

Participatory Action Research into the Poverty Impacts of Community Forestry in Nepal

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Abstract

Community Forestry (CF)¹ is increasing in Nepal. Currently the Government of Nepal has enabled the handover of more than 1.2 million hectares of forest land (over 25 percent of the total forest area of Nepal) to over 14,000 community forestry user groups (CFUGs). These include nearly 38 percent of the total population of the country. Despite the impressive scale of CF in Nepal, there are doubts about the levels of meaningful participation and livelihoods improvement of poorer households, leaving the equity and sustainability objectives of CF in disarray. Economic poverty, social inequity, and political marginalization are still seen in many CFUGs, especially among the most marginalized populations – *Dalits* (lower caste and ‘untouchables’), ethnic groups, and women. Access of these groups to CF resources to enhance their livelihoods is still inequitable. Compounding these problems, the nation still continues to suffer from political instability with profound impacts on the practice of local governance and empowerment of poorer households, resulting in eventual production of an outcome that perpetuates or even reinforces social inequity and economic poverty.

To strengthen the empowerment of poorer households and increase the benefits they receive, many CFUGs and Civil Society Organizations like the Federation of Community Forest Users of Nepal (FECOFUN) are promoting democratic practices in their CF process. These include representation of marginalized groups on CFUG committees, activities to empower the poorest, equitable rather than equal distribution of forest products and programs that support the poor with specific income-generating activities, cheap loans, scholarships, etc., CARE Nepal conducted participatory action research in ten communities in the Eastern and Mid Western Churia, Bhawar and Terai region of Nepal to assess the impacts of such ‘pro-poor’ interventions on livelihoods aspects of CF. This paper presents the main results of this action research on the potential for making CF approaches more ‘pro-poor’ in order to improve livelihoods of poorer households.

Key words: *Community Forestry, Livelihoods, Action Research, Pro-poor Program*

¹ **Community Forestry (CF)** is the control and management of local forest resources by the local people according to their willingness and capacity to manage. It is taken as the most popular participatory forestry management adopted by the Government of Nepal.

List of Abbreviations

AR	Action Research
ARPIP	Action Research into the Poverty Impacts of Participatory Forest Management
AWP	Annual Work Plan
CF	Community Forestry / Forests
Cft	Cubic Feet
CFUG	Community Forestry User Group
CSO	Civil Society Organization
DfID	Department for International Development
DFO	District Forest Officer/Office
DoF	Department of Forest
EC	Executive Committee
FECOFUN	Federation of Community Forest Users, Nepal
FOP	Forest Operational Plan
GoN	Government of Nepal
HH	Household
IGA	Income Generating Activity
Kg.	Kilogram
NGO	Non-Governmental Organization
NRM	Natural Resource Management
NRs.	Nepali Rupees
NTFP	Non-Timber Forest Product
ODI	Overseas Development Institute
FOP	Forest Operational Plan
PHPA	Public Hearing and Public Auditing
PRA	Participatory Rural Appraisal
PVSE	Poor, Vulnerable and Socially Excluded
PWBR	Participatory Well-Being Ranking
Qty.	Quantity
RBA	Rights Based Approach
RRA	Rural Rapid Appraisal
SAGUN	Strengthened Actions for Governance in Utilization of Natural Resources
SC	Saving and Credit
SPSS	Statistical Package for Social Science
UG	User Group
USAID	United States Agency for International Development
VDC	Village Development Committee
WAF	Women Advocacy Forum
WG	Women's Group

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1. Background

In Nepal Community Forestry (CF) has been very progressive and well known for last three decades as an institutional innovation in controlling and managing forestry resources by the local users for their livelihoods improvement. So far the Government of Nepal has handed over more than 1.2 million hectares of forest land (over 25 percent of the total forest area of Nepal) to over 14,000 Community Forest User Groups (CFUGs) (Kandel, 2005). The general assumption is that CF has a significant positive impact on the livelihoods of the rural poor. However, some studies conducted on impacts of CF by Malla, Y.B et al in 1997; Maharjan in 1998; and Dev, O.P. et al in 2003; have shown that Poor Vulnerable and Socially Excluded (PVSE)² members like women, Dalits and marginalized Janajatis of CFUGs are benefited less from CF. Who lose and who gain are still burning issues in Community Forestry. Wealthier and more powerful members of CFUGs often dominate community forestry process and the institutional arrangements that oversee their implementation. This eventually produces an outcome that perpetuates or even reinforces social inequity creating negative impacts on PVSE, who may lose access to their rights to receive benefits from CF on equity basis.

To date there has not been a direct and comprehensive study of poverty impacts of CF across Chure, Bhawar and Terai regions of Nepal, although several studies have been conducted in a modest way, in small sites of middle hills, in recent years. Findings from these studies do not reflect the real situation of Churia, Bhawar and Terai ecological zone of Nepal, where socio-economic and political situation is distinctly different to middle hills and high mountains of Nepal. Community Forestry in these areas is comparatively new and very complex having forest resources of higher commercial values and communities with mixed ethnic groups. In addition, most of CFUGs and civil society organizations like Federation of Community Forest Users, Nepal (FECOFUN) working in these areas are now very aware of 'second generation' issues like poverty reduction, gender equity, democratic process and governance in CF with support of CARE Nepal and other bi-lateral projects. Similarly, some of them have managed to introduce pro-poor program³ in order to improve livelihoods of Poor, Vulnerable and Socially Excluded people (PVSEs) living in these areas. In this regard, an Action Research into the Poverty Impacts of Participatory Forest Management (ARPIP) has been conducted with support of CARE International (CI), CARE Austria, CARE Denmark, Overseas Development Institute (ODI), and Ford Foundation in the four districts of Eastern and Mid-Western regions of Nepal since September 2006 where CARE Nepal has been supporting the

² PVSEs are identified as: women, the very poor, *Dalits*, single women, migrants and their wives, and disadvantaged ethnic and religious groups. The very poor are landless or nearly-landless who do not earn enough to feed their families for the full year. (Source: CARE Nepal, Strategic Plan 2006 – 2009).

³ Pro-poor program is one, specifically designed to, and having the outcomes of, increasing the well-being of the poor.

local communities to control and manage community forests on equitable and sustainable basis. The overall objective of this Action Research is to find out the impacts of Community Forestry (CF) on livelihoods of CFUGs and make CF approaches more pro-poor. This paper aims at presenting major findings of the Action Research on poverty impacts of Community Forestry.

2. Methodology, Methods and Study Sites

Design of this Participatory Action Research is based on the following three basic questions:

1. Can CF contribute to poverty reduction by providing rural people with a sustainable and equitably distributed stream of net benefits greater than those obtained under a non-CF situation?
2. If yes, how significant are the benefits (in relation to other income-generating activities and sources of livelihood) for different well-being groups? If no, what are the key negative impacts of CF – and on whom do they fall – and are there ways of minimizing, mitigating or reversing these?
3. How are the impacts (both positive and negative) on poverty and equity of different forms of CF compared? What changes in policy, institutions and legal frameworks have the potential to enhance the contributions of CF to poverty alleviation?

2.1 Methods

Participatory Well-being Ranking (PWBR), focus group discussion, household survey, participatory mapping and participatory economic analysis were used as PRA and RRA tools for the collection of primary information whereas secondary information were collected from CFUG's and DFO's records and literature review.

2.1.1 Selection CFUGs and households

All CFUGs in each district were classified into four categories:

- (i) CFUGs with pro-poor activities and managed jointly by women and men groups,
- (ii) CFUGs without pro-poor activities and managed jointly by women and men groups,
- (iii) CFUGs with pro-poor activities and managed by women groups only
- (iv) CFUGs without pro-poor activities and managed by women groups only

A total of eight CFUGs out of 393 CFUGs in the four districts at the rate of two from each category by covering 1,165 households and managing 1,142 hectares of CF are selected. Then, out of total households 233 or 20 percent households are purposively sampled for the AR. Similarly, two non-CFs⁴ are also selected to compare the poverty impact of CFs with the impacts of non-CFs. The information about the selected CFs and non-CFs are in Table 2.

⁴ Non-CFs are still under state control; they are not well organized and do not have legal rights to collect forest products without permission of DFO and they do not have constitution and OP.

2.1.2 Participatory Well-being Ranking (PWBR)

A PWBR exercise has been conducted to categorize the selected CFUGs into richer, middle, poorer and ultra poorer households using criteria established by the community themselves – usually a combination of food security, landholding, livestock holding, education level of family members, social status and recognition, remittance from foreign countries, income from other sources, and physical properties like houses, tractors, and machines. The PWBR exercise in the eight selected CFUGs and two non-CFs show that percentage of richer, middle, poorer and ultra poor households are 21, 28, 34 and 17 percents respectively. The criteria used by CFUG members to group households into well-being categories are in Table-1 below.

Table1. Criteria used by CFUG members to group households into well-being categories

Category	Criteria
Richer (23% households)	<ul style="list-style-type: none"> • Sufficient food for 12 months with surplus for sale, • Land holding more than one hectare • Children attend high standard school and college, • most family members are well literate • Pension from government service • At least one family member engaged in a government job (like army, police, and teacher etc • Business or other off-farm job with a good cash income, • Well furnished house with garden • Intellectual and hard working family members
Middle (30% households)	<ul style="list-style-type: none"> • Sufficient to eat for 12 months • 0.5 to 0.75 hectares of land • Capable to admit children to schools an colleges in near by town • Some family members are literate • Some family members are in small position of government service, • Have buffalo milk supplies all the year round, • Medium sized house with tin roof, • Small family
Poorer (27% households)	<ul style="list-style-type: none"> • Enough food for 6 months only • Less than 0.5 hectares of poor quality land • Cultivate other's agriculture land on crop-sharing basis, • Medium sized house with thatch roof • Semi skilled labour (carpenter, wood cutter etc.) • Capable to send children to schools in a near by village • Family members semi-literate • Seasonal migration to India for earning money • Socially lower status • Having some livestock like buffalo and goats
Ultra-poor (20%)	<ul style="list-style-type: none"> • Landless or very small land to produce food hardly enough for 1-2 months • Work on daily wages for 12 months for survival, • Unskilled labour • Big family with small kids • Can not send children to school • Having very small hut with thatched roof • Non-literate and lower caste people although some higher caste people also fall in this category • Living on selling fuel wood in local markets.

2.1.3 Information collection and analysis

Information was collected from household survey and group discussion using PRA and RRA tools. Triangulation of all information and data collected was conducted with the help of key informants, focus group discussion in each well-being ranking groups, and some of these primary information were verified with secondary information recorded by CFUGs and DFOs and maintained validity of information as far as possible.

2.1.4 Feedback and cross-checking with communities and/or key informants

The research team members also shared the outcomes from the field study with the CFUG members. Such feedback was useful to generate discussions about equity and make CF pro-poor.

2.2 Study sites

CFUGs and non-CFUGs were chosen from the central and mid-western region of Nepal, where CARE Nepal is currently supporting community forestry through its Churia Area Program (CAP)⁵ and ‘Strengthened Actions for Governance in Utilization of Natural Resources’ (SAGUN) Program⁶. Out of seven districts of the regions, four Churia, Bhabar, and Terai districts: Sarlahi and Mahottari from the central region and Banke and Bardia from the mid-western region are selected for the Action Research where ‘second generation’ issues’ of CF are more persistent than in the middle hills. So far more than 27,325 hectares of state forests in the four districts have been handed over to 64,742 households of 393 CFUGs. Most of CFs are comprised of both plantation and natural forests and some are more than 10 year old, which have already shown impacts on livelihoods of the poor in the CFUGs. The country map with the location of selected sites for AR is given below.

Map of Nepal



⁵ CAP - CARE Nepal implemented *Churia* Watershed Management Project in Sarlahi and Mahottari districts focusing on upstream watersheds and sub watersheds with an objective to enhance the livelihood security of poor and vulnerable people (10,000 households) in the *Churia* and Bhabar regions by improving watershed conditions and promoting greater equity. The project was implemented from 2001 to 2006.

⁶ SAGUN Program - The USAID supported ‘Strengthened Actions for Governance in Utilization of Natural Resources’ (SAGUN) program is in operation in 13 out of 75 districts in Nepal since November 2002. Its objective is to ensure that natural resources in selected areas of Nepal are managed in a democratic and sustainable way; that the performance of selected civil society groups and other institutions is improved to meet the principles of good governance; that the benefits from natural resources are dispersed in accountable and transparent ways and that the benefits and other earned revenues are equitably distributed to the local communities both directly and through sustainable livelihoods improvement initiatives; so that the biodiversity is conserved and the democratic process for conflict resolution and peace building is supported.

To assess the impact of CF, two non-CF sites were also chosen to act as control sites. As most forest patches in the AR districts have already been handed over to local communities and some are in the process of being handed over, identification of non-CFs was not easy. Details of the study sites are in Table-2 below.

Table 2. Details of CFUGs and non-CFUGs selected

Region	District	Poverty Index for District	CFUG	Forest Area in hectare	Orientation of CFUG/with or without pro-poor program	Well being rank of CFUG HH					# of CFUG members		
						Richer	Middle	Poorer	Ultra poor	Total	Man	Woman	Total
Central	Sarlahi	49.8	Ram Janaki	37	Women/ Pro-poor	44	63	63	137	307	847	858	1705
			Pasupati	125	Mixed/ Pro-Poor	29	54	31		114	349	362	711
	Mahotari	34.4	Musahar	35.5	Mixed/ Pro-poor	4	2	30		36	105	108	213
			Ratu	433	Women/ Non-pro-poor	23	56	79	25	183	602	556	1158
			Phuljor	83.6	Non-CF /N/A	4	11	23	20	58	192	195	387
Mid-Western	Bardia	50.6	Sati	28.8	Mixed/ Pro-poor	58	54	47		159	516	489	1005
			Srijana Mahila	337	Women/ Non-Pro-Poor	49	66	111		226	699	709	1408
	Banka	43.2	Srijana	55.5	Mixed/ Pro-poor	23	12	15		50	183	187	370
			Jharana	90	Women/ Non-Pro-Poor	13	21	19	37	90	257	234	491
			Gabar	43	Non-CF/N/A	15	14	7	10	46	153	149	302
			Total	1268.4		262	353	314	229	1158	3903	3847	7750
			%			23	30	27	20	100	50.36	49.64	100

3. Impact of CF on different livelihood capitals at community and household levels

According to Chambers and Conway as modified by Carney (1998) a livelihood comprises the capabilities, capitals (including both material and social resources) and activities required for a means of living. The term 'Livelihood' will be used in this sense throughout this paper. In addition, following DfiD's modified version of Sustainable Rural Livelihood approach, five different types of capitals such as economic, physical, human, socio-political and natural upon which individuals draw to build their livelihoods are included for this AR. This section looks at the impact of CF on the different livelihood capitals at community and household levels by comparing the differences between CFs and non-CFs, and differences between well-being groups are also discussed. For each livelihood capital, information is presented on the situation in 2006 when data was collected and how this may have changed since the year CF was introduced (referred to as Year X).

3.1 Economic Capital

Economic capital incorporates income, assets and non-monetary income, and takes into account the risk, threat and vulnerability in all CFUGs and non-CFUGs selected. Based on the needs of the users and management of CFs and non-CFs, the following economic benefits and costs that are associated with forest resource management are listed down for the participatory economic analysis:

- Benefits from sale of forest products including NTFPs and/or fees and fines
- Individual household benefits from CF and non-CF like subsistence products including support to their agriculture
- Employment generated by CFs and non-CFs
- Labour costs for forest watching, animal grazing and silvicultural operations
- Time spend to attend meetings as transaction cost.

3.1.1 Participatory Economic Analysis:

Based on costs and benefits flow from CFs and non-CFs, which are shared among different well-being ranking groups of CFUGs and non-CFUGs, a participatory economic analysis was conducted. (Assumptions made for the economic analysis are in Appendix-1). Summaries of outcomes from the analysis for each well-being ranking groups at the study year 2006 and before CF formation Year X are in Table 3, 4 and 5.

Table 3. Summary for all CFUGs selected

CFUG	Well being rank	Net Income/hh/year (NRs.)		Net income/person day (NRs.)		Variation of Net Income/ person day (NRs.)		Net margin per capita (NRs.)	
		2006	Year X	2006	Year X	2006	Year X	2006	Year X
With Pro-poor program	Richer hhs	12,240	11,931	55	32	70-40	44-21	1590	1704
	Middle hhs	10,457	9,574	31	21	40-23	28-14	1937	1741
	Poorer hhs	21914	8302	142	34	171-114	44-25	9131	3774
	Ultra poor hhs	3930	6955	66	76	84-48	95-57	479	927
Without Pro-Poor program	Richer hhs	21,569	16,472	48	32	61-34	43-21	3852	3168
	Middle hhs	19,520	16,166	62	47	76-47	59-34	3615	4042
	Poorer hhs	13,402	10,914	64	38	79-49	52-25	2529	2662
	Ultra poor hhs	9023	13531	41	42	54-27	55-29	2314	3759

The following are the findings from CFs with or without pro-poor program:

- The net income per household and net income per person day for all well-being ranking households except the ultra poor households have been increased in comparison to the net incomes that the well-being ranking groups had been receiving before CF. This would appear to be due to increased production of forest products like small timber and poles in some of CFs under active CF forest management and use of these high valued products by the richer and middle and to some extent by the poorer households only.
- In totality the ultra poor households are getting less net incomes than before CF, regardless of whether pro-poor programs are in place or not. Moreover, the net margin per capita for the ultra poor households in CF with pro-poor program is lower than the net margin per capita for the ultra poor enjoyed in CFs without

pro-poor programs. This is likely due to the high transaction costs that the ultra poor households have to bear as they are involved in the pro-poor program.

- The total flow of benefits from CFs in ultra-poor households with pro-poor program has shown that total benefit to households from forestry decreased from 19 percent before CF to 8 percent at current situation. Similarly, it decreased from 24 percent before CF to 14 percent at current situation in CFUGs without pro-poor program. It is simply because CFUGs are imposing heavy restrictions on forest use to control over-exploitation of fuelwood and small sized poles to allow the recovery of degraded forest areas. Meanwhile most of pro-poor programs implemented to date are not matured to return incomes to the poor or ultra poor households. Thus the ultra-poor households, who have traditionally relied more heavily on forest resources for their livelihoods have suffered in the short term.

3.1.2. Economic analysis from gender perspectives:

The next economic analysis was conducted for CFs with and without pro-poor programs and managed by women CFUG members only. Outcomes from economic analysis based on forest products collected and shared among the CFUGs and costs incurred to their CF management are given in Table 4 below.

Table 4. Summary for Ramjanaki, Jharana, and Ratu, Srijana Mahila CFUGs managed by women groups only

CFUG	Well being rank	Net Income/hh/year (NRs.)		Net income/person day (NRs.)		Variation of Net Income/ person day (NRs.)		Net margin per capita (NRs.)	
		2006	Year X	2006	Year X	2006	Year X	2006	Year X
With Pro-poor program	Richer hhs	5,850	10,074	33	31	45-20	43-19	760	1439
	Middle hhs	5,233	6,941	34	38	46-21	51-25	969	1262
	Poorer hhs	9,044	6,028	77	73	97-58	92-54	3,768	2,740
	Ultra poor hhs	3,929	6,955	66	76	84-48	95-59	479	927
Without Pro-Poor program	Richer hhs	19,032	17,081	50.5	30.3	58.1-43.0	34.8 - 25.8	3,471	3,355
	Middle hhs	18,734	16,373	54.7	44.4	62.9 - 46.5	51.1 -37.7	3,100	3,046
	Poorer hhs	13,167	15,379	56.4	49	64.9 - 47.9	56.4 - 41.7	2,666	3,252
	Ultra poor hhs	9,575	14,164	51.75	48	59.5 - 44.0	55.2 -40.8	2,184	3,549

In both cases: CF with or without pro-poor program the net income per household in each well-being ranking households decreased in comparison to the net income before CF, except for the middle group of non-pro-poor CFUGs. The reasons for such reduction of benefits are:

- Most of the CFs under this category are passively managed. Such passive forest management has overlooked important opportunities to produce cash income for their members, and in some cases, to develop enterprises that could provide employment, thereby transforming the local economy.

- Some of the forest areas under this category come under plantation forest and are still not matured enough to produce timber and other high valued forest products that can generate income to the CFUGs. Therefore, strict restrictions are imposed to allow the recovery of degraded forest areas. While doing this, poorer and ultra-poor households, who have traditionally relied more heavily on forest resources for their basic needs suffered disproportionately in the shorter term. This indicates possibility of trade-offs between the opportunity costs of foregoing short-term forest product collection and animal grazing, and longer-term benefits from sustainable forest production
- Reforestation, weeding and tending operations, and conducting meetings more than planned have increased transaction costs for these CFUGs in comparison to the costs for other CFUGs that are managed by men and women jointly. In return, most of women CFUGs managed to accumulate social capitals like formation of advocacy forums, formation of saving and credit groups.

3.1.3. Economic analysis for non-CFs

As most of the non-CF forest user groups are recently migrated from the hills, not well organized and as they do not have any record or good memory of past forest management practices, economic analysis could not be done for year X. Hence a participatory economic analysis was conducted just for the study year 2006. The outcomes from the analysis are in Table 5 below.

Non-CFUG	Well being rank	Net Income/hh/year NRs.	Net income/person day NRs.	Variation of Net Income/person day NRs.	Net margin per capita NRs.
		2006	2006	2006	2006
Without Pro-Poor program	Richer hhs	28,122	55	63-46	5,408
	Middle hhs	30,498	98	112-83	7,625
	Poorer hhs	20,411	71	81-60	4,912
	Ultra poor hhs	19,411	60	69-51	5,392

- The average net-incomes per household per year for the richer and middle well-being ranks are higher than those of the poorer and ultra-poorer households by nearly 32 percent. This shows the richer and middle households are managing to capture more economic benefits than the poorer and ultra-poor households at the cost of equity of the non-CF management.
- Nevertheless, the net incomes per household per year for all well-being ranks of non-CF groups are higher than the average net-income per household per year from all CFs (with our without pro-poor program) for all well-being ranks. This shows the control over over-extraction of forest products in order to improve the condition of CFs and payment of costs by all well-being groups of CFs since the groups are now accountable to manage their CFs and pay fees for forest product collection and protection.

- On the other hand, both non-CFs are degrading every year because of over-extraction of forest products and these forests are not in good condition to fulfil basic needs of the user groups for forest products on sustainable basis. Extent of illegal cutting inside the forest was found very high.

3.2 Physical capital

Field study shows that all CFUGs have been mobilizing their fund to improve condition of community infrastructures like schools, roads, electricity, drinking water supply, drainage works in their villages. So far a total of NRs. 1,738,262 (US\$ 24,800) has been mobilized by the CFUGs for community development works. However, contributions to such positive changes should not just be claimed from CF. Some active CFUGs have also managed to mobilize local development funds from local development bodies like Village Development Committees to improve their physical infrastructures. For instance, Musahar CFUG has managed to mobilize their fund for electrification in collaboration with their neighbouring CFs and the VDC. Despite all these positive impacts of CF, it was observed that most of ultra poor households were not happy from school building construction and electrification as they could not bear costs for their children's schooling and pay electricity bills. However, it was observed that condition of physical capital of poorer households at present in comparison to before CF has significantly changed. For example, most of poorer households have replaced their thatched roof by tiled roof. Similarly, other physical assets like number of bicycles, radios have been increased at household level after CF. During group discussions in Ramjanaki CFUG, for instance, participants explained that some of their poor CFUG members have also managed to purchase a piece of land. On the other hand, both the non-CFUGs are found relatively poor in their physical capital. Still their villages do not have access to electricity and safe drinking water and most of houses of ultra-poor people are temporary. There is no significant improvement in their village infrastructures like roads, community halls as compared to last ten years.

3.3 Human capital

Basically, health condition, food security, education and capacity building of CFUGs and non-CFUGs are identified by the user groups as key indicators to assess impact of CFs on human capital. The following are findings:

- During group discussion with CFUGs it was reflected that there was improvement in health condition of CFUG members than before CF. Vaccination to children against polio was mentioned by all of them. One of the reasons for such improvement in health condition is that awareness level of CFUGs about health has been increased due to literacy classes and improved access to forest products.
- However, current food security status of all well-being groups has not remarkably improved as compared to before CF. Food security status of the sampled CFUGs is presented in Table 6 below.

Table 6. Food sufficiency at present and before CF

Food availability	Present condition (Percent)	Before CF (Percent)
Surplus	6.9	8.6
Sufficient	18.0	18.5
9 -12 months	17.2	20.2
6-9 months	13.7	13.3
3-6 months	16.7	12.0
<3 months	27.5	27.5
Total	100.0	100.0

More than 27 percentage user group households are producing food from their agricultural land just sufficient for three months. Therefore, they have to depend upon other means of livelihoods such as wage labour for their survival.

- Regarding education, all CFUGs having pro-poor program are managing to run primary schools in their villages. They are also managing to donate up to NRs 50,000 (US\$ 715.00) each year to their schools. On top of this, some CFUGs are providing school uniforms to each *Dalit* students free of charge.
- Many households have built up their capacity for their community development through different training and workshops. According to the CFUG record more than 29 percent (115 out of 393) CFUGs attended 27 different types of CF trainings, which helped them understand and learn about active CF management and other community development programs. Active forest management training had the highest number CFUG participants (19 percent), followed by good governance and advocacy, conservation awareness and NTFPs management/marketing.
- Unfortunately, status of health condition, food security, education and capacity building in both non-CF user groups are poorer than the CFUGs as they are not well organized to improve their access to such human capitals. More than 75 percent of households are just managing to produce food from their agricultural land for less than three months.

3.4 Social and Political capital

For this AR social capital is taken as the level of networking (both formal organisations and informal self-help relationships) existing in a community. This is often linked with political capital, which describes how well the community is able to negotiate with external actors. From gender equality perspectives, women members of Ramjanki, Jharana, Ratu Mahila and Srijana Mahila CFUGs seemed to have been empowered to take leadership to manage the forests on their own. Similarly, the women's group within the CFUGs are actively involved in saving and credit programme and they are also managing to run governance literacy classes and IGAs in their CFUGs. Following impacts of CFs are observed:

- **Accountability, equity, transparency and effectiveness**

There is an increasing willingness amongst the members of all CFUGs that the group should function in a transparent manner. Despite such willingness, most of important decisions made by the CFUGs are not implemented effectively which is the burning issue generally raised in their CF meetings. Most of these CFUGs are now practicing Public Hearing and Public Auditing (PHPA) to increase transparency and accountability in their decision making process.

- **Relationship among different community institutions**

Currently, all CFUGs are closely affiliated with district FECOFUN networks through which they are improving their capacity for advocacy for their NRM rights. In return FECOFUN is helping the CFUGs to coordinate with different government and NGOs and promote mechanisms of equitable sharing and appropriate use of resources obtainable from CFs in order to improve socio-economic conditions of the poorer and marginalized households. As a result, some women groups have managed to advocate for different socio-economic issues like 'Equal wages for women and men while performing similar work' and they are actively involved in saving and credit program and in literacy classes.

- **Cultural values**

Ban Devi Puja (worship to the forest goddess) once in a year is regularly organised by CFUGs, which has helped the CFUGs to strengthen their solidarity even in the ten years conflict period in Nepal and has managed to retain their cultural values in their CF.

- **Political capital**

The composition of the CFUG executive committee shows that richer household members are in most of the key posts in comparison to poor and ultra poor households as there is still power imbalance between well-off and deprived one. There is lack of understanding among the CFUG members about linkages between national politics and community development. More than 66 percent of CFUG members during the households survey responded that the decision made in the CFUG meetings follow democratic process and are beneficial to all members while rest of 15 percent responded that decision made by CFUGs are beneficial to richer and middle households only. Currently, these issues are being addressed through Public Hearing and Public Auditing (PHPA). However, in non-CFUGs still women, poor, *Dalits* and marginalized *Janajatis* are not utilizing their rights to have benefits on equity basis as they are not associated with any networks or federations to get help during the period of crisis.

3.5 Natural capital

Assessment of forest condition during the AR shows an overall improvement in CF condition after handover of forests to CFUGs. For example, in some CFs regeneration of CF has been increased and mean annual increment (MAI) of trees increased from 0.33 to 3.2 cubic meters per hectares. Threats and hazards to bio-diversity conservation and watershed management like animal grazing, illegal cutting of forest, encroachment of forests and forest fire have been effectively controlled. Though it seems too early to claim that improved CF condition has managed to restore water level in the Churia ranges, the CFUGs claim that water holes in the Churia hills reappeared because of improved condition of forest. Besides forest and water resources, land is noticed as one of the very important natural resources to improve livelihoods of CFUG members. In the study area, 11 percent richer households have owned 69 percent of the land; 5.6 percent of the middle households have owned 13 percent of land; and the rest 18 percent of land is owned by 83.4 percent of the poorer households. Such skewed land distribution is still one

of the burning issues in current Nepal creating a big problem in equitable distribution of natural resources among different well-being ranking groups. Moreover, there is still lack of government policy to allocate some portion of barren CF land to the ultra poor households for their income generation through NTFP cultivation and manage forest resources in an intensive manner.

Regarding non-CFs, condition of forest is deteriorating rapidly because of over-extraction of forest products to fulfil basic needs of the user groups. Biotic-interferences like uncontrolled animal grazing, forest fire, forest encroachment and illegal collection of forest products are rampant. Moreover, current instable political situation of the country has expedited degradation of these non-CFs as the user groups and the District Forest Offices could not actively control illegal extraction of forest products.

4. Risk, Vulnerability & Sustainability

Focus group discussion shows that most of CFUGs selected for the study have a common understanding on the risk that 'it is the deviation of the identified pathway for their livelihoods improvement'. In this regard, most of the users were found to be aware of the different types of risks like unpredictable government policy and its implementation. Similarly, while discussing on possible risks like uncertain investments in pro-poor activities, loan repayment, and abrupt restriction on harvesting of forest products, some of user group members presented evidences of risk introduced by misuse of group fund by the responsible CFUG executive members. However, it is realized by the groups that besides positive impacts of CF on livelihood capitals, CFUGs are often trapped in the vicious circle of poverty because of several reasons such as illness or death in the family, crop failure, natural disaster or insecure operating environment due to conflict. In such a situation equitable CF management can help them increase the stability of their livelihoods by reducing risk and vulnerability, through the promotion of three types of activities (Schreckenberget al, 2007):

- 'Safety net' activities – by improving access to and supply of subsistence and emergency products, CF can provide a fall-back options for people during periods of crisis and unusual needs. For example, most of CFs selected for AR helped CFUGs to reduce vulnerability providing subsistence forest products and income generating activities to the CFUGs during the ten years conflict in Nepal.
- 'Gap-filling' activities – many IGAs like bee keeping, off-seasonal vegetable production, and mushroom cultivation etc. can provide a supplemental income at a time when income from other long term business like forestry is low. Most of IGAs implemented under the pro-poor program in the study area not only helped the poorer households but also complemented to run 'software program' like good governance and advocacy program in the CFUGs.
- 'Stepping stone' activities – a few CF related activities can provide sufficient income for the CFUGs to mobilize their fund in other activities, enabling them to move out of poverty altogether. Out of eight CFUGs selected four have managed to mobilize their fund to run pro-poor program, which are potential to reduce poverty in their communities.

5. Discussion

This study set out to answer three principal questions. Each question is discussed in turn in light of study findings.

1. Can CF contribute to poverty reduction by providing rural people with a sustainable and equitably distributed stream of net benefits greater than those obtained under a non-CF situation?

The following are some of the study findings that are useful to answer the first question:

- CF benefits, received by richer and poorer households are different and poorer and ultra-poor households are less benefited. It is because richer households have capacity to utilize all types of forest products including timber whereas the poor and ultra poor households' needs are limited to small forest products like firewood and poles and, in other CFUGs except for those CFUGs that subsidize the subsistence price for poor members, the poor are not using timber.
- Pro-poor activities like soft loan to run retail shops and rickshaw pulling in Srijana CFUG; goat keeping in Pasupati CFUG, intercropping and horticulture in Musahar CFUG and livestock management in different sampled households are found to be positive in the reduction of economic poverty.
- Among the livelihoods options wage labour and remittance are contributing very significant values to the higher well-being ranks at present in comparison to the well-being ranks conducted before CF.
- Off-farm IGAs like goat keeping, intercropping inside CF like asparagus cultivation, support to ultra poorer households to run retail grocery shop or to purchase rickshaw are found very effective for quick positive impacts on the poorer household economy.
- Most of poorer and ultra poorer households increased their participation level in the decision making process of CF management and also raised their understanding on governance and economic empowerment parts of CF, which shows improvement of their human conditions.

Thus, the introduction of CF has had clear impacts on the ability of the poor to generate cash and non-cash benefits from the forest, resulting in a reduction of household level income amongst poorer households. These impacts at the household level have been offset by increases in social capital; increases in infrastructure e.g. schools, investing in education and other community works, electrification; and the provision of loans for income generating opportunities e.g. goat-keeping, extensions, savings and credit at rates much below those on offer from local money lenders. Some of the CFs with a pro-poor orientation has provided access to land for cultivation of different non-timber forest products (NTFPs) like asparagus and other medicinal herb cultivation. This last benefit is important, given the direct relationship between land holdings and wealth ranking in these areas. In general, lack of access to land would appear to be the biggest obstacle to overcoming poverty for the poorer members of these CFUGs.

There are also questions of sustainability over the benefits that are generated. There was an absolute reduction in the contribution of forest products to household income during the period because of the protection oriented CF and other CF related

restrictions but the forest condition has improved. However, in several CFUGs, poorer members resorted to sourcing forest products illegally from nearby national forests, which indicates that subsistence products from the CF are insufficient. In turn, this means that the initial size of CF forests must factor in the ability of the forest to generate subsistence products for CFUG members otherwise non-CF forests may face degradation pressures.

There were a number of issues related to the equitability of CF. First, there were some issues related to process. Most CFUG members say that CF are run in interests of everyone but there is a minority think it is run for the interests of the middle and richer households. Second, the benefits associated with timber, the most valuable forest product, are not equitably distributed. In particular, there are issues associated with the allocation of timber under the CFUGs. The distribution does take place on the basis of stated need. But the needs of the richer households are going to be larger than those of the poorer households. Because timber is a saleable commodity, the internal consumption of timber by the richer households represents a lost opportunity for the CFUG to generate cash income from the commercial sale of the timber. Used for subsistence consumption, timber is very less or not monetized. And without monetization, it has no multiplier effects.

In contrast, the benefits from other forest products like NTFPs are much more equitably distributed than those from timber. Also, in comparison, in the control communities, the distribution of benefits is more equitable but less sustainable. All these positive impacts of CF show that it is very potential to contribute to reduce rural poverty.

2. If yes, how significant are the benefits (in relation to other income-generating activities and sources of livelihood) for different well-being groups? If no, what are the key negative impacts of CF – and on whom do they fall – and are there ways of minimizing, mitigating or reversing these?

The biggest identifiable loss of benefits is a reduction in the volume of forest products harvested and the elimination of commercial sales of timber other than surplus sold through the CFUG. These restrictions impacted the poorest most, as timber money was “easy”, and they do not have the land holdings to which the middle and richer households turn for the provision of forest products no longer available from the CF. Small land holdings or landless mean that the poor and ultra-poor are more dependent on the CF for forest products, making the equitability of forest product distribution a doubly important issue.

There was also some crop damage and the loss of some domestic livestock due to the increase in wild animals in the forest. But CFUG members do not blame CF for this. Those who lost livestock or suffered crop damage were unhappy but the majority of CFUG members appreciated the increase in wildlife, either because they value it or for their aesthetic reasons.

Some of these impacts were compensated for through IGAs. In three of the four poor CFUGs, there was also land allocated to the poor which served to compensate

for some of the benefits lost from the introduction of CF. In some CFUGs, patrolling was done by paid forest watchers, the majority of whom were poor.

There was also an expressed appreciation amongst many CFUGs members for the role that the CFUG has come to play as a platform for social dialogue, not just on forestry but on other social and political issues too. The outcomes of this dialogue sometimes produced some interesting results. Some of the CFUGs are now providing basic utilities, a service that would normally provided by government. It is perhaps for this reason that some donors in Kathmandu are beginning to see CFUGs as vehicles for improving democratic process, governance, including social service provision in NRM and other community development.

3. How do the impacts (both positive and negative) on poverty and equity of different forms of CF compare? What changes in policy, institutions and legal frameworks have the potential to enhance the contributions of CF to poverty alleviation?

Given the problem with foregone benefits from timber allocation, there may be scope for introducing a point system for rationing forest products. Each forest product could be given a certain number of points. On the basis of contribution to CF management, everyone would be allocated points of equal values, which they would then choose to use according to their needs. This could also allow for the purchase of points amongst CFUG members for those whose needs were much greater than others.

PWBR exercises increase awareness of inequality, raise awareness amongst richer households (of the need to give) and on the poor (on the need to demand more) and make CF more pro-poor and inclusive. Recently, Government of Nepal officially recognized PWBR as one of the robust and efficient tools to identify poor and ultra-poor households and support them to improve their livelihoods through equitable benefit sharing and social inclusion in CF. Similarly, Public Hearing and Public (PHPA) Auditing has been recognized by the government as a quick and effective tool in internalizing and initiating good governance practices at user group level, as it makes user groups, executive committee members and government line agencies aware of and accountable for their duties and responsibilities.

In CF with pro-poor program, all people chosen are poor; the goal is poverty alleviation; in practice, benefits accrue to the household. However, at present, flow of benefits from the CFs are not much significant due to the fact that most of NTFPs planted in different CF are yet to be harvested, market for NTFPs is yet to be studied to find out updated information about market price, and value addition to NTFPs . In such a situation, support to improve livelihoods through off-farm based IGAs like tea-stall and grocery shops running, rickshaw pulling should be provided.

In CF without pro-poor program, goal is subsistence supply of forest products; in practice, benefits accrue to the household and the CFUG. In some CFs without pro-poor program, timber is harvested to increase the group fund, which in turn mobilized in forest and community development activities. The emphasis given particularly in the community development like construction of road, schools are beneficial to well-off people. But needs extra support to the poorer households to make them benefited and improve their livelihoods from these development activities like

provision of pro-poor activities in CF. Therefore, more pro-poor forest policies still needed to be formulated and implemented.

Active CF management has significantly improved forest condition in Nepal in terms of crown density and regeneration, and eventually it has also contributed in biodiversity conservation and other environmental services and benefits like carbon sequestration. So far, forest policies of Nepal have not adequately addressed these important CF contributions, which could help to maximise returns to the CFUGs.

6. Conclusion

Thus, the Action Research has clearly shown that some CFs are not adequately pro-poor in-situ condition because ultra poor households are still less benefited from timber oriented CF management and improve their livelihoods in comparison to benefits received by richer and middle income households. One of the reasons for such less benefit flow is that most of CFUGs have not tapped full potential benefits from CFs incorporating pro-poor activities like off-farm IGAs, which can return immediate benefits to the poor and ultra poor households. Most of CFUGs are not adequately initiating equitable costs and benefits sharing mechanisms. In addition, most of CFUG members are not adequately gender sensitized, inclusive, and empowered to take key position in their decision making process. As a result, active participation of women, *Dalits*, poor and marginalized *Janajatis* in decision-making process is not inclusive and encouraging. Therefore, in recent years, CARE Nepal has initiated a number of good governance and socio-economic empowerment projects and programs in the rural areas with the following interventions:

- Strengthen the organizational and financial management capacities of CFUGs and the representation of the interests of all user group members – particularly PVSEs.
- Enhance and diversify livelihood options for the economic empowerment of PVSEs through increased access to and control over forest resources.
- Strengthen the capacity of CFUGs to deliver quality services to strengthen their economic empowerment and the sustainable and peaceful management of natural resources.
- Enhance the skills of CFUGs to advocate for user group rights over natural resource management and to engage stakeholders at all levels.

References

- CARE Nepal. 2006. Strategic Plan 2006 – 2009, Lalitpur.
- CARE Nepal. 2007. Economic Analysis of “Action Research into the Poverty Impacts of Participatory Forest Management (ARPIP)” CARE Nepal (Unpublished).
- Carney, D. 1998. Sustainable rural Livelihoods – What Contribution can we make? – Paper presented at the Department of International Development’s Natural Resource Advisors, July 1998.
- CBS. 2005. Poverty Trends in Nepal, Government of Nepal, Central Bureau of Statistics, Kathmandu.
- Dev, O.P., Yadav, N.P., Springate-Baginski, O. Soussan, J..2003. ‘Impacts of Community Forestry on Livelihoods in the Middle Hills of Nepal, 2003 in Journal of Forest and Livelihoods’.Lalitpur, Nepal.
- Kandel, B. 2005. ‘*Samudayek Ban ka Uplabdhī ra Chunautiharu*’ (Achievements and Challenges in Community Forestry) in ‘*Hamro Ban*’, Ministry of Forest and Soil Conservation, Department of Forests, Kathmandu, Nepal.
- Maharjan, M.R. 1998. Flow and Distribution of Costs and benefits in the Chuliban Community Forest, Dhankuta district, Nepal. Rural Development Forestry Network Paper 23 e. ODI, London.
- Maharjan, M.R. (2007) ARPIP Nepal National Report (Draft), CARE Nepal, 2007, CARE Nepal, Lalitpur. Nepal (unpublished)
- Malla, Y.B. 2003. Why aren't Poor People Benefiting More from Community Forestry? Journal of Forest and Livelihoods. ‘Impacts of Community Forestry on Livelihoods in the Middle Hills of Nepal, 2003 in Journal of Forest and Livelihood’ Lalitpur, Nepal.
- Richards, M.,Davies, J. and Yarin, G. 2003. Stakeholders Incentives in Participatory Forest Management. A Manual for Economic Analysis. ITDG Publishing, London.
- Schreckenberg, K., Luttrell, C., Zorlu, P., Moss, Catherine. 2007. A Way Out of Poverty? A Review of the Impacts on PFM on livelihoods – Keynote paper presented under Theme 4 “PFM and Livelihoods: Role of PFM in 1st National Participatory Forest Management Conference, 6 – 8 June 2007, Kenya Forestry Research Institute (KEFRI) HQ, Muguga, Kenya.

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Annex- 1

Assumptions for the Economic Cost and Benefit Analysis of CF

1. Only economic benefits accruing from the goods are included but not that of the services.
2. Due to lack of time series of economic data, snapshot of two points of time are taken, one for the forests just before being handed over (Year - X) and one after certain years which is at the Action Research year (2006).
3. Some of the products which do not have market prices are converted into values with the help of 'willingness to accept' method.
4. Labor costs are calculated according to the opportunity costs. (for family labors)
5. The Adult Equivalent Unit (AEU) of the people living in the area has been calculated by taking:
 - 60 years and above =0.8
 - 16-6=1
 - 3-16=0.70
 - Up to 3=0.4
6. This AEU is adapted from stakeholder incentives in participatory forest management - a Manual for Economic Analysis by Michael Richards et al, 2003 modified with the information from the groups (CF) to reflect the local condition. This data gives both consumption as well as production contribution average as per the age group. Thus the members per household are not the real number of persons but the converted average of the standard economic labor unit.
7. As forest products are of different nature and can not be added up, they are converted into a single unit by applying a conversion factor calculated to the facts given by the "Key informants".
8. The benefit of the grass (from grazing of the forest) has been calculated by calculating Standard Livestock Unit (SLU) and through how much worth do the animals graze per day. It has been found out to be NRs.7.5 per SLU per day of grazing. First value of grazing per day of a buffalo was calculated and then all animals converted into buffalo unit (SLU) by conversion factor:
 - One buffalo can graze 1.3 kg. of grass per hour,
 - 6 hours of grazing (a day) gives 7 kg i.e ¼ of a *Bhari* per day
 - Value of grass NRs 30 per *Bhari* (headload)
 - Conversion factor:
 - Buffalo= 1
 - Cow/Ox= 0.7
 - Goats= 0.15
9. This SLU conversion factor is adapted from Stakeholder Incentives in Participatory Forest Management - A Manual for Economic Analysis by Michael Richards et al, 2003 (pp-118)
10. Sensitivity analysis carried out as 15% increase with values (undervaluation earlier in calculation) and 15% decrease (overvaluation in earlier calculation) gives a range of net margin per person day. Also, taking out both intercropping and fruit together and separately was done to see the effect of pro-poor activity.
11. Timber, praline and poles are calculated taking an average consumption of households.

(Source: Economic Analysis of "Action Research into the Poverty Impacts of Participatory Forest Management (ARPIP)" CARE Nepal, 2007 (Unpublished).