12
	Other	8,862	5.79
	Sub total	**22,696**	**14.98**
Training and awareness	Forest Management	4,225	2.76
	Skill Development	964	0.63
	Awareness	1,428	0.93
	Other	565	0.37
	Subtotal	**7,183**	**4.69**
Administrative	Staff	609	0.40
	Room Rent	368	0.24
	Communication	837	0.55
	Stationary	252	0.16
	Other (meeting, assembly)	4,269	2.79
	Interest, Grant Prize	1,674	1.09
	Donation	6,114	4.00
	Sub total	**15,550**	**9.23**
	Total annual expenditure	**152,770**	**100**
	Remaining Balance	**102,870**	

Determinants of CFUG income

Table 4 shows the results from the two-part model. The first part, logistic regression model, shows that the size of household and community meetings are significantly associated with the likelihood of increased CFUG income. In the second part, GLM shows that the CFUGs with Sal Forest, and those located in the rural municipality are positively associated with higher amount of CFUG income. Likewise, the percentage of women in the executive committee, the area of CF, and the size of households are positively associated with higher CFUG income. The average combined marginal effects from the two-part model suggest that the location of CFUG, number of households in the CFUGs, forest type, and the number of community meetings are the factors that are significantly associated with higher income of the CFUGs.

The positive coefficient for both logit and GLM models indicates that the probability of generating income and its amount increase with the number of households in the CFUGs. As expected, combined marginal effects shows that unit increase in the number of households increases the CF income by NPR 1,374. This signifies the importance of user contributions to the CFUG income. Other studies also found higher number of households, increases the forest products' demand and hence CFUGs' income (Chhetri *et al.* 2012; Lund *et al.* 2014). The model shows that the CFUGs with Sal forest earned NPR 258,005/year more than the CFUGs with other forest types as Sal forests produce highly valuable timber. A study conducted in 45 CFUGs in Gorkha district also found higher income in larger CFUGs, predominantly with the Sal and Pine forests (Chhetri *et al.* 2012). CFUG income in rural municipalities was NPR. 293,460 more than the CFUG income in the urban municipalities. Such differences might be prevalent due to around 50 per cent presence of Sal forests in rural areas, and only 20 per cent presence in CFUGs of urban municipalities. Also, a study revealed that community management of forests is found to be more effective at rural administrative units with lower elevation (Gebreegziabher *et al.* 2021). In the model, we used the variable 'community meetings' as a proxy for CFUG governance and found that the CFUGs that hold regular meetings or general assembly earned NPR 642,164 more than the CFUGs that did not. CFUGs that hold regular meetings are believed to have transparency in decision making and have better management of income and expenditure of CF funds. Though not significant for the combined marginal effects, the positive coefficients show that unit percentage increase in women in the executive committee and unit increase in CF area, increases the CFUG income by NPR 2,514 and NPR 1,901 respectively. Studies have found that larger forest size are predictors of higher financial flows (Chhetri *et al.* 2012; Lund *et al.* 2014). Although (Chhetri *et al.* 2012) a positive association is found between years of CFUG formation and its income, this study revealed no significant relation between CFUG income and years of CF formation.

Table 4: Two-part model for determinants of CFUG income (first part: logit model, second part: generalised linear model with log link and inverse gaussian distribution)

	First part: probability of positive CF income			Second part: determinants of the amount of CF income			Combined marginal effects	
Variables	Coefficient	95% CI	p-value	Coefficient	95% CI	p-value	Coefficient	p-value
Years of CF formation	0.02	-0.033, 0.074	0.45	0.003	-0.001, 0.007	0.139	-1311	0.866
Administrative Unit	-0.035	-0.078, 0.71	0.92	-0.092	-0.15, -0.034	0.002	-293460	0.014
Percentage of women in executive committee	0.006	-0.013, 0.027	0.49	0.001	-0.0005, 0.002	0.0189	2514	0.337
Size of HH	0.0002	-0.005, 0.005	0.08	0.00045	-0.00003, 0.0009	0.06	1374	0.072
Forest type	0.49	-0.213, 1.19	0.17	0.05	-0.0085, 0.109	0.09	258005	0.087
Area of CFUGs	-0.001	-0.005, 0.003	0.55	0.0005	0.0001, 0.001	0.01	1901	0.279
Community meetings	3.4	2.56, 4.35	0.00	0.02	-0.08, 0.13	0.63	642164	0.069
Constant	-3.14	-5.08, -1.21	0.001	11.74	10.53, 12.94	0.00	369780	0.023

COMMUNITY FORESTRY USER GROUPS AND PRO-POOR PROGRAMME

CF funds play a vital role in pro-poor livelihood support and rural development (SANDEE 2008). Despite achieving significant environmental outcomes, CF programmes are still lagging behind to financially benefit the poor (Pokharel *et al.* 2015). In Nepal, CF has been more successful in ecological restoration than in improving livelihoods (Thoms 2008). The CF Guideline mandates spending 35 per cent of the annual income on pro-poor activities (IGAs and poverty reduction), focusing on economically marginalised women, Dalit, and ethnic user groups. Community Forestry Programme Development Guideline (2014) encourages CFUGs to implement multiple pro-poor programmes listed in Article 3 of the Guideline.

Despite clear policy provision to support pro-poor households through different pro-poor programmes, their implementation is not uniform. In this study, we analysed the frequency of CFUGs embracing multiple pro-poor programmes. Based on our analysis (Figure 2), we found around 55 per cent of the CFUGs prioritised including poor households in their executive committees. The real representation of the poor households in the

decision-making process can influence the forest management decision (such as adopting a less rigid management regime) in favor of forest-dependent households (Adhikari and Lovett 2006). Likewise, 45 per cent of the CFUGs provided allowances to the poor households to participate in CF activities as most of the poor households usually do not participate due to its higher opportunity cost. Out of 246 CFUGs, 57 per cent of the CFUGs provide free or discounted rate of forest products for the poor and marginalised households. Though the number of jobs offered by the CFUGs was nominal, around 26 per cent of the CFUGs prioritised poor households in the available jobs or daily wages for CF-related activities. More than 62 per cent of the CFUGs claimed that they had prioritised poor and marginalised households for training, excursion, and workshop opportunities, but the impacts of such engagement are poorly understood. Lund *et al.,* 2014 found that the participation of the poor and marginalised households was usually motivated for the equity purpose, rather than benefitting poor households. Likewise, 42 per cent of the CFUGs had implemented IGA that could benefit the poor households. Although the CF Guidelines allow CFUGs to make land available to the poor households for IGA, only 10 per cent of the CFUG allocated land to them for IGA. Around 40 per cent of the CFUGs invested in health and education sector that equally benefitted poor households. Studies suggests that CFUG income and poor household size are major factors contributing to variation of CFUG practicing pro-poor programme (Pokharel 2009; SANDEE 2008)

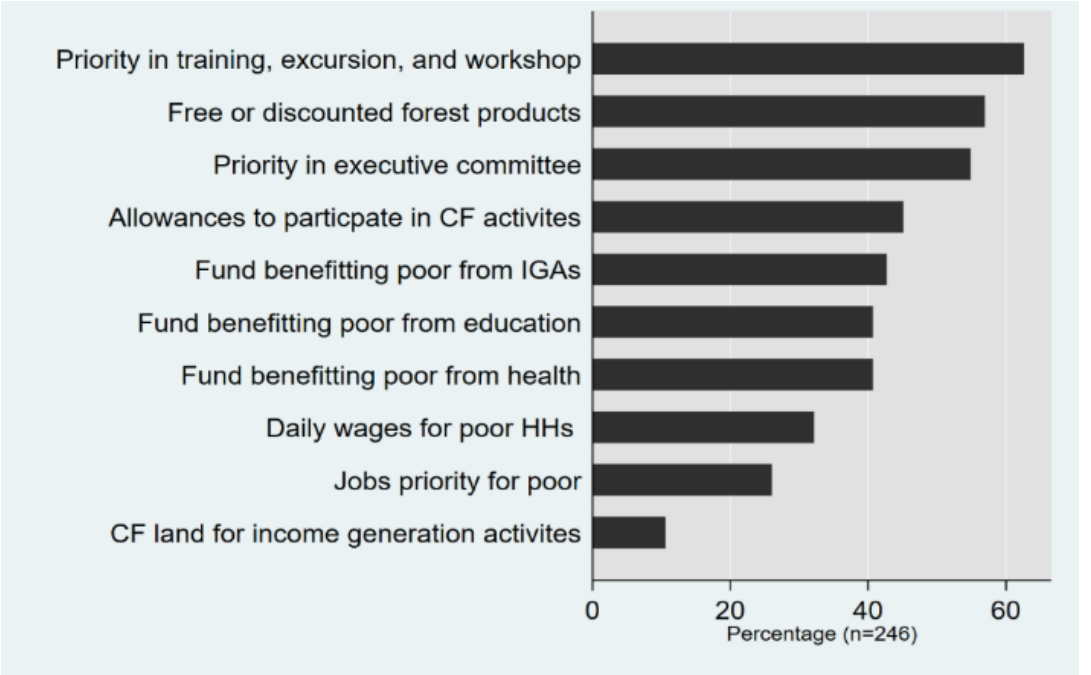

Figure 2: Frequency of CFUGs prioritising pro-poor activities

The CFUGs are required by the CF Guidelines to allocate a certain amount of their income on pro-poor activities. However, the current practice of recording CF fund income and expenditure fails to accurately reflect the total amount spent on poor CFUG members. Several studies have shown that existing financial transactions in CF tend to benefit well-off and higher caste households more than poorer households (Khanal and Adhikari 2018; Lund *et al.* 2014; SANDEE 2008). The current CF monitoring and evaluation systems only shows the financial capitals that are generated at the community level (Pokharel *et al.* 2015). To effectively assess the impacts of CF income and expenditure on poor households, measurable indicators are needed to determine how community-level financial transactions contribute to the per capita income of poor households. Although policy provisions mandates that at least 35 per cent of the CFUG income should be spent on pro-poor activities, the current monitoring evaluation approach can not explicitly verify if such a proportion of allocation was met in CFUG expenditures.

COMMUNITY FORESTRY AND LOCAL GOVERNMENT

The local government has legislative provisions to design and formulate organisational structures that ensure its functionality. However, the existing organisational structure for environmental sector within the local government prioritises pollution control and disaster risk reduction as the major areas of environmental management foci. As a mandate, local governments are more focused on education, road construction, primary health care, water, and sanitation, and devote less attention to forest management and conservation (Adhikary *et al.* 2017; Dahal *et al.* 2021). Despite the central and provincial governments have envisioned economic prosperity through sustainable management and the use of forest resources, the local government has not been able to embrace this vision. Though plans and priorities of local government and CF overlap, they do not coordinate their community development activities in coordination (Dahal *et al.* 2021). The local government has not taken enough initiatives to integrate the CFUG programs into their planning process. CFUGs have been managing forests under the legal mandate of provincial government (Acharya *et al.* 2022) and the local government is administered by the provincial government as well. However, there are no clear mechanisms that coordinates the efforts of the local governments and the CFUGs (Dahal *et al.* 2021), except enforcing CFUGs for revenue sharing through taxation. In Gandaki province, CFUGs are required to pay 15 per cent tax on the sale of forest products to the local government. Duplication of development plans due to lack of coordination and communication between the local government and the CFUGs not only increases the implementation cost, but also creates conflicts. The local government and CFUGs planning processes are guided by different policies (Adhikary *et al.* 2017). The Local Government Act of 2017 mandates the local government to formulate budget and to organise the participatory planning process on an annual basis, whereas CFUGs formulate its plan based on the decision made by the elected executive committee members under the guideline shown in operation plan, which is effective for five to ten years. Since the plans and activities made by the local government are public and CFUGs are usually aware about it, but the plans made by CF may not be informed to the local government. Despite overlapping goals towards the community, there are no legal provisions for local government and CFUGs to share plans with each other.

Our analysis of CFUG income and local government budget shows the economic viability of mobilising community forestry funds for local government planning and development. The local government of Tanahu district has an average annual budget of NPR 570.07 million, including an average internal revenue of NPR 47.92 million. On average, the local government generates 8.2 per cent of the total budget income from internal revenue, ranging from 1.67 per cent to 18.35 per cent. Considering the annual average income of NPR 123,463 (total forest-based income) from each CFUG, all the CFUGs combined from a single municipality has the potential of generating an average amount of NPR 7.72 million of revenue from forest product-based income. This is 28 per cent of the existing local government revenue share and 1.43 per cent of the total local government budget. This means that if we compare the total cumulative CFUG income with the local government internal revenue, it holds a significant share. However, if we compare the total cumulative CFUGs income with total local government budget, the share is not substantial. The table 5 provides detailed estimation of annual average local government revenue from local sources, total annual budget, average number of CFUG, and total potential contribution of CFUG in generating internal revenue for local government and local government's total annual budget.

Table 5: Local government revenue and CFUG's potential share

Municipality	Total annual budget (in million NPR)	Revenue only from local government (in million NPR)	Share revenue generated from local government in total budget (in %)	Total number of CFUGs within local government	Cumulative income of CFUGs at local government level (in million NPR)[1]	Potential contribution of CFUG in local gov internal Income source (in %)	Potential contribution of CFUGs in total budget (in %)
Bhanu Urban	766.78	30.10	3.93	96	11.85	39.37	1.55
Vyas Urban	1209.08	144.99	11.99	109	13.45	9.28	1.11
Bhimad Urban	521.33	95.68	18.35	49	6.04	6.32	1.16
Shuklagandaki Urban	856.81	70.80	8.26	89	10.98	15.52	1.28
Abukhaireni Rural	271.89	12.00	4.41	36	4.44	37.03	1.63
Myagde Rural	318.97	21.50	6.74	56	6.91	32.15	2.17
Debghat Rural	313.15	53.32	17.03	39	4.81	9.02	1.54
Bandipur Rural	357.05	15.87	4.44	38	4.69	29.56	1.31
Rishing Rural	599.72	10.00	1.67	65	8.02	80.25	1.34
Ghiring Rural	485.90	25.00	5.15	49	6.04	24.19	1.25
Average	570.07	47.92	8.2	63	7.72	28.27	1.43

Collaborative planning process between local government and CF is crucial in the future. Although the local government is more resourceful in terms of the overall budget overreach and working jurisdiction compared to CFUGs, it should recognise CF as an autonomous institution and a vital partner and income source for local development. The local government can support in administrative logistics and planning requirements of CFUGs. They can also support the low-income CFUGs with technical advice and assistance and provide record-keeping and management skills training to function efficiently. Similarly, the local government can play a role in ensuring equitable access to forest resources by the poor households as well. Importantly, local governments can play a vital role to bring all CFUGs together within the local administrative area for developing landscape-level planning process (Paudel *et al.* 2021) and can provide monitoring role for overall CFUG institutional practices (Ojha 2020). Such measures can facilitate the CFUGs to connect with the market and support the commercialisation of forest products. The federal government has envisioned economic prosperity through the sustainable use of forests, therefore, the local government needs to embrace the CFUGs in their planning process to meet this goal. Likewise, CFUG can play crucial role to meet the SDG goals (Goals 12, 13, and 15) set by the government. Considering the synergistic potential, there needs to be trust and cooperation between CFUGs and local government. In the upcoming days, CFUGs should focus more on forestry-related activities and integrate community development activities with the local government plans, while the local government should also prioritise the environmental aspects (community forestry) in their planning process.

CONCLUSION

In this study, we analysed the financing governance of CF in Mid Hills of Nepal. The study provided a detailed understanding on the income and expenditure patterns of CFUGs from Tanahu district. Though the CF income is highly skewed, on average each CFUG had an annual income of NPR 147,466 mostly from wood-based sources. Likewise, CFUG invested an average of NPR 152,770 per year, mostly in community development activities. As provisioned in CF operational guidelines, our assessment also found that CFUG on average spent around one-fourth of their total expenditure on forest management. The policy also provisions to spend at least 35 per cent of the income on pro-poor activities, however the existing practice of recording income and expenditure of CF funds poorly reflects the total expenditure actually made to the poor members of the CFUG. This suggests that the existing monitoring and evaluation of CFUGs should have measurable indicators that can ascertain the contribution of CF to the poor households. Though the guideline also binds the CF to conduct pro-poor programmes, the study found variation in the types of pro-poor activities.

CFUG income is dependent on geographic location, forest types, CFUG size, and community governance (meeting). This suggests that the households' size and CF governance should be considered while establishing new CFUGs. High income in forests with timber species suggests that focusing on timber-centric forest management could increase CFUG income in the long run. For CF to continue advancing in the new political system, there needs to be functional coordination and cooperation between the CFUGs and local government,

[1] Sum of average income of CFUGs within the particular municipality

rooted by policy. Since the CFUGs cumulatively have the capacity to generate a large amount of revenue at the local municipality level, there are opportunities for mainstreaming CF funds for local community development activities by strengthening the ties between the local government and CFUGs.

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