

Climate Change Mitigation and Adaptation Strategies in Nepal's Forest Sector: How Can Rural Communities Benefit ?

NSCFP Discussion Paper No. 7



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September 2009



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun Svizra

Swiss Agency for Development
and Cooperation SDC

Nepal Swiss Community Forestry Project

inter
cooperation

Natural Resource Management
Rural Economy
Local Governance and Civil Society

This discussion paper and the comprehensive study on which it is based - "Forest Governance and Climate Change in Nepal" by Bherat K. Pokharel, Ganga Ram Dahal and Sarah Byrne – have been made possible through the financial support of the Swiss Agency for Development and Cooperation (SDC). The study is part of a series of three case studies looking at the governance of climate change mitigation and adaptation in the forest sector in three countries: Bolivia, Mali and Nepal. This support is part of SDC's contribution to the Rights and Resources Initiative (RRI), of which SDC and Intercooperation are members. For more information about Intercooperation and the Rights and Resources Initiative's activities in the field of climate change mitigation and adaptation, please see: www.intercooperation.ch or www.rightsandresources.org.

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The views expressed in this paper are those of the authors and do not necessarily represent those of SDC, RRI or Intercooperation.

The authors would like to thank Jane Carter, Carmenza Robledo, Ganga Ram Dahal, Hem Tembe and Dil Raj Khanal for their valuable contributions.

Cover photo: Mukesh Rijal, 2007. The town of Sanghuteer at the border of Ramechhap and Okhaldhunga, vulnerable to seasonal flooding.

September 2009, Kathmandu, Nepal

This Publication is printed in recycled paper.

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1. Introduction: People, forests and their carbon in Nepal

This paper outlines options for rural communities to participate in climate change mitigation and adaptation activities in the forest sector in Nepal. We look at the various institutional barriers that would need to be overcome, as well as the existing institutional opportunities, particularly in relation to tenure rights. This paper is based largely on "Forest Governance and Climate Change in Nepal" (Pokharel et. al. 2009b), with additional inputs from more recently published studies.

The latest data about the status of Nepal's forests comes from the National Forest Inventory, which was published in 1999. It shows that Nepal has total 4.2 million ha (29%) of forest area plus 1.6 million ha (10.6%) shrub land (DFRS 1999). The immense bio-climatic diversity in Nepal supports more than 35 forest types. Forest types, as well as forest governance regimes, differ between Nepal's three physiographic regions: the plains (Terai), the hills and the mountains. In terms of tenure rights (mainly land ownership), all of Nepal's forests - except on private land - are state owned national forests. Under national forests there are five major categories: government managed, protected forests, community forests, leasehold forests and religious forests. The amount of forest cover on private land is increasing: it is estimated that there are 300 million trees on private land outside the forest area in Nepal. From the perspective of communities' rights, nearly 22% of the country's 5.8 million ha of forests are now

governed by communities, and the remaining 78% is still controlled by the state.

The scope of community forestry (the physical and socio-political contexts in which community forestry is present) is geographically limited. Most community forests are in the mid-hills of Nepal. Although there are extensive forest areas at higher altitude there are, as yet, few community forests in high altitude areas. Reasons include the relative inaccessibility of these forests, and the small and dispersed nature of settlements in high altitude areas. Extensive areas of high altitude forest (much of it coniferous) also represent a high-value timber resource which the government has been more reluctant to hand over to community control than the more degraded forests at lower altitude. Other areas have been declared protected areas (national parks), which limits the opportunity for communities to utilise them even if they were handed over.

In the lowland Terai, the extent of community forests is also limited. Only 3% of Terai forests have been handed over as community forest and only 7% of CFUGs are in the Terai. The forests here also often represent a valuable and productive timber resource (sal dominated), where complex issues such as cross-border smuggling, high population pressures, relatively easy access and conflicts between indigenous and more recently settled people have made the government reluctant to support extensive

handover of forests as community forests. (Pokharel et al, 2008).

Nepal has a deforestation rate which amounts to 1.7 % between the periods of 1978/79 and 1994/95 (DFRS, 1999). Most of the deforestation and degradation of forests over the past 20 years has taken place in Terai districts. The main drivers of deforestation are a lack of property rights, which means that people do not have a sense of ownership. A lack of institutional capacity and appropriate institutional arrangements for sustainable forest management are further important factors.

In contrast to the overall picture of declining forest condition, the condition of community forests – most of which lie in the mid-hills - is improving. Studies indicate that the community forest density has increased by up to 21% per year (Pokharel et al., 2008). Nepal has a total of 1.219 million ha of forest managed by 14,337 Community Forest User Groups where 1,647,700 households are directly engaged in this process. The average size of a community forest is 85ha.

The condition of forests under government control is generally declining. For example, over a 15 year period (1979-1995), a total of 1,348 thousand ha of forest land, more than 9% of the total high forests, was converted to shrub land. The reason for this decline in forests is a lack of appropriate local community based institutions for forest management, which leads to uncontrolled forest fires, excessive grazing and general mismanagement of government controlled forests. In some cases communities harvest products from

neighbouring government forests, rather than their own community forest, which they protect - because the government lacks the capacity to regulate it.

More than 90% of Nepal's people live in rural areas and forests are an integral part of rural livelihoods. Forest are especially important to the livelihoods of the poorest people, who depend on the forest for timber as housing materials, fuel wood for heating and cooking, fodder for feeding animals, and medicinal herbs. The primary cooking fuel in the country is firewood, with 69% of households using firewood as their main source, and 61% of households in Nepal collecting their firewood both from community managed and government forests. Seventy-five percent of the country's households collect fodder for various purposes. Forests and the nutrient cycle entailed are an essential part of agricultural systems in the hills.

When we talk about rural communities in Nepal it is important to remember that rural Nepalese society is highly inequitable and differentiated, and communities, as social units, are as well. The differentiation is historically rooted and is characterized by unequal access to and control over land resources between people of different economic and social groups. The landed class, who are mostly from advantaged caste and ethnic groups, dominate the economic and political affairs of the country resulting in continuous marginalization and exclusion of the land-poor, mostly the Dalits, women and indigenous ethnic groups. Kinship, connections and political constituencies shape the power relations which re-enforce hierarchical social structures. In addition,

patriarchy results in the subordinated position of women, who, irrespective of their class and caste identity, have less control over means of production, access to opportunities and voice compared to men of the same economic and social groups. Though the country experienced several political changes during the last decade, exclusion and inequalities persist and many hierarchical institutions remain largely unchanged

(Pokharel et al, 2009b). It should be noted that, in the context of community forestry, "community" has a specific and formally recognized meaning and community forest user groups are formally recognized as autonomous bodies through the Forest Act (1993). The local politico-administrative unit is the Village Development Committee (VDC), which is not currently functional as a democratically representative institution.

2. The institutional opportunities and constraints associated with mitigation measures

There are three types of activities that can be used to mitigate climate change: reducing greenhouse gas emissions, increasing carbon sequestration and carbon substitution. All three are relevant for the forest sector. Since we have not found much information on carbon substitution for Nepal, we have not addressed it in this paper. By far the most interest in Nepal is for reducing greenhouse gas emissions, specifically through the Reduction of Emissions from Deforestation

and Forest Degradation (REDD) scheme currently under negotiation through the United Nations Framework Convention on Climate Change (UNFCCC). If REDD were also to include sequestration activities such as enhancing existing degraded forests (so-called REDD+, currently the subject of international negotiations), then this would be more favourable to rural communities in Nepal –specifically to existing community forest user groups. Carbon sequestration

Table 1: Status of carbon by legal classification of forests in Nepal

Category	Sub Category	Area in million ha	Above ground biomass in million tons	Below ground biomass in million tons	Dead wood biomass in million tons	Total biomass in million tons	Carbon in million tons
National Forest	Government managed Forest	3.9	767.83	268.74	155.49	1192.06	596.03
	Community Forest	1.2	236.27	82.69	47.84	366.79	183.40
	Leasehold Forest	0.01	2.76	0.96	0.56	4.28	2.14
	Religious Forest	0.0005	0.11	0.04	0.02	0.17	0.08
	Protected Forest including conservation areas	0.71	139.78	48.92	28.30	217.02	108.51
Private Forest	Private Forest	0.0023	0.012	0.004	0.0023	0.02	0.09
Total		5.836	1146.75	401.36	232.22	1780.32	890.16

(Source: Pokharel et al, 2009b)

through afforestation/reforestation has received little attention in Nepal's forest sector as existing community forests are not eligible for the Clean Development Mechanism (CDM) under the current Kyoto Protocol – though if communities reforest or afforest on a degraded land this could be accepted by the CDM (see section 2.2.1 for details). Table 1 (below) shows the present status of carbon in Nepal's forests.

For any mitigation activities in the forest sector to be effective, serious improvements in forest governance will be necessary. These are outlined in part 6. Below we address specific institutional barriers and constraints related to the forest sector mitigation schemes either in effect or being proposed. Improving forest governance, in addition to addressing the constraints below, will create conditions in which Nepal's rural poor can benefit from climate change mitigation mechanisms.

2.1. Reducing emissions from deforestation and forest degradation (REDD)

The proposed REDD scheme, which offers an option to reward rural communities for reducing deforestation and forest degradation, is seen by many as a potential solution for three of the biggest challenges facing the world, and developing countries in particular: climate change, biodiversity conservation and socio-economic development. In Nepal, especially in community forestry (where donors and civil society actors are concentrated), many hopes are being pinned on the potential of REDD schemes, which after 2012 will represent the most likely route for bringing community forests users into official climate change

mitigation measures. At present, *existing* community forests are not eligible to benefit from REDD, as these forests –sustainably managed by communities - are not facing deforestation or forest degradation. However, if REDD was understood in the broader sense of REDD+ (including enhancement of carbon, restoration, and forest management) or REDD++ (including also knowledge), as is currently under negotiation in international arenas, then existing community forests could benefit. Potential benefits from a REDD based carbon-financing system could however become available to *new* community forests established in degraded forests and those experiencing deforestation, and indeed this could provide an incentive to expand the area currently under community forestry. However, not everyone is convinced of their potential, and some are pointing to the challenges involved in ensuring both environmental gain as well as livelihood benefits.

We concur with Ojha et al (2008), who come to the conclusion that “looking at the existence and potential growth of both compliance (under REDD) and voluntary market, and the recognition of COP 13 and 14 that local and indigenous rights are also a key element of future REDD strategy, the question is not whether Nepal's forestry has a potential for carbon financing, but to what extent and under what conditions” (p.3). These conditions are quite crucial, because Nepal's existing community forests, far from being degraded and deforested, are in fact regenerating already thanks to the significant investments made by rural communities since the 1980s. On the other hand, the existence of a system of functional community forest

Table 2: Opportunities and constraints for Nepal's rural communities benefiting from REDD

Institutional constraints	Institutional opportunities
<ul style="list-style-type: none"> • Ensuring an equitable sharing of costs and benefits within CFUGs/communities • Ensuring an equitable sharing of costs and benefits within the country • Lack of clarity about carbon tenure • Lack of policy and legal coherence on tenure and regulatory mechanism of the sale and transport of forest products • Lack of institutional cooperation • Meeting the additionality and no-leakage criteria • Meeting the permanence criterion • Selection of the baseline and crediting level • Lack of reliable data on deforestation and forest degradation • Scale and distribution of Nepal's forests • Size of benefits and transaction costs • Awareness and access to information • Forest governance in the Terai and Inner Terai 	<ul style="list-style-type: none"> • Successful community based forestry programme and functioning CFUGs • Use rights are legally conferred to the CFUGs through formal handover • Strong and vibrant civil society representing forest users • Ongoing constitutional, state restructuring and legal reform process • Potential of addressing deforestation and degradation in the Terai • Functional multi-stakeholder processes and significant degree of trust among stakeholders • Scope from aid to trade (or compensation?) • Communities can monitor carbon stock changes • Carbon as part of a comprehensive PES 'package' • Testing different market options including voluntary market, trust fund etc. • Willingness of donor support to Nepal on climate change and forest based livelihoods • Changing role of the forest department as enabler and facilitator • Existence of champions and change agents in state organs, political parties, I/NGOs, federations and community group

user groups with secure tenure rights (though carbon rights are not yet regulated) puts rural communities in Nepal in a good position to capture carbon payments – through the commitment of deforested areas or degraded forests for REDD under the system of community forestry. CFUGs can credibly claim to meet the criteria of ensuring sustainable forest management and ensuring

local and indigenous peoples rights, as well as livelihood co-benefits.

The argument about REDD with respect to community forestry in Nepal therefore can be summarised as follows: existing community forest user groups are not in a position to benefit from REDD because their forests are not currently experiencing deforestation or forest degradation. In order

for existing community forests in Nepal to be included, REDD would have to be expanded to REDD+. Another option for existing community forests would be the development of a broader payment for environmental services (PES) scheme to be implemented in complement to REDD. REDD could however benefit areas not currently under community forestry and which are presently facing deforestation and forest degradation such as in Terai and Inner Terai region, and could indeed be a strong argument for expanding community forestry to these areas, given the documented evidence of community forestry's effectiveness in reducing deforestation and forest degradation. The expansion of community forestry, and the benefits of community forestry compared to other forest management regimes, is a subject of debate in Nepal. Furthermore, this expansion would make for a 2-tier community forestry system – those new community forests benefiting from REDD, and older community forests not – which is unlikely to be acceptable at a political level. The position of the Federation of Community Forest Users of Nepal (FECOFUN) on this issue is: "How can we discriminate the communities who have been protecting and managing forests for so long and the one who will be protecting and managing for long in the future? So, we will raise our voice to craft a mechanism to benefit both types of community forests; no matter when have they started protecting them..."(Bhola Bhattarai, General Secretary of FECOFUN, pers.comm). Therefore the option of REDD+ or of a wider PES system, which would benefit different generations of

community forest user groups differently based on their reductions of emissions or enhancement of carbon, remains important for consideration.

Since REDD is not yet an internationally formalized regime, though its general shape is becoming clear, scope remains for ensuring that the design is as "pro-poor" as possible. In the following paragraphs we outline the main institutional constraints and opportunities, based on REDD proposals to date, that will determine whether Nepal's rural communities will be able to benefit from the REDD scheme. Table 2 (below) summarises the institutional –including "rules of the game" –opportunities and constraints.

2.1.1.Constraints Ensuring an equitable sharing of costs and benefits within CFUGs/communities

In Nepal, funds generated through carbon payments under the REDD(+) scheme could potentially be channelled at community level through Community Forest User Groups (CFUGs) which have funds and accounts already established. The individual CFUGs could then decide through their annual general assemblies what to do with the funds. However, for all the progress community forestry has made in improving forests and livelihoods, the equitable sharing of forest income and forest products remains a challenge. The investment of community forest funds in unproductive sectors, or the use of forest revenue for investments that have little benefit for poor people, is not uncommon. Additional revenues flowing into a community due to carbon payments could certainly exacerbate this situation, especially

if not accompanied by sufficient monitoring and accountability measures. Other risks may arise if certain forms of forest management are specified in carbon forestry projects, for example regarding types of trees/plants or harvesting regimes. Generally people living in poverty are more dependent on harvesting forest products from the community forest than their wealthier neighbours, who often have access to trees on private land. Thus, restrictions on what can be harvested and when could disproportionately and negatively impact people living in poverty if these practices are not taken into consideration. This may negatively impact pre-existing patterns of forest product use that are essential in subsistence agriculture

throughout the country, or it may reduce opportunities for alternative income sources from forest-based enterprises. The risk is that poor people could disproportionately pay the cost, while the benefits accrue disproportionately to local elites.

On the other hand, the argument can be made that other local institutions would not likely be any better in this regard. Whether some form of alternative (whether the local government, or a specific REDD institution) could work more equitably than CFUGs could easily be questioned. Whatever the community-level institution is it enough to say that the community has such and such rights or should there be special provisions to guarantee the rights of poor and

Table 3: Prospect of REDD benefit to Nepali forest sub-sectors

Forest Category	Status of Forest in the Plains (Terai)	REDD Prospect*		Status Forest in the Hills and High Mountains	REDD Prospect*	
		Interest of International Buyers	In-Country benefit sharing		Interest of International Buyers	In-country Benefit Sharing
Community Managed Forest	Stable / declining	Medium	Medium	Growing / stable	Low / medium	High
Government Managed Forest	Declining significantly	High	Medium	Stable	Low / medium	Medium
Protected Areas	Stable or growing	Low	Low	Growing / stable	Low	Low
Total Forest	Declining	High	Complex and contested **	Stable / growing	Low / medium	Contested and risk of perverse impact***

*Based on the original concept of REDD: it is assumed that good performances made against highly deforested and degraded areas will fetch good REDD benefits provided that other sub-national areas have no negative impacts and remain at least at status quo

**Due to a lack of clarity on stakeholders and drivers of deforestation, sharing the benefit will be complex as multiple groups may stake their claims

*** Unless the hill communities received a fair share of REDD benefit from the good performance, there might be risks of perverse impact

(Source: Dahal and Banskota 2009)

disadvantaged households (Staddon, 2009)? This would clearly make the whole system more complicated, but may be necessary to ensure that poor and disadvantaged people reap an equitable share of benefits from monitorable and verifiable emission reductions in the still highly unequal context of rural Nepal.

Ensuring an equitable sharing of costs and benefits within the country

As mentioned above, types of forests, forest governance regimes and consequently rates of deforestation and forest degradation vary between the plains (Terai), mid-hills and high mountains. Under REDD provisions, Nepal's Terai forests, where high rates of deforestation and degradation have been registered, could be an appropriate target for generating carbon payments by slowing down the rates of deforestation or degradation by a credible method. Furthermore, due to the climatic and soil conditions, trees can grow faster in the Terai, thereby sequestering more carbon than is possible in the hills (carbon sequestration is included in REDD+ proposals). However, the distribution of benefits to Terai communities alone would be counter-productive unless a fair share was distributed for to mid-hill communities in recognition of their efforts in restoring and managing their forests in a sustainable way. The table on the following page shows the prospects of REDD benefits according to the three main forest regimes and two geographical areas.

1. REDD presents a tremendous possibility for mobilizing financial and technical assistance to address deforestation and degradation in the Terai.

2. In order for existing community forest areas (concentrated in the mid-hills) to benefit, REDD will have to include enhancement of carbon stocks, in addition to reducing deforestation and forest degradation (REDD+). And a pure market system may not favour community forests.

3. There is a possibility that REDD, if applied in such a way that it is perceived to disadvantage communities living in the mid-hills, who have been sustainably managing their forests for years, could have a perverse effect. It would be seen to be rewarding those who have been abusing their forest resources. Furthermore, it could exacerbate inter-regional tensions, which would not be helpful in a country that is still in transition from a decade long civil conflict. The other way to look at this that it implies that the creation of a different mechanism to benefit also existing community forest user groups – whether REDD+ or a PES system – would be necessary in order to compensate the perceived disadvantage of existing community forest user groups. The currently proposed REDD mechanism does not recognize the local communities' investment on degraded land of the past, so REDD is not the right option for such community forests. Nevertheless, REDD can only be a real option for those degraded land that could potentially be handed over to communities for rehabilitation.

Lack of clarity about carbon tenure

The situation with regards to forest land tenure in Nepal is quite clear and mostly respected in practice, though fragmented into a variety of forest governance regimes. As per the Forest Act (1993) all forest land in

Nepal is either national forest or private forest. Private forests are owned by individuals or families and are managed privately. The vast majority of forests, however, are national forest: owned by the state, with different access and use rights granted to communities under different tenure arrangements. In community forests (which are, in legal terms, a part of the national forest), these rights are transferred as per the Operational Plan agreed between the CFUG and the Department of Forests (DoF). Provision and the use rights of forest products such as wood, non wood products are more or less clear in groups' Operational Plan. However, provisions related to 'carbon' rights or 'carbon money' as such are not included in the Plan and this will have to be sorted out at the

regulatory level. In order to understand the status of ownership of the carbon pools in forest land in Nepal, it is important to disaggregate forest tenure regimes and compare the ownership of carbon pools. Each of these regimes has a different level of ownership of carbon pools (dead wood, litter, soil organic carbon, above ground biomass, and below ground biomass). The following table, based on an analysis of the current forest sector legislation, shows who likely owns which of the carbon pools under the various tenure regimes.

Even if a community group does have certain 'carbon rights', this does not necessarily mean that the communities will have the right to claim all the money from carbon payments. At the moment CFUGs in

Table 4: Ownership of the carbon pools according to an interpretation of existing legislation

Tenure Arrangement		Ownership of				
		Dead wood	Litter	Soil organic carbon	Above ground biomass	Below ground biomass
National Forest	Government managed Forest	State	State	State	State	State
	Community forestry	Group	Group	State	Group	Group
	Leasehold forestry	LFUG	LFUG	State	LFUG	State
	Religious Forest	Group	Group	State	Group	State
	Protected areas	State	State	State	State	State
	Collaborative forestry	Joint: group and state	Joint: group and state	State	Joint: group and state	State
	Buffer Zone Community Forestry	Joint: group and state	Joint: group and state	State	Joint: group and state	State
	Conservation areas	Joint: group and state	Group	State	Joint: group and state	State
Private	Private forestry	Individual	Individual	Individual	Individual	Individual

(Source: Pokharel et al, 2009b)

Nepal keep all revenue from the sale of forest products, with the exception of the high value sal (*Shorea robusta*) and khair (*Acacia catechu*) which is taxed at 15% if sold outside of the CFUG. If carbon forestry were implemented, it is possible that the government could claim all revenues from carbon financing, or only a portion through taxes, or none at all (i.e. allow CFUGs to retain all funds). This question will need to be sorted out before carbon funds can flow into Nepal on more than a pilot scale, and such a decision would obviously be highly contested. Therefore, negotiations between the state and CFUGs and their representatives to find a common position on this issue should take place so that it does not develop into a conflict. As mentioned below, the future power sharing arrangement to be implemented through the new federal constitution may add to the existing uncertainties over ownership and taxation rights.

Lack of policy and legal coherence

There are a number of legal and policy inconsistencies that could affect the effective functioning of a REDD mechanism in Nepal. A significant example is the contradictions between the Local Self Governance Act and the Forest Act over which institution has the right to manage forests and is entitled to forest generated revenues. The Local Self Governance Act (LSGA), 1999 gives autonomy to local governments (in the Act termed "bodies"), at village and district levels, to manage natural resources including air, water, land and forests. However, these provisions are not aligned with many of the sectoral acts, including the Forest Act 1993, and create legal ambiguities between local

governments and CFUGs. The main reason that this has not yet developed into conflict is that local governments in Nepal are not currently operational, as a result of the civil conflict, political transition and the slow pace at which democratic processes have been restored since then (Pokharel et al, 2009b). The question of the ownership of forest resources, or the entitlement to tax the sale forest products (possibly including carbon), will need to be clarified and a benefit sharing mechanism crafted that functions in a federal state structure.

Lack of strong institutional cooperation and collaboration

At the national level, there are two different sets of mechanisms established for climate change mitigation initiatives, one for CDM and one for REDD, each led by a different Ministry. The Designated National Authority (DNA) for the UNFCCC, and therefore the focal point for CDM, is the Ministry of the Environment, Science and Technology (MoEST). REDD activities, on the other hand, are coordinated by the Ministry of Forest and Soil Conservation (MoFSC), which led Nepal's R-PIN preparation, and is currently engaged in REDD readiness activities such as R-PLAN preparation and its implementation. Although they have almost similar objectives (capacity building, crafting national strategy, development of reference scenarios, monitoring plan, consultation and preparation of readiness plans and so on), no formal institutional linkage can be seen between the two institutional mechanisms. There is a need to harmonise the working relationship between the MoFSC and MoEST at least on policy development processes

such as NAPA and climate change policy formulation which are being led by MoEST, and REDD strategy development process led by the MoEST. Rather in practice a kind of informal bridge between the two is somehow maintained by some champions, officials, donor funded programmes, civil society actors, working groups and networks who participate in the consultation activities of both (Pokharel et al, 2009b).

Meeting the additionality and no-leakage criteria

In order to be effective as a strategy for reducing emissions, REDD projects will have to satisfy a number of criteria, including: additionality, no leakage and permanence.¹ Each of these would have implications on the conditions under which Nepal, in particular community forests, would be eligible. The criterion of additionality requires proof that any reduction in emissions from a REDD project is genuinely additional to reductions that would occur if that project were not in place.² There is some concern whether the criteria of additionally would in fact exclude existing community forests areas (Karky and Banskota, 2007 and Staddon, 2009), even from REDD+. Karky and Banskota conclude that "it would be difficult to argue that the forest management activities of villages like Lamatar are truly "additional" in Kyoto terms" (p.74). Since CFUGs have to demonstrate sustainable management of their forests in order for their Operational Plans to be approved by the Department of Forests and thus maintain their user rights over them, it is difficult to see how community forestry in Nepal would be additional under REDD(+). Even in the absence of REDD(+), sustainable

forest management practices are likely to continue in existing community forests. Of course this criterion would not exclude government controlled forests; where the currently ineffective management practices would leave room for lots of additionality under REDD projects.

Even if developing countries can ensure that sustainable forest management (covering "carbon stock enhancement" through forest restoration and rehabilitation, so called REDD+) is rewarded through REDD in addition to reductions in emissions through deforestation and degradation, the question of additionality is still not addressed. But if we are concerned with how poor rural communities in Nepal can benefit from REDD+, then a disqualification of existing community forests areas on the grounds of additionality would be a major set-back. Existing forest user groups have been shown to effectively implement pro-poor measures once their environmental and institutional sustainability is assured (Pokharel et al, 2009c), and with such systems in place, benefits accrued through REDD+ could be more equitably distributed. In the Nepali context it would send entirely the wrong message if those who have already been managing their forests in a sustainable way were to be excluded from REDD+ benefits. As outlined above, it could however be considered a strong argument for expanding community forestry to new areas.

The criterion of no leakage requires that a reduction in carbon emissions in one area do not result in increased emissions in another area. Leakages already occur under the existing community forest system, in

which some CFUGs protect their own forests and use adjoining government forests. Though the exact scale of this practice is not known, it is certainly very prevalent in areas where there are less community forests in relation to government forests. Any potential REDD projects would have to develop a response to convincingly address this issue - as indeed does community forestry itself - which is far from obvious.

The question of additionality and leakage also bring up the issue of the distribution of "development aid." There is a risk that the pledging of significant donor funds for REDD could be at the expense of social sector investments, such as education and health, which are of vital importance to rural communities in Nepal. Thus if rural communities are actually to benefit (so that what is given with one hand is not taken away with the other), any donor funds for REDD should be additional to current ODA funding and leakages from social sector donor budgets should be restricted.

Meeting the permanence criterion

The criterion of permanence refers to the long-term viability of reduced emissions from a REDD project. As with the no-leakages criterion, permanence would not necessarily exclude community forestry, but would have to be addressed in convincing way in order for REDD projects to be possible in community forests. There are two issues here: the length of time over which communities' forest rights are formalized, and whether it is in the interests of rural communities, especially poorer members, to enter into strict long term contracts. With respect to the first issue, CFUGs are

registered with no time limit and they would function as an institution as long as legislation allows them to do so. However, forest management prescriptions are to be renewed every 5-10 years as the context and community requirements change. So it can be said that community groups as institutions exist but the rights to use forests under the community forestry system are accorded for 5-10 years, on the basis of an Operational Plan agreed with the Department of Forests. In theory, beyond these 5-10 years, communities cannot guarantee that they will be in a position to manage the forests and thereby ensure that deforestation and forest degradation do not happen. This may appear to be a technicality, but if permanence is a requirement, it will need to be ironed out before community forests can benefit from REDD.

The second issue is whether agreeing to meet the permanence criteria is really in the interests of rural communities. Long term carbon contracts may leave rural communities with limited freedom to opt out of carbon forestry to resort to other land use options. The situation which makes carbon forestry beneficial for rural communities may change over time, whether due to the price of carbon, or the price relative to other forest products, or climatic events which could impair other livelihood options and force people to harvest more forest products than agreed in the contract. Other risk factors include forest fires, and whether certain trees and plants grow slower than expected due to changed environmental conditions. On the one hand, a contract is a contract and investors will require some security in that

regard. On the other hand, clearly a situation in which REDD could make rural communities worse off is to be avoided. This issue will need to be addressed before participation in REDD can in good conscience be recommended to rural communities in Nepal.

Selection of the baseline and crediting level applied

Current proposals for REDD indicate that it may differ from the CDM and voluntary sector projects, which work at local level, as it will most likely operate at a national or sub-national level. There are a number of reasons for this, including attempts to increase the scale of investment, reduce costs, and to be able to employ nationwide baselines for deforestation and degradation. However, applying a national average baseline would be complicated in the case of Nepal. The drivers of deforestation and degradation as well as policies and institutions for forest management vary greatly between the plains (Terai), mid-hills and high mountains. These different policies and institutions have resulted in strikingly different outcomes in terms of deforestation and forest degradation. Where local communities have been given management rights, they have already been successful in checking deforestation (mainly community forestry), while the government managed forests still continue to degrade and deplete. This means that one approach to crediting may benefit one region while the other regions lose. For example, if the REDD mechanism stipulates that only a net national reduction in deforestation is rewarded, then, in the present situation, the increasing forest cover under community forestry will be balanced out by the continued deforestation

in the Terai. In this case, Nepal stands to receive no benefit from REDD. In the short run at least, a sub-national baseline and crediting should be considered to provide immediate benefits to communities that have already controlled deforestation and indeed have enhanced the quality of forests (Ojha et al, 2008). Similarly, the choice of date for establishing the baseline would have implications on the extent to which community forests can benefit. A baseline on or after 1990 would not benefit existing community forests as communities were already regenerating forests by that time. It would be important for Nepal to be able to set a baseline date that allows communities to capture the maximum reward for their efforts in forest conservation.

Lack of reliable data on deforestation and forest degradation

Data on land use change, including data on deforestation and forest degradation, are limited and not up to date in Nepal. From the Land Resource Mapping Project Survey of 1979 to the National Forest Inventory in 1999, Nepal's national deforestation rate is estimated as 1.7 percent. Since 1999, no further data is available regarding the forest resources inventory. The lack of clear and reliable data on deforestation will block REDD projects, for which credible baselines and mechanisms for monitoring and verification will have to be established. With the support of the Finnish government, a forest inventory will be undertaken from 2009, which should provide sufficient data by 2012. The situation with respect to degradation is much the same, in that there is no appropriate data, and it is more difficult to get data for forest

degradation. While remote sensing technology enables monitoring of deforestation, it is difficult to monitor forest degradation. The IPCC's methodological work is considered to provide some guidance but data and national capacity is limited. Some reports have tried to estimate degradation at a country level, for example, the MoEST (2006) has estimated degraded forest as 2.1 million ha. However, this data is probably not reliable enough to meet the requirements of the REDD carbon market. If simple, and hence less accurate, methods are used, carbon credits could be discounted. But the more complicated and more expensive the methods become, the higher the transaction costs, and the higher the carbon payment will need to be in order to make it worth it for Nepal as a country and rural communities to undertake this kind of data collection.

Scale and distribution of Nepal's forests

Nepal has only 5.83 million hectare of forests, almost three quarters of which is government controlled, where significant changes in forest management practices and forest governance will have to take place before these forests can be considered "REDD ready". So the total forest area in which secure carbon credits could credibly and soon be offered, probably just community managed forests (eligible only under REDD+), is relatively small. Furthermore, Nepal's forests are relatively small and scattered in patches all over the country, though there are some larger forests in the Terai. Irrespective of the approach which REDD will take, and what kinds of activities will be included, Nepal will only ever be able

to offer a relatively small supply of carbon credits. REDD credit buyers may prefer to go to carbon credit "wholesalers" such as Congo Basin countries or Indonesia where large numbers of credits may be available with lower transaction costs.

Size of benefits and relative transaction costs

In terms of how big a financial reward communities may expect from carbon forestry, opinions seem to be divided. One study that looks at case studies of community managed forests in Nepal and India (Banskota et al 2007) estimated the quantity of carbon sequestered in three Nepali CFUGs (in Ilam, Lamatar and Manang districts) as 6.89 tons of carbon dioxide per hectare per year. Using existing CDM market prices of between 12-15 USD, it was calculated that on average payments may be up to 82.68 USD per hectare per year. Thus, income from carbon financing could represent an almost ten-fold increase over existing revenues. However, once the cost of the preparation of the baseline and carbon monitoring would be included, this revenue would be revised significantly downwards. Furthermore, the likelihood that such funds would be available on the international market, particularly if repeated all around the global south, is low. The Nepal Foresters Association (2008), on the other hand, contends that revenues from REDD would be too little if forests are productive and if communities have time. They point out that income from bamboo is almost 150 USD per hectare per year, and bamboo plantation is not a labour-intensive activity. Therefore, they conclude that if communities manage the forest actively, they

could get many times more than the potential benefits from REDD. The way forward is likely to understand REDD more as a payment for an environmental service (carbon sequestration), which communities are anyways performing in sustainably managing their forests, rather than seeing carbon as an NTFP to be harvested at the expense of other forest products. That said, communities will want to be very clear on the exact benefit they can expect to receive, once transaction costs and the removal of inputs necessary for agriculture (fodder, litter, etc) and sustaining the livelihoods of the poorest, are accounted for.

Carbon offset projects carry transaction costs such as search, negotiation with carbon credit purchaser, etc. In addition, there would also be a cost for a third party independent verification, and as auditors normally come from large companies in developed nations, their operational costs could be very high. These could be major costs if the REDD applied area is not substantially large. The fragmentation of forest areas and decentralised (even, eventually federalised) system of governance may also enhance transaction costs in carbon transactions. This means that one community forest is probably too small to apply for a REDD project on its own. Rather a group of CFUGs, perhaps at district level, would be more appropriate in order to keep transaction costs within a bearable limit.

Awareness and access to information

REDD is a new concept for Nepal, and one which has rapidly risen to the top of various agendas. It is usually treated as being technical in nature, thus it is full of jargon and acronyms - it is itself usually expressed as an acronym! This type of complicated and

specialist language is highly exclusionary. In Nepal, although the issue has drawn the attention of Kathmandu based knowledge elite, a large section of citizens, especially in rural areas, still appear to be unaware of these debates. Even those who are aware that the concept exists are not informed about how it could work. In a consultation event held in Kathmandu in November 2008, one of the participants, Ms Indrawati Mokhtan, a forest user from Ramechhap district, stated that: *"We have no idea what is REDD and what is PES, how to measure carbon and where to sell it. Even we are unable to sell our timber these days from our community forest due to technical problems. How can we sell the carbon? The government needs to inform us clearly what climate change is and what policies it is undertaking to address the problems"* (Pokharel et al, 2009b).

Among those who have heard about it, there is a certain optimism about the possibility that carbon trading could bring large payments for communities. This view has been amplified by the Nepali media that project a very optimistic, probably not realistic, carbon financing scenario for Nepal. There appears to be no strategy on the part of the government to explain REDD, its possibilities and limitations, in a simple and appropriate way to the people who would be most directly affected, i.e. forest users. The limited accessibility of many isolated and scattered villages makes access to information and awareness more challenging. Therefore, building the awareness and capacities with regards to REDD of the forestry officials, civil society leaders and community facilitators is also a high priority, as they are the main

interface between the state and the communities with respect to forests.

Forest governance in Terai

As mentioned earlier, the forests in the Terai region of Nepal would likely be attractive to carbon investors due to the nature of the forests and the prevalence of deforestation. However, in order for these forests to be brought under a REDD mechanism, serious improvements in forest governance would be necessary. The twenty Terai districts have almost 50% of Nepal's population and a coverage of approximately 19.7% of the total forests of the country. However, according to the CFUG database of the DOF, a total of 169,549 ha, only 2.9% of the country's 5.828 mill ha of forests, is handed over to communities in the Terai. There are only 1341 CFUGs covering 286,620 households (DOF, 2009; Shrestha and Bampton, 2006). A large percentage of forests are under government control with no effective management and governance practice. The major governance issues that would need to be addressed in Terai are: a) lack of appropriate policy strategy and strong community based institutions and civil society advocacy organizations; b) weak law enforcement mechanism, non compliance of existing legislation and verdict of the court to handover forests to CFUGs; c) corruption, malpractices, forest encroachment under the protection of powerful political elites; and d) political instability and conflict among communities in the choice of appropriate community based institutions (such as conflict between community vs. collaborative forests) and forest management regimes (public, private or community).

1.1.2. Opportunities Successful

community forestry programme, with functioning CFUGs

Nepal's principle opportunity in implementing mitigation schemes in a way that rural communities can benefit is its successful community forestry programme. In Nepal, there are over 14,300 community forestry groups (CFUGs) managing more than one million ha of forest in a sustainable way. The CFUGs have reversed past trends of deforestation, and have enhanced a number of livelihood assets. In a number of innovative cases (see NSCFP 2007a), they have created provisions to directly benefit the poor and excluded groups. If CFUGs were able to access rewards for carbon offsets, it would represent a significant contribution to the income of community groups and to the sustainability of the community forestry programme in Nepal. Under the community forestry programme, communities already manage their forests in a very conservative way, generally harvesting only half of what would be allowed according to sustainable forest management guidelines. Thus conserving forests, and their carbon, is already in practice. If REDD(+) projects are to include and favour community forestry, then Nepal is likely to be a good candidate on the global scale, given its well-respected and long-established community forestry programme (Staddon 2009).

Use rights are legally conferred to the community forest user groups through formal handover

Though Nepal's forest tenure system as described above is highly complex, communities' use rights are clearly recognized according to a number of different

tenure arrangements. Though this variety of arrangements could likely benefit from some harmonization, what is beyond doubt is that this formal recognition of rights, and their general observance in practice, is a comparative advantage for Nepal in the REDD market. These rights are formalized in an official agreement between the CFUGs and the Department of Forests which provides security to the CFUGs for their investment, and, consequently, to carbon investors as well. As we mentioned above, carbon rights have not yet been formally regulated, though the ownership of the various carbon pools can be interpreted from existing legislation. However, the principle that communities, at least under the community forest regime, should reap most of the benefits from their investments in protecting and developing the forests is accepted.

Strong and vibrant civil society representing forest users

Despite its years of authoritarian rule, and the repression of civil and political rights during the monarchy and civil conflict, Nepal now has a strong and active civil society. This is especially true in the forest sector, where there are strong federations and a large number of effective CBOs, NGOs and INGOs. *Primus inter pares* is certainly the Federation of Community Forest Users of Nepal (FECOFUN), a village, district and national level federation of community forest users. FECOFUN has engaged in many campaigns to protect the rights of forest users, and does not hesitate to go to the courts or go to the streets in order to do so. One example of this is the government decision in 2004 to impose

a 40% tax on the sale of timber from community forestry. In an interaction with Mr. Ghanashaym Pandey (Chairperson of FECOFUN), he gave the following statement explaining how FECOFUN influenced the government decision: *"First we organized a nationwide movement against the government decision by mobilizing forest users. We also organized and participated in bilateral dialogue with policy people at the centre in the Department of Forestry and in the Ministry. We even went to the court and filed a case against the government decision and eventually FECOFUN won the case. As a result the government has reversed their decision to impose a tax on the sale of community forestry products"* (Pokharel et al, 2009b).

This clearly illustrates the capacity of FECOFUN to influence public policy, which could be a tremendous potential for ensuring the rights of forest users are respected in the development of the national REDD set-up. FECOFUN also participates in various international forums on climate change and forests, and was present in Bali, Poznan, etc. Thus the organization has knowledge of the realities of rural Nepal, as well as what is being discussed at the international level. The effective advocacy capacity of Nepal's forest sector civil society is a strong factor in ensuring that rural communities can benefit from REDD.

Constitutional and legal reform process

Following the end of the 12 years Maoist uprising, which ended in the abdication of the King, a "new Nepal" – the federal republic of Nepal, was born in 2007. The new Nepal is engaged in a process of transition and of

state-building, a key aspect of which is the new constitution currently being drafted. This constitution will be federal, with a strong role for local governments. The restructuring of the state and writing of a new constitution, and the legal reform process that will follow, provides an opportunity to clarify and explicitly recognize communities' tenure rights (among other rights) and to harmonize existing legislation in this regard (i.e. contradictions between the Forest Act and Local Governance Act listed above). This constitutional and legal reform process, presuming the political will to see it through, provides Nepal with a unique opportunity to clarify tenure rights (including carbon tenure) in favour of local communities, and by so doing would clear the way for REDD projects which require this clarity.

Possibility of mobilizing financial and technical assistance to address deforestation and degradation in the Terai

Due to its high rate of deforestation and degradation, and to environmental conditions which are more favourable to growing trees, Nepal's Terai region will likely be attractive to carbon investors. This recognition of the attractiveness of the Terai may facilitate the mobilization of political will to address forest governance and tenure issues in the region, which would be a pre-requisite to investments. Although the drivers of deforestation are complex, if designed in the right way, REDD could provide the additional incentive needed to stop or at least slow down deforestation and forest degradation.

Functional multi-stakeholder processes and trust among stakeholders

A multi-stakeholder process has been set

in motion to explore opportunities for Nepal through the evolving REDD mechanism. Nepal has been selected by the World Bank as one among the 14 countries in the first lot to receive funding assistance for preparing itself for REDD. The Readiness Plan Idea Note (R-PIN) submitted the World Bank was prepared by the MoFSC in close collaboration with several stakeholders. Dahal and Banskota write that "The process of preparing the R-PIN must be called an exemplary one in terms of coordination, cooperation and self-motivation of all concerned" (2009, p. 46). This initiative has already created an environment for regular dialogues among stakeholders. For more about the national set-up regarding REDD, and the next steps in this process, please see section 6.

From aid to trade, or compensation?

Nepal has been a recipient of "development aid" since the 1950s, and though the language of partnership is usually used, in reality of course the balance of power has been skewed towards donors. There are those, such as Pokharel and Baral (2009), who see REDD or a carbon payment system in general as providing Nepal, albeit to a limited extent, with the possibility to move from aid to trade. Rather than total reliance on donor funding, it could generate some own funds on an international market. While the appeal of this is certainly understandable, others don't want REDD to lose sight of the fact that, though at least partly market based, it is set up so that rich countries can compensate poor ones for the environmental damage disproportionately caused by rich countries and disproportionately affecting poor countries. In other words, there is an

internationally common but differentiated responsibility for addressing climate change (Ahmad, 2009). In either case, whether REDD moves towards a purely market based system or a fund based system (or both at the same time), it provides a chance to move away from outdated notions about development aid and towards a more equal business partnership between nations, even for small ones like Nepal.

Communities can monitor carbon stock

Commentators often point to the high transaction costs of a REDD scheme as being a serious disincentive for rural communities. However, there is case study evidence from Nepal and India that indicates that communities can themselves monitor the carbon stock in their forests. This would clearly reduce some of the significant costs associated with REDD and similar schemes, though it would probably not negate the requirement for independent verification of the data. The studies are part of the Dutch funded research project "Kyoto: Think Global Act Local", which was carried out in seven countries in East and West Africa and the Himalayas. The method is described in Banskota et al (2007), but the main learning was that CFUG members could help measure and estimate above and below ground carbon stocks following IPCC standards for a cost of 5USD per hectare. CFUG members were successfully trained, and through the use of hand held computers, carried out a number of activities, including, marking the boundaries of the forest for which they are responsible, entering the key variables (diameter at breast height, height, species)

that relate to biomass of each tree in the sample plot, etc. Overall calculations necessitated the support of technicians. The constraints of this method, the study found, included that it was generally literate people who were involved in the measurements, since some skills were required for handling GPS, and these people often migrated from the village in search of employment opportunities, so that training might have to take place each year before monitoring.

Carbon as part of a comprehensive PES 'package'

Several of the articles reviewed in the preparation of this paper have pointed to the opportunity to bundle carbon conservation (and sequestration) together with other ecosystem services. This would have several advantages, including taking a more holistic approach to the benefits that forests and forest managers (communities) provide, including existing community forests under some kind of compensation system, and to reduce transaction costs for communities in seeking payments for services provided, such as the reduction of erosion and improvement of watersheds. Ojha et al (2008) write that since there are hardly any experiences to translate this concept into practice, there is a need to pilot, experiment and innovate PES methodologies and institutions that help market carbon and other environmental services, as well as equitably distribute the revenues. While there is a clear interest not to 'overload' REDD, there is also an interest of rural communities – and existing community forests which would not be eligible for REDD -to be more fully compensated for all the ecosystem services

they provide, and also not have to make a number of different claims and project applications for each of the different services under different institutional regimes. Starting the discussion about REDD opens the door to discussing PES more generally, at least at the national level, and this is a good opportunity for rural communities.

Testing the voluntary market

Though in this section we have mostly focused on the so-called compliance market for REDD, which will be operational only after 2012, there is also a voluntary market. Currently, credits from reducing emissions from deforestation and degradation are eligible only in voluntary carbon markets and not under the CDM (which only allows forestry credits from afforestation and reforestation). Some of the voluntary markets specifically promote the sale of community forest based carbon, such as Plan Vivo or Climate, Community and Biodiversity Standards. In their study of whether and how Nepal can benefit from community forestry, Ojha et al (2008) recommend that, given that the compliance-REDD will take still a few years to come into effect, and also recognizing that voluntary markets are already proliferating, Nepal's forestry stakeholders should undertake experimental marketing of forest carbon in a voluntary market. This will enable stakeholders to learn what it takes to sell carbon in the market, and most aspects of the methodology practiced in the voluntary market will also be useful in REDD process. So far, according to our information, there are no carbon credits from Nepal's community forests being sold in the voluntary market.

Donor readiness to support Nepal

For many developing countries, including Nepal, the technological and financial constraints for adopting an effective national REDD framework are significant. For this reason, donor support is crucial both for building the capacities of public actors and for supporting the development of strategies and policy responses. Support to civil society actors, to strengthen their role as partners in policy making, is also important. Bilateral donors have been active for many years in supporting Nepal's forestry sector (both state and civil society), including SDC, DFID, USAID and SNV. The capacities and institutions built, including CFUGs in particular, are a solid basis from which to engage with REDD(+). Thus far, climate change mitigation and adaptation specific activities in the forest sector are supported mostly by multilateral donors. Nepal has been selected among the first countries to receive 'readiness support' (approximately 1 million USD) through the World Bank's Forest Carbon Partnership Fund (FCPF). The FCPF could play a crucial role in helping Nepal to construct a sound basis for developing the necessary policy, instruments and institutional arrangements that will pave the way for the implementation of REDD in a fair and equitable manner. The readiness of donors to support Nepal in its REDD readiness, is a significant opportunity.

2.2. Carbon sequestration

Carbon sequestration in forestry refers to the reforestation or afforestation of marginal crop or pasture lands, or the enhancement of existing degraded forests, in order to transfer carbon dioxide from the atmosphere to the new biomass. Carbon sequestration activities include the establishment of

plantations, the restoration of natural forests, or agro forestry.

2.2.1. Afforestation and reforestation

Afforestation and reforestation (A/R) activities, as defined by the UNFCCC, can be eligible for funding through the Clean Development Mechanism (CDM) of the current Kyoto Protocol. Nepal ratified the Kyoto Protocol in 2005, and was the first South Asian country to do so. *Existing community forests* areas in Nepal are not eligible for the CDM for the following reasons – these reasons are not related to community forestry as a management regime itself, but rather to the nature of the land currently under community forestry and the use of non-forested public land in the hills:

- Type of activity eligible: For CDM, only A/R activities are eligible, not avoided deforestation or forest restoration. Community forest management in Nepal is actually about avoiding deforestation. After the handover of the forest land to the local communities from the state, local communities themselves started protecting the forest. Existing community forests have been relatively well managed since the 1980s, so that deforestation (in the mid-hills) is already minimal and there is limited room for afforestation activities. Furthermore, especially in the hills, non-forest land cannot now be easily converted to forest land through A/R since available public land is often being used for other purposes, such as grazing.

- Baseline date: Afforestation activities would have to take place on land that was not forested before 1950, reforestation on land that was not been forested before 1990. Most of the existing community forests in

Nepal are on land that did have some forests before 1990, as they were common lands with some form of degraded forests.

Thus, according to the existing rules for the forestry sector under the CDM, Nepal's existing community forests are excluded.

In the government controlled forests, particularly in the Terai where there is still a high rate of deforestation, there would still be some possibility for A/R activities. But the government does not have the capacity to carry out such activities, and the communities are not interested as they have no tenure rights and thus would not benefit. Thus in order for CDM to be a realistic option in Nepal, the issue of forest tenure – and the community's role in forest governance – in areas experiencing deforestation, particularly in the Terai, would need to be addressed.

2.2.2. Other CDM projects

With respect to non-forest sector CDM projects (biogas and micro hydropower projects have been developed so far), Pokharel et al (2009b) investigated whether the interests of forest users were taken into account. Because of the technocratic process and the language barriers, the extent of consultation with forest users was found to be limited. A forest user who participated in a consultation workshop said: *"The MoEST had organized a national level consultation workshop before approving the CDM project in 2007; I was one of very few people (only 2 of us) who were invited. We could hardly understand or speak because the workshop was conducted in English and was full of technical jargon. What I have seen in community forestry process at the*

village, the process of public consultation is normally participatory and interactive and these village meetings are self organised and facilitated to address local issues for which agendas are set up by the forest users themselves. However, the consultation meetings which are organised by the ministries and departments are quite formal, rituals and non participatory, where the agendas are set without consulting participants particularly representatives of local communities..."

2.3. Enhancement of carbon in existing (degraded) forests

To the extent that some carbon sequestration activities are also included under the REDD scheme, as part of "REDD+" proposals (such as enhancing existing degraded forests), then the barriers and opportunities are as indicated above for REDD. REDD+ would clearly be much more in the interest of existing community forest users in Nepal, as it would include them in the REDD regime and would cover a wider range of the ecosystem services they provide.

*These criteria and their consequences for REDD activities are currently under discussion. At this point, it is not clear if and under what conditions these criteria would be included in a future REDD-regime. We include them here as potential institutional constraints

- in the sense of constraints due to the "rules of the game"
- as they are important aspects to consider in the design of the future REDD-regime.

* This is the definition associated with the CDM, the definition for additionality under REDD is not yet decided.

3. The institutional opportunities and constraints associated with adaptation measures

In this section we will discuss the various institutional opportunities and constraints that determine whether rural communities can benefit from the implementation of adaptation measures. It should be noted at the outset that very little has been documented about community forestry based adaptation strategies. Many communities are of course already adapting to climate change, and CFUGs play an important role in this, but the issue would appear not to have been studied in depth from this point of view. That said, a number of institutional opportunities and constraints can still be identified. Many of these are the same as those for mitigation:

- Constraints:* equitable sharing of benefits and costs within CFUGs, lack of institutional coherence, lack of policy and legal coherence, awareness and access to information

- Opportunities:* Functioning community forest user groups, use rights are legally conferred to the CFUGs through formal handover, strong civil society representing forest users, constitutional and legal reform process, donor readiness to support Nepal

We will not describe these issues again, but will focus on the following additional constraints and opportunities:

1.1. Constraints

Limited assets and few livelihood options

Poor people in rural Nepal generally have few livelihood options; their livelihoods are primarily dependent on natural resources,

particularly the climate sensitive sectors of forestry, agriculture and fisheries. Rural Nepalese are highly vulnerable to adverse weather conditions that affect their crops, animals, water sources and other natural resources. For example, agriculture accounts for about 96% of the water use in Nepal and suffers a lot from erratic weather patterns since 64% of the cultivated area fully depends on monsoon rainfall (Chaudhary and Aryal, 2009). Furthermore, rural Nepalese have very few assets to recover and rebuild livelihoods after climatic stresses. While many roads and bridges have been built over the last 50 years, and other infrastructure developed, many people still live several days walk from the nearest road head, and without ready access to basic facilities such as drinking water, health services, schools or electricity. The basis of the rural economy is labour-intensive agriculture, cultivating fragile soils and raising livestock for low returns. Land fragmentation is extreme and many households have insufficient land for food security. Given that opportunities for earning beyond a basic wage are scarce, seasonal or longer term migration (to urban areas in Nepal as well as internationally) is a widely practiced strategy. Returning migrants can bring welcome capital to invest locally, but there is a cost associated with their absence that is often born by the women and children left behind (though increasingly young women also migrate). Absent people cannot contribute their labour to the

maintenance of natural resources (Pokharel and Carter, 2007).

One member of a disadvantaged group described his situation as such: "I have just 2 ropeni (0.1 ha) of land. I cannot have grain even for 2 months from my land. I always look for wages for survival. I do not know other things than working in the landlord's farm. My family is in debt since generations and has no money or savings to buy things, to do business, or to go to the city or to an Arabic country" (Pokharel and Niraula 2004). In Nepal there is little or no support from the government for most rural communities. With the exception of a token amount of elderly and disability allowances, no public social security system exists. Furthermore, Regmi et al (2009) found that insurance is rare, and voluntary material support to disaster affected groups is little. In such a situation of insecurity, options for autonomous adaptation are severely limited.

Focus on infrastructure development

Many of the development efforts in Nepal so far, both from the side of the government and the side of donors, have been geared towards infrastructure development. A characteristic example is funding the building of a school building, but not providing sufficient training, or even salaries, to teachers. While infrastructure is certainly important, physical capital being a valuable asset, and it is certainly expensive given Nepal's hilly and mountainous terrain, the focus on infrastructure has tended to come at the expense of supporting the development of other forms of capital. A more balanced development would mean that people have more options for adaptation. A further point with regards to infrastructure is the difficulty in

adequately incorporating and institutionalizing environmental criteria in infrastructure development

Lack of capacities to analyze the situation and develop policy responses

Adaptation to climate change, while of course widely practiced in an ad hoc way (autonomous adaptation), is new to Nepal as a field to be regulated through policy. There is a lack of national capacity to scientifically analyse the effects of climate change in Nepal, and to make projections of what potential impacts will be, and to develop viable solutions. Additional areas in which capacity building would be required, according to the National Capacity Needs Self Assessment (NCSA) project are:

- Strengthening the institutional capacity of the MoEST, the MoFSC, the Ministry of Work and Physical Planning, and the Ministry of Industry in terms of their technical ability to deal with climate change agenda and be able to coordinate with the private sector and civil society

- Integrating climate change adaptation into national and sector plans, policies and programs under the coordination of the National Planning Commission.

Lack of inter-sectoral and stakeholder harmonisation

We have discussed the issue of institutional coherence in our section on REDD, specifically the competition and lack of communication between the MoEST and the MoFSC, which are both involved in mitigation activities. With respect to adaptation, the issue is even more serious, as an effective comprehensive adaptation strategy will require that a large number of ministries, as well as the National Planning Commission, work

together in a concerted way. Not only will they have to work together at the central level, but also at district and local levels. Furthermore, any donors supporting a mainstreamed adaptation approach will have to harmonise their support with the national strategy. Beyond the state and donors, coordination with civil society actors and the private sector will be required as well. While total coordination is not realistic, a disconnected approach risks to make things more complicated for rural communities, by increasing their transaction costs for interacting with a wide variety of programmes and by duplication and non-rational investments. The Climate Change Network (described below) should go some way in promoting harmonisation, but its functioning so far has not been optimal.

3.2. Opportunities

Presence of multi stakeholder mechanisms at the national level

There are multi-stakeholder mechanisms in place in order to ensure sharing of knowledge and planning of activities in a connected way. The two principle multi-stakeholder fora that provide a platform to a variety of actors to come together and discuss on the matters related to forests and climate change are the Climate Change Network (CCN) and the Multi-Sector Multi-Stakeholder Coordination Committee (MSMSCC). The Climate Change Network, chaired by the MoEST, consists of various national and international governmental and civil society organizations, and is active in Nepal since 2007. The main role of the CCN is a) to provide feedback to draft the national policy on climate change; b) to identify working areas on climate change; c) to conduct policy/field level research and studies and

implement activities; d) promote CDM related activities, and launch public awareness and capacity building programs; e) develop position papers for the Parties meeting and enhance negotiation capacity; and f) develop a Climate Change Clearing House (CCCH) for easy information sharing. The MSMSCC is a multi-sectoral multi-stakeholder coordination committee formed in early 2009 for REDD and ecosystem services chaired by the Minister for Forests and Soil Conservation. More information about the MSMSCC is provided in section 6. While these institutions are not functioning as effectively as might be wished, and the coordination between the two bodies is limited, it is nevertheless an opportunity to have such institutional spaces available to facilitate sharing and coordination and for government actors to be held to account. A further body has recently been instituted: a high level Climate Change Council formed under the chair of Prime Minister and to ensure inter-ministerial coordination. Similarly, at the district level, a unit under the District Development Committee (local government) to oversee renewable energy and adaptation measures is proposed.

Existence of a variety of community groups, including CFUGs

The opportunity presented by the existence of functional community level institutions in the form of CFUGs has been outlined in the section of this paper on mitigation. However, in terms of adaptation it is important to note that there are in fact a wide variety of community groups, which contribute significantly to the formation of social capital. The study carried out by Regmi et al (2009) found that around 50% of the households

in the four villages were affiliated to one or more local farmer groups or community based organisations. These groups operated savings and credit schemes for lending money to poor households at low interest rates. The numerous local, national and international organisations implementing development programmes in the villages (through these groups) have probably benefited the adaptive capacity of the people. However, not all interventions were without problems, and some may have caused more harm than good.

Extensive local knowledge exists

While we highlighted above the lack of analytical skills to analyze threats, potential impacts and develop viable solutions at a scientific level, we must acknowledge that significant local knowledge exists. The knowledge of Nepali farmers on the management of trees

on private land is very detailed. For example, tree species are categorised and selected according to the quality of fodder that they provide. They are also selected, planted and often pruned in a manner that minimises crop shading (Carter,1992). Similarly, a study conducted by Chapagain et al (2009) on local knowledge of climate change found the following: "Peoples' observations and perceptions of climate change and its impact are very similar to those of some scientific studies in the field. As the natural dynamics around climate change are complex and unpredictable, collection and interpretation of objective empirical facts alone cannot comprehend the knowledge of the field. Therefore, the data and objective analysis must be combined with people's experiences and perceptions, which would help enhance our understanding of the issue."

4. Rural communities' strategies to cope with climate variability and to reduce their vulnerability

In this section we describe several forest-based strategies practised by rural communities in Nepal to cope with climate variability and reduce their vulnerability. We also examine the effects of several forest and natural resource policies on forest tenure, and the impact this has on coping strategies. The quotes in Box 1 (below) describe some of the effects of climate change on rural livelihoods in Nepal, as perceived by forest users. It is however difficult to attribute these effects with certainty to climate change.

recover and rebuild livelihoods.

At the national level, the government (MoEST), with the financial support of the UN's Global Environment Facility (accorded in 2007), is preparing a National Adaptation Programme of Action (NAPA) to address the adverse impacts of climate change. The Climate Change Network (described above) will provide feedback to the MoEST on the NAPA proposals. The NAPA will identify priority areas of intervention, recognizing the role of community based systems as a means

"I had never seen Banmara (*Lantana camara*) above 1,800m until the early 1990s. However, these days it is found even about 2,300 m. It is interesting to note that it has been moving towards higher altitude along with the Maoist Movement. Local people have termed it as '*Maobadi*' grass. Some other new weeds have also emerged." (Basudeve Sharma, a former forest guard, Rukum)

"Little rain during winter has seriously affected winter crops. The production of wheat and other winter crops as significantly reduced; the grain is often wrinkled and less tasty. There are more insect and pest attacks on winter crops." (Group interview, Nawalparasi)

Source: Chapagain, 2009.

2.1. Coping strategies and tenure issues

It should be stressed that rural communities in Nepal are very highly dependent on forest resources for their livelihoods and that forests are an integral part of agricultural practices. Poor people in rural Nepal have few livelihood options and are therefore vulnerable to adverse weather conditions that affect their crops, animals, water sources and other natural surroundings. Furthermore, they have very few assets to

to reduce the level of vulnerability due to climate change. The promotion of private and public land management systems with agro-forestry practices are also key future NAPA strategies. The NAPA is expected to recognize the role of forests and forestry sector in climate change adaptation mainly in the area of rehabilitation of community land, in soil conservation and watershed management and in the protection and management of the most adapted species such

as fodder and multipurpose trees and grasses. The forestry sector is acknowledged for its contribution in reducing the risks of floods, gully erosions and landslides; and in providing food during droughts. Forests and trees on private land provide materials for housing and even shelter during a time of reduced agricultural and livestock yields and unavailability of land and housing.

At the local level, people have been following certain coping strategies by using traditional knowledge and local innovations to overcome or minimize the possible adverse effect of climate change. Some of the major coping strategies include crop diversification; shifting natural resource based livelihoods to livestock; seasonal migration (to urban areas as well as internationally to India or the Gulf, among others); adopting agro-forestry practices; following rotational grazing on pastureland; and applying local techniques to store grain seed fodder and grasses.

CFUGs directly contribute to achieving many of the objectives of the future NAPA in a number of ways. They promote growing the most adapted and indigenous natural species such as *Amliso*; different varieties of *Bamboo* and broad leaved species which are good soil binders, desirable fodder, source of cash income during scarcity and so on. Many species are promoted both in private and public land as shelter belts, wind breaks and fire barriers. CFUGs not only protect and manage forest in community land, but also they promote private tree and grass management practices on bonds in farm land, as a result development of the most resilient agro-forestry systems is sustained and enhanced. There is evidence that most of the CFUGs are actively engaged in

plantations of appropriate mixes of multi-purpose species which are useful for fuelwood, fodder, timber, medicinal values, soil conservation, live fence and nitrogen fixation and increasingly bio-fuel both in community and private land; sadly not so much on government land.

What does this indicate? Why do people have many adaptation strategies in private and community managed land and not so much in government controlled forest land? The answer is pretty clear. Tenure plays an absolutely crucial role in these coping strategies, because community and private tenure rights ensure access of rural people to the forests and trees and the right to harvest timber and non-timber forest products. A sustainably managed forest is thus an important asset for the community and private individual on which they could rely in times of need.

2.2. Effects of forest and natural resources policy on tenure

To ensure the tenurial rights or access through the effective and practical management of land in Nepal, different legal arrangements and been proclaimed. One way or another way these documents have defined the people's ownership, access and rights to land. These mainly include:

Land Reform Act 1964: gives a ceiling of individual landholdings and guarantees for entitlement to private farmland. The land reform act refers mostly to private agricultural land.

Wildlife Act 1973: a legal framework for the establishment of different categories of protected areas (conservation areas, national parks, wildlife reserves, hunting reserves), which (with the exception of buffer zones) are owned by the state, which restricts access.

Forest Act 1993: specifies all categories of forest land and the various tenure, access and ownership regimes: 1. national forest (government managed, community forest, leasehold forest, religious forest, and protected areas), and 2. private forest. This Act defines the rights and responsibilities of forest users organized into legally recognized Community Forest User Groups (CFUGs).

Environmental Protection Act, 1996: describes environmental protection measures including requirement for environmental impact assessments, adaptation measures, etc.

Local Self Governance Act 1999: deals with the devolution of roles, responsibility and authority to local government, including natural resources, for example: coordination, planning, taxation and monitoring of development and use of natural and other resources. However, these provisions are not aligned with many of the sectoral acts, including the Forest Act 1993.

The Forest Act 1993 and Forest Regulation 1995, in particular, recognized Community Forest User Groups (CFUGs) as independent and autonomous entities, which are responsible and authorized bodies for the protection, management and utilization of forest resources handed over to them. Handover of forest to CFUGs is done by the district forest authority after a long social mobilization process which is carried out by the

NGO service providers and forestry government staff. The terms and conditions of handover of national forest to the forest users, the area of the forest land, use rules, membership and so on are to be determined by the groups themselves as per their willingness, capacity and customary rights. There is no limit to the forest area that can be handed over to communities but the main criteria should be the communities' capacity to look after and manage it. CFUGs can make optimal use of their forest by growing cash crops without reducing the optimum density of the forest crops. They can mortgage their 'standing forest products' with financial institutions to obtain loans; can utilize their funds for any purpose; can freely fix prices and market their forest produce; can establish forest enterprises and make profits. CFUGs can seek support from any organization. They can raise funds by various forestry and non-forestry means with all income going to group funds and can invest in any areas, persons or community development activities according to the decision of CFUG assembly. However, the Forest Act 1993 has not given the ownership of the community forest land to the users and they are not allowed to mortgage the land. Most of these provisions also apply to other community-based forest management system such as leasehold forestry, religious forest and Buffer Zone Community Forestry.

5. The role of rural communities in preventing deforestation and forest degradation

The role of communities in not only preventing deforestation and forest degradation, but encouraging forest regeneration, is central in areas managed under community forestry. The example of Bajredada CFUG (Dolakha District) describes typical ways in which this is achieved. The forest covers some 560 ha, mainly of oak species, *Tsuga* and fir, and is managed by 174 households in total. A particularly important use of the forest is for winter fodder – a number of different oak species (notably *Quercus semecarpifolia* and *Q. lamellosa*) being particularly important in this regard. The community members were concerned that lopping of the oak trees was damaging them, so they agreed on a rotation system by which different parts of the forest are harvested in different years to allow time for regrowth. They also take care to lop the trees in a way that does not destroy the crowns. The large *Tsuga* and fir trees high in the forest are harvested for timber as the need for construction material arises, but only according to a very conservative harvesting level which is agreed in their operational plan. The grazing of livestock in the forest is recognised as being potentially damaging to it, so livestock numbers are limited. Herders pasturing their animals in the forest have to pay a fee to the CFUG fund. Whilst charcoal production is also seen as damaging, it is permitted on a small scale to one select group: the *kamis* (blacksmith caste), who are amongst the poorest and most socially disadvantaged members, and who depend on charcoal production for their livelihood. There have been

no recent cases of fire, but if a forest fire did break out, all the forest users are expected to provide their labour in controlling it.

Detailed survey and case studies of the perceptions of CFUG members in 685 CFUGs in the three districts supported by the Swiss funded Nepal Swiss Community Forestry Project indicate that according to local people there is less incidence of forest fire in community forests in recent years. The trend of encroachment into forest land along the forest boundary with private agriculture land has significantly decreased. This has been possible due to the fact that local villagers themselves are involved in boundary surveys of community forest land. Since villagers are actively involved in making rules on how to protect, manage and utilize forest land and products, illegal felling of trees and stealing of forest products have decreased (Steenhof et al, 2007).

The positive role of communities in preventing deforestation and forest degradation in community managed forests has been possible because communities have been given specific role of protection and management of forests as their legal rights and responsibility, whereas the roles of communities in government forests - and protected areas - are limited to being passive recipients of forest products which are offered by the government authority on a seasonal basis. In the plains in particular, some influential power elites which have close connections to political parties encroach on government forest to convert it into agriculture as private property, thereby contributing to deforestation.

6. The institutional set up at national level

In this section we briefly describe the national-level institutional set-up for climate change mitigation and adaptation measures. The Ministry of Environment, Science and Technology (MoEST) in its capacity as UNFCCC focal point is leading and facilitating the National Adaptation Programme of Action (NAPA) preparation and the National Climate Change policy formulation process. There is an Advisory Board to steer and the NAPA team to facilitate the process. Forestry and biodiversity, agriculture and food security, water and energy, public health and urban settlement, climate change induced disaster and so on are the main components identified by the national level multi-stakeholder inception workshop¹. A high level Climate Change Council has been formed under the chair of the Prime minister to support the climate change agenda at a political level².

Fourteen donors³ supporting the climate change agenda have recently signed a compact to show their commitment to work with the Nepali government in a harmonised way to support sectors related to climate change, notably environment, forestry, agriculture and water.

Whilst REDD will only be launched officially after 2012 upon the first commitment of the Kyoto Protocol, the World Bank has ventured to initiate preparatory work through a multi-partnership arrangement called the Forest Carbon Partnership Facility (FCPF). The Readiness Plan Idea Note (R-PIN), as

its name implies, is an idea note that the World Bank invited countries to prepare and submit to them as an indication of their interest in participating in the Facility.

Nepal, through a wide stakeholder consultation, prepared its R-PIN and submitted it to the World Bank. Nepal's R-PIN was accepted in July 2008 and Nepal was selected as participant country in October 2008. Nepal is among the first fourteen countries selected in the first round and is eligible to receive 'readiness support'. An inter-ministerial body will coordinate the activities under REDD including the preparation of REDD Readiness Plan (R-Plan) before 2012. A national core team and multi-stakeholder body have been constituted and are chaired by the Secretary of the MoFSC. The members of this Multi-sectoral Multi-stakeholder Coordination Committee (MSMSCC) are as follows:

- Minister, Ministry of Forests and Soil Conservation (Chair)
- Representatives from the National Planning Commission; Ministry of Environment, Science and Technology; Ministry of Finance; Ministry of Tourism; Ministry of Water Resources; Ministry of Agriculture and Cooperatives; Ministry of Land Reform; Ministry of Industry
- Representatives of NGO and civil society from each of the above sectors, one person from each sector above –at least nine of them

·Representatives of Private sector from each of the above sectors one person from each sector above – at least nine of them

For REDD, the Foreign Aid Co-ordination Division acts as a focal point within the MoFSC. The MoFSC has also recently established a “REDD Cell”. The main function of this Cell is to bring all stakeholders together to prepare a readiness plan and to go further not only limited to REDD but also wider climate change and ecosystems services issues. The Cell, under the leadership of the Secretary of the Ministry of Forests, has a 9 member Working Group where the representatives from the Ministry, Department of Forests, Department of Forest Research, Federation of Community Forestry Users, Forest Action (an NGO devoted to policy advocacy and action research), National Federation of Indigenous Communities and up to 2 representatives from donors, INGOs and donor funded projects and programmes. The Cell organises Working Group meetings frequently (at least fortnightly) for developing strategies for writing R-PLAN and its implementation. There remains some

question of which institution should be the lead agency coordinating Nepal’s REDD readiness: the Cell located at the MoFSC, which has led REDD initiatives up to now and increasingly also discussing on the PES agenda, the MoEST in its capacity as UNFCCC focal point, or some other institution.

** NAPA project to Climate Change, Inception Workshop May 25-26, 2009, Hotel Everest, Kathmandu.*

** The Council includes the Prime Minister (chair), Deputy Prime Minister, Ministers*

–Forests, Finance, Foreign Affairs, Energy, Industry, Health, Home Affairs, Local Development, Vice Chair of the National Planning Commission and the Chief Secretary.

** Donors who signed the compact on September 2, 2009*

include: ADB, AusAid, DFID, CIDA, DANIDA, DFID, EC, Finland, Germany, Norway, SDC, SNV, the World Bank, UNDP and USAID.

7. Lessons learned & recommendations

The lessons learned from our case study are basically threefold: 1. if rural communities in Nepal are going to benefit from climate change mitigation or adaptation activities in the forest sector, then improvements in forest sector governance will be necessary; 2. there is still little documented evidence in Nepal of how mitigation or adaptation schemes could work in practice: the generation and documentation of practical experiences is a priority for informing the developing policy framework at the national and international levels; 3. if our primary concern is with “pro-poor” mitigation and adaptation, such that the livelihoods of poor and disadvantaged groups are improved, then we cannot allow our focus to concentrate on mitigation at the expense of neglecting adaptation.

1.1. Recommendations on forest governance

Our recommendations on forest governance are developed in detail in Pokharel et al. 2009b and NSCFP 2007b. We argue that improved forest governance will provide a strong basis on which to develop climate change mitigation and adaptation activities that are in line with the rights and interests of forest users. In fact, ‘good’ forest governance is a precondition for a pro-forest user climate change response in the forest sector. Throughout this paper we have considered the community forest user group and the community forestry programme as the principle governance mechanism also for

climate change mitigation and adaptation measures. We are convinced this is the most appropriate governance mechanism, and CFUGs the most appropriate institution, for several reasons:

- CFUGs have been and remain one of the only functioning governance institutions at the local level – the presence of the state during the conflict was very limited and even today representative and democratically elected local governments are not in place

- Despite persistent concerns about elite capture, CFUGs have made significant progress in making their internal governance more inclusive and in assuring a more equitable distribution of the investments and benefits of sustainable forest management (see Pokharel et al, 2009c)

- CFUGs have turned the tide of deforestation and forest degradation in the hills and thus the community forestry system – including the granting of some tenure rights to communities – is proven to be effective in REDD and indeed REDD+

In other words, with community forestry, Nepal has a strong set of functional, legitimate and reasonably equitable local institutions with proven effectiveness in reducing deforestation and forest degradation. Why establish a separate governance mechanism for REDD when this one is already in place? And why give a leadership role to other institutions whose effectiveness is unknown, when the effectiveness of community forestry

is clear? That said, government and private sector actors will play an important role in implementing climate change mitigation and adaptation measures and some kind of coordinating institution – also at the local level – will be important. Some institutional innovations are already being developed in this regard, such as the Village Forest Coordination Committees piloted through the Nepal Swiss Community Forestry Project, in which representatives of CFUGs within a VDC, VDC level state officials and other relevant stakeholders gather to share information and discuss issues of common concern. The following is a summary of the main points, which concern strengthening the role of the public sector, civil society and the private sector in effective forest governance.

1.1.1. Recommendations on the public sector's role

A strengthened local interface for forest governance. In the present institutional set-up the central government, including its staff delegated to the district administration, is the only government actor in forest governance. Given that the central government maintains control over 78% of forest land, this means that many decisions about forests are taken very far away from the concerned communities. Communities have to deal directly with the central government, which is a hugely unbalanced relationship in terms of power, and which makes any kind of accountability for decisions difficult to achieve. We recommend, therefore, that the central government devolves some of its forest governance functions to local governments. In such a way the space for forest governance would be a local one, and

communities and local governments would interact directly to make decisions about the governance of forest resources. A central issue in the negotiations about the new constitution is power-sharing between the levels of government, with a number of functions to be devolved to decentralized units. The decentralization of forest governance should be seriously considered in this context.

Harmonisation of community based management regimes: There are a variety of community based forest management regimes, including community forestry, collaborative forestry, leasehold forestry, etc. The rights and responsibilities of the community and the state differ between these different systems. This variety has allowed the state to play at divide and conquer between communities. Furthermore, as each type of forest user group has its own federation of user groups, the representation and lobbying power of forest users in general is fragmented. Therefore, our recommendation is two fold: 1. on the one hand a harmonization of all these different community based regimes, so that the rights and responsibilities of the different actors are more generalized, and 2. on the other hand, a more concerted effort by the different federations of forest users' groups to work together on issues of common concern.

Engage with political actors. Nepal has benefited from considerable support in the area of community based forest management over the years. However, most donors and other supporters intervene at a bureaucratic level and have their main partners and interlocutors in the forest administration.

Many emphasize that they are not political actors, and that seeking to influence policy through engaging directly with political actors is not part of their mandate. However, we are convinced that at the present moment, in the context of constitutional and legal reform, political actors are key to achieving the institutional changes that are necessary to improving forest governance. Political actors, for example the members of the Constituent Assembly, are the very people who will be making decisions about the constitutional power-sharing arrangements, including the sharing of power for forest governance. In addition to the new constitution, a revised legal framework will need to be established in order to translate the constitutional provisions, and the spirit of the constitution, into practice. To have an influence over these arrangements, we should engage directly with political actors.

1.1.2. Recommendations on civil society's role

Collaboration between civil society groups. The efficacy of civil society is reduced by the fragmentation of its voice between many different organizations, sometimes with divergent views. We recommend, that civil society groups work together to develop a coherent policy influence agenda on issues of common concern such as users' rights over forests, cost and benefit sharing mechanism etc. and pursue their advocacy activities in a concerted and coordinated way. Steps are already being taken in this direction and there is an agreement that civil society groups (within forestry and also federations related to forest, water and land) will unite themselves in a sort of "federation of federations", or

supra-federation, specifically for the constitution making process to ensure one voice in terms of natural resource governance issues in the constitutions. This is a welcome initiative and we recommend that it should be supported.

Strengthen federation capacities at the local level. The representation of local concerns at the national level is assured through the well functioning local to national linkages in the FUG federations, and by the strong capacities of national level federation representatives. However, the capacities of local level federation representatives are considerably weaker. We recommend that they be strengthened in terms of legal awareness, advocacy skills, communication, leadership and networking, etc. Strong federations at the local level will improve the governance of forest resources at local interfaces by developing a strong partner for local governments, both to ensure effective implementation of activities, as well as ensuring mutual accountability and the participation of forest users in decision-making.

New initiatives in knowledge sharing. The topic of community rights and community based forestry is well covered in academic research. However, research findings are not translated into policy, and are also not readily accessible to policy makers or forest users. For example academic papers and consultant reports in English are not sufficient for sharing research findings, neither for policy makers nor forest users. Civil society can play an important role in translating research findings and making them more widely available. Mechanisms that could be utilized for

knowledge sharing include FM radio and “social mobilisers” (NGO staff employed by development projects for interacting with communities).

Build on existing strengths at the local and international levels. Civil society in the forest sector in Nepal, in particular community based organizations such as forest users groups, is mostly grassroots based. This is a definite strength in comparison to both the public and private sectors, which have much less presence at the local level. Similarly, Nepalese civil society representatives, in particular representatives of FUG federations, have been very much present at the international level and are invited and active participants in international fora in which forest and climate change issues are discussed. This access to international fora is an advantage in civil society’s representation of forest users’ rights and interests as it permits civil society to ensure that these remain on the international agenda. We recommend that these two unique strengths of civil society be strengthened as they ensure that its voice is both effective and legitimate when representing the concerns of forest users.

1.1.3. Recommendations on the private sector’s role

With respect to the role of the private sector in the governance of forest resources for climate change mitigation and adaptation, we found that this role has been virtually non-existent up to now, and is likely to be minimal in the near future as well, due to the structural constraints such as a lack of infrastructure. Recommendations for strengthening this role, according to the different kinds of private

sector organizations, include:

Consultants: At present there is not an enabling environment for private sector consultants (service providers) to operate in. The guidelines regulating their employment are not clear, thus they have to rely on donors or international non-governmental organizations for work, as there is no system in place in which they could work directly for forest user groups or local governments. Thus we would recommend that an enabling environment be created, in which guidelines for employment are clarified, and in which possibilities for being engaged directly by CFUGs or local government are developed.

Entrepreneurs (forest based enterprise): There is a lack of basic infrastructure such as roads, electricity, telephone and transport services, which makes it difficult for entrepreneurs to work in rural areas. While gradual improvements are being made in these areas, we would additionally recommend removing of red tape and a lightening of regulatory restrictions, the development of enterprise friendly policy and legislation, and streamlining the taxation system and basing it on scientifically sound principles and mechanisms.

Investors (banks, etc.): In general there is no access to banks or financial services in rural areas. Furthermore, banks do not recognize civil society groups (forest user groups) as legal entities, even if they are registered as such, which makes it very difficult for them get access to credit, for example. We would recommend strengthening legal awareness among bankers so that they are aware of the legal rights of community groups, and simplification

of the process of registering civil society organizations, so that the process and recognition granting bodies are more harmonized.

Media: The media are a strong and developing sector, and one with a lot of potential for promoting transparency and access to information. We recommend that the media be considered a new partner and key partner in development and that opportunities for working together be identified and realized.

Finally, with respect to the *private sector in general*, we recommend inviting the private sector to participate in the existing multi-stakeholder platforms for addressing climate change (such as the Climate Change Network). As climate change responses will necessarily involve all the three spheres of governance, it is essential that all are on board for consultation and negotiations, that all can ensure that their interests are represented in policies and programmes, and that all can contribute with their creativity and initiative to finding solutions. Emerging carbon financing options could provide opportunities for developing innovative public-private partnerships in this field.

1.1.4. Recommendations on the cross-cutting role of capacity building and knowledge sharing

Make the climate change debate more accessible: Climate change is a new concept, and is often presented as being technical in nature, thus it is full of 'jargon' and acronyms. This type of complicated and specialist language tends to exclude non-technical and illiterate actors such as grass-root level civil society groups and their representatives.

Therefore, we recommend that capacity building measures are undertaken to construct climate change knowledge as simple and user friendly as possible. Otherwise informed participation by forest users will not be possible.

Ensure balanced and focused capacity building: Capacity building interventions in climate change are not balanced in terms of their audience. Balance is needed to build the capacity of all the actors of the three spheres (government, civil society and private sector). The present focus on building the capacities of government actors serves to reinforce the power of state actors over others. Furthermore, the nature of the civil service in Nepal is such that government staff have to act as a 'jack of all trades' and do not have the time or opportunities to specialize in a certain domain. An additional constraint is high turnover of staff. Capacity building, if undertaken in a coherent and focused way, could be used to support staff with potential to develop specialist skills.

Support capacity building as a long term process in order to ensure inclusivity: It is important to ensure that capacities in climate change mitigation and adaptation are built not only within actors in all the different spheres of governance, but also with members of all social groups and social mobilizers at the grass roots. However, due to poor access to education and limited opportunities, building the capacities of members of disadvantaged groups will require an investment of time and human resources. Often capacity building is understood as a quick and short term intervention, a series of workshops or similar, with quick results. We recommend, rather,

that capacity building be understood as a longer term process, in order to provide the space to ensure that all social groups have effective access to capacity building. The results, while available later, will be more inclusive.

1.2. Recommendations on generating and documenting practical experiences

With regards to our second lesson learned, our study has found that there is little ground level evidence and experience in Nepal on community based carbon trade, adaptation, forest monitoring, regulating and paying for the ecosystem services of forests (with one or two notable exceptions). We believe that it is important to demonstrate in practice and on the ground how *community based* carbon forestry can become an integrated part of an equitable and effective instrument for improving livelihoods. Therefore, we concur with Ojha et al (2008)'s recommendation that piloting and action research should be immediately started in at least in four areas:

- community carbon monitoring and participation in the baseline/reference line definition,

- accessing voluntary markets,

- payment for the ecosystem services provided by sustainably managed forests at watershed/landscape level combining a number of CFUGs and local governments

- CFUG based adaptation and reducing vulnerabilities of the poor.

Such ground level practical experience will provide a necessary and sound basis for policy development and positioning in international negotiations. This kind of documentation of evidence is important

because it is not immediately clear that Nepal's community forests would be in a position to benefit from REDD, for the reasons outlined above. It is important for Nepal's policy makers to be aware of the relative benefits and disadvantages of the various REDD(+) proposals and to build alliances with like-minded countries, such as those with strong community forestry programmes, or mountainous geographies, for addressing these issues in international negotiations. As Ojha et al (2008) point out, the unique opportunity for Nepal's community forestry is found in marketing the performance of credible and resilient community based institutions for forest management, adaptation and poverty reduction. Thus it would be in Nepal's interest to advocate a comprehensive reward package that supports policy, institutions, procedures and sustainable management of forests, rather than simple carbon payments. As a kind of "moral leader", Nepal has an opportunity to lead other countries with strong community forestry programmes to advance such an agenda in the international negotiations. However, in order to do this, it will need to have documented evidence in hand to prove exactly how such a system could work, what it would cost, and what would be the benefits. Furthermore, whatever direction the international negotiations take, and we should be realistic about the balance of power in such negotiations, Nepal should be prepared for implementation at a national level, and this as well will require having documented evidence on which to base policy decisions.

Our review of the literature being

published about climate change mitigation and adaptation in Nepal shows that, in terms of the timing and quantity of publications, awareness about the issue snowballing (though more so for mitigation). This is promising, but we need to ensure that this snowballing happens also with forest users, and not just Kathmandu knowledge elite. Hence the need to move the debate, and the learning process, to more local arenas.

1.3. Recommendations on pro-poor mitigation and adaptation

Our review of the literature on climate change in Nepal shows that most forestry actors, even community forestry actors, are very much focussed on mitigation. REDD appears to be the hot topic of the moment, and everyone wants to be part of the action. For example, the recently published special edition of the Journal *Forest and Livelihood* on "Climate change, forestry and livelihood" contained 4 general articles on climate change, 3 articles on adaptation, and 10 on mitigation (mostly REDD). Acknowledging that REDD will only come into effect after

2012, and that the actual effects of even a very successful reduction in emissions will not be felt until some years after that, one can ask whether the concentrated focus on mitigation is misplaced. Even if funds will begin to flow into community forest user groups after 2012, it is not guaranteed that these will be distributed in an equitable manner. Obviously mitigation and adaptation activities are not mutually exclusive and mitigation activities will enhance people's adaptive capacities. However, we should not lose sight of the fact that rural communities in Nepal are faced with adapting to climate change today, not in 2012, and that the precarity of livelihoods in rural Nepal means that poor people do not have many options. Therefore, if our aim is to ensure a pro-poor response to climate change, we should ensure that adaptation receives sufficient attention. In the forestry sector, there is therefore an urgent need to find out more about what is and could be done through CFUGs to support rural communities' adaptation efforts.

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