Enhancing the Role of Community Forestry in Disaster Risk Reduction

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The missing link between CF and DRR

Community Forestry (CF) is usually considered a success story of land management in Nepal. However, its importance is not adequately harnessed in the context of the growing risk of disasters such as those related to floods and landslides under changing climate. It is now time to mainstream disaster risks reduction (DRR) ideas into the way CF is managed. Mainstreaming DRR concerns can also pave the way for building longer-term resilience of local communities amidst growing socio-environmental risks.

In this Policy Brief, we argue that while Community Forest User Groups (CFUGs) have an important role in DRR, CFUGs should not be seen as the primary institution for DRR. This is because disaster events crosscut diverse sectors (e.g forest, road, and agriculture) and multiple scales (from household to national level). Such encompassing nature of disaster therefore requires multiple actors - both government and non-government - to collaborate for DRR. Yet, as this brief highlights, CFUGs have important role to play, and this is indeed a very important one, given the strengths and potential of both forest and local communities as demonstrated by many CFUGs in Nepal[1] .

Why community forestry should not ignore disasters?

In August 2014 alone, hundreds of people died and thousands were displaced due to floods, landslides, extreme heat events and related climate disasters in Nepal[ii] . Many of those affected are also the members of CFUGs, a situation that is not surprising given the nation-wide expansion of CF program in Nepal[iii] . What remains intriguing is that these disasters have come at a time when Nepalese forestry stakeholders were celebrating the success of community forestry in Nepal. In June 2014, Sixth National Community Forestry Workshop was held to celebrate the success, as well as to find ways to cope with the new challenges facing community forestry.

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Main messages

1. As the area under community forest expands (over 1.7 million hectares) and functioning CF institutions proliferate, CF has immense potential for DRR, especially those risks related to floods and landslides
2. CFUGs have the opportunity to institute provisions for regulating services of forest ecosystem under their management more explicitly than the current practice
3. CF potential to DRR can be realised if CFUGs are mandated to consider indirect and regulatory services of forest ecosystems, along with necessary support services and enabling policy and regulatory framework
4. CFUGs have an important role to play in reducing disaster risks but they cannot address the problem alone; there is a need for fostering collaboration across diverse institutions and across multiple scales to prevent and mitigate the effects of disasters

Undoubtedly, it has now become urgent to find ways to mainstream disaster concerns in community forestry so as to save lives from the disaster events, as these types of events will grow in frequency and intensity in the future under changing climate. Clearly, it is not enough to have community forestry meet the needs of fuelwood and fodder - benefits that usually go into the judgement of community forestry success in Nepal. Moving beyond this success rhetoric, it is now time for CF stakeholders to revisit community forestry system in such a way that it can also contribute to reduce disaster risks and enhance the resilience of vulnerable households in the country.

How can community forestry contribute to disaster reduction?

CFUGs can contribute to DRR in two main ways (See Figure 1). First, over 1.7 million hectares of forest area that is under community management has the great potential to contribute to mitigation of floods by enhancing soil and water conservation. CF can also contribute to the reduction of the flow of floodwater in riverine areas. Given the past trend, the CF area is likely to grow in the future, and consequently, the role of CF in reducing the risk of disasters related to flood and landslides will become even more crucial. Second, given the demonstrated institutional capacity of CFUGs to organize collective action at the community level, they have the potential to offer immediate services and extend humanitarian assistance to disaster victims at the local level. As

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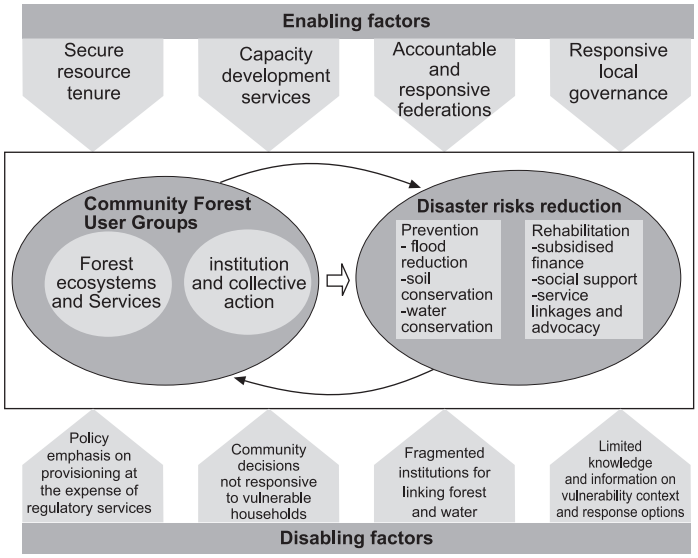
Figure 1 shows, there are several enabling factors that could enhance the positive contributions of CFUGs in reducing disasters: secure tenurial rights over forest resources, access to capacity development services in relation to planning and management of their resources, development of responsive and accountable federations to articulate the voice of vulnerable groups at higher scales of governance, and a strong linkage that can emerge between CFUGs and local government system. However, these strengths of CFUGs are yet to be fully mobilized for DRR.

Figure 1. CFUGs and disaster risks reduction: a conceptual framework



At present, CFUG capacity to contribute to DRR is jeopardised by several disabling factors: forest policy emphasis on provisioning services of forest (such as timber and fuelwood) at the expense of regulatory services (such as soil and water conservation, flood control etc); elite capture at local level including CFUG level decision making processes, fragmentation of institutions and lack of coordination among institutions related to forest, water and other land use sectors; and limited knowledge, information and technological options on forest management that could lead to a balanced management of provisioning and regulating services of forest ecosystem under community management. Box 1 further outlines how CF can reduce disaster risks to member households.

Box 1. How can CFUG contribute to reduce disaster risks?

- As one of the most vibrant local organizations, with legal rights to manage and use forest areas designated by the government, CF can act as strong local institution in navigating the forces leading to disaster risks.
- As CFUGs have rich experience on forest management, they can also undertake monitoring of climate induced risks and take necessary actions.
- CFUGs are the local organizations, close to households and families, and hence can offer instant advice and support to households and communities in case of need.
- In many cases CFUGs have held regular elections of their executive committees, which means that they are likely to be more accountable to the community than other organizations whose leadership is not voted by people.
- Local communities often believe that forest has the potential to help mitigate the risks of climate. In a survey of households affiliated with two CFUGs, 85% of the respondents believe that community forests help in stabilizing soil, reducing the natural hazards like erosion, and landslide.

In analysing the potential of CFUGs in DRR, it is suggested that the framework presented in Figure 1 and ideas given in Box 1 are integrated with the risk reduction framework presented in the next section including Table 2.

Conceptualizing disaster risks - what can we learn from current science?

Understanding how CFUGs can contribute to DRR is indeed related to how we understand two key concepts: vulnerability and disaster. Developing a common understanding on CFUGs-DRR linkages is important, as vulnerability and disaster mean different things to different people. While many agree on the most obvious forms such as landslides leading to casualties and the loss of property as a disaster situation, others still disagree on what causes them, much less on solutions. Still others see these as 'natural' disasters, and there are those who see these as a result of failures in governance in the society. Table 1 below outlines at least three different ways to understand vulnerability.

Table 1. Multiple interpretations of vulnerability[iv]

Aspects	Bio-physical view	Human-Environment interaction view	Critical social science view
1. What is vulnerability?	Vulnerability is a biophysical phenomenon, with environmental stress acting on the ecological system.	Vulnerability occurs through interaction between environment and society.	Vulnerability of particular groups of people is primarily a result of political-economic structure in the society.
2. How to understand vulnerability?	Establishing causal relations among biophysical variables. Focus on quantitative analysis, Scale: place.	Systems analysis, mix of quantitative and qualitative methods. Scale: Multi-scale.	Critical analysis of power, access, injustice underlying the conditions of vulnerability. Qualitative focus. Scale: household/ groups.
3. Why vulnerability analysis is needed?	Establish links between climate system and bio-physical system on earth surface including water.	Explore the property of the system, including vulnerable and resilient aspects.	Establish causal links between variables such as issues of access, power etc and vulnerability.
4. What solutions to reduce vulnerability?	Infrastructure. Technology.	Systems management.	Social protection. Equitable access.

There is a rich conceptual debate on concepts related to vulnerability and disaster. While one can engage in endless debates in the domain of theory, we often have a narrow range of choices in any particular contexts. Therefore, it is important to take a practical strategy in analysing vulnerability and disasters, considering different elements emphasized by the various approaches such as those mentioned above (Table 1). In the following sections, we consider these elements to explore more practical strategies that can be used to reduce vulnerability. We suggest that an integrated view of understanding vulnerability, by blending different approaches, could be a best way forward.

The four questions posed in Table 1 can help CFUGs and other CF stakeholders understand who is vulnerable, how, and to what extent. It is suggested that drawing up checklists from the three perspectives as outlined above - biophysical, human-environment interaction, and critical social science - together can help develop a nuanced analysis of vulnerability in a particular context. This analysis can then be linked to the framework we presented in Figure 1 depicting the links between CFUG and DRR. Such an iterative analysis can lead to robust understanding of what CFUGs can do to address vulnerability in specific contexts.

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What issues need to be tackled?

The business as usual practice of community forestry is not so conducive to reduce disaster risks. Our field studies and the review of scientific evidence both confirm that CF has the potential to significantly reduce disaster risk and vulnerabilities of the poor households and local communities if CF institutions are reoriented to serve the purpose. The process of reorientation can be catalysed through a clear policy framework.

Several studies show that Nepal has helped save forests and also enhanced the supply of forest products to local communities[v]. Likewise, there is a longstanding scientific belief that forests help preserve soil and contribute to water conservation[vi]. While we do not have reliable scientific evidence on the links between forest and disaster risk reduction, several decades of Nepal's experience on community forestry show that community institutions, have the potential to significantly reduce disaster risks. To achieve this potential, several issues need to be addressed:

- **Moving beyond business as usual practice.** Evidence from the field shows that current forest management practices embrace limited consideration of climatic vulnerability. For example, CFUGs and stakeholders focus on managing timber and fuelwood, while ignoring risks related to landslides and floods. This practice can escalate the vulnerability of communities.
- **Upscaling community based adaptation planning.** A number of Local Adaptation Plan of Action (LAPA) and Community Adaptation Plan of Action (CAPA) are being developed in Nepal. Such plans can be of some help in adapting to slow and steady risks but are not adequate to reduce risks due to extreme climatic events and other catastrophic disasters. Moreover, there are questions of institutional ownership of such plans, which are often driven by external projects.
- **Connecting scales.** CAPA and LAPA have emphasized excessive localism (focusing on local level issues), often at the expense of multi-scalar adaptation issues. Acting at CFUG level is important, but actions are needed at higher scales to coordinate the efforts of research, infrastructure, governance, and planning. In addition to the CFUG level, mainstreaming disaster risks concerns into the work of DFOs, service providers, and value chain actors is also important. As there is no elected local government currently, LAPA also lacks institutional ownership. It is therefore important to ensure institutional anchorage of these local level planning processes, whilst also establishing linkages across the multi-scalar adaptation processes. This means, for instance, working simultaneously at local, subnational and national levels in such a way that actors respond to climate crisis in a mutually coherent and synergistic way.
- **Enabling regulation from disaster lens.** The current regulatory arrangements, which are primarily related to the conservation of forests and provisioning of forest products and services, need to be reviewed in the light of disaster risk reduction perspective. Currently, there is a focus on protection of forests - a strategy that is not adequately linked to disaster risk reduction. Disaster reduction strategy requires whole new sets of activities; for instance, some mechanical structure may need to be created at the bottom of a forest on a riverbed, such as a gabion wire wall instead of planting trees. Table 2 below summarises possible disaster reduction actions on different aspects and at various levels along with the identification of a lead agency for each action types.
- **Institutional coordination across sectors and scales.** There is a tendency to shift DRR obligations to CFUGs, local level institutions or local governments. Given the complexity and scale of disasters happening in Nepal (often affecting multiple districts and villages), it is important that CFUG contributions to DRR are kept fully aligned with larger efforts of DRR. In addition, the limit of CFUG to contribute to DRR beyond their mandated role in forest management should also be recognised and respected, with clear DRR strategies to mobilise other important actors such as local governments, public DRR bodies and DRR focussed NGOs.

Possible Action Points

Given the opportunities of CFUG to contribute to DRR as outlined above and also in view of the gaps in current approaches, following actions are suggested for various agencies related to community forestry in Nepal (see Table 2).

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Table 2. Possible actions, lead agency and aspects of vulnerability reduction through CF

Possible actions	Lead agency	How is vulnerability reduced?
1. Revise forest regulations and directives to grant CFUG a mandate to manage forest areas for conservation, livelihoods and reduce the vulnerability of the local communities.	MFSC	Allowing a wide range of DRR-oriented forestland management activities and technological fixes.
2. Catalyze networking among CFUGs at the landscape level to explore common sources of vulnerability and upstream-downstream linkages of vulnerability.	DFO, DDCs, VDCs, NGOs and FECOFUN	CFUGs can cooperate at watershed level to contain the upstream sources of risks for downstream communities.
3. Categorise CF areas in terms of degree of vulnerability to climate risks and offer trainings to CFUGs to tackle the existing and potential sources of vulnerability.	DFO, NGOs and FECOFUN	Government and other non-governmental public resources can be targeted at areas that are most prone to risks.
4. Actively facilitate the conversion of natural capital into economic and financial capital through sustainable harvesting and use.	NGOs and Action Research groups	Economic freedom enhances choice to shield the disaster risks.

In addition, we suggest that CF's contribution to DRR be planned at four levels: district, sub-district (such as VDC or landscape), CFUG and village levels.

1. **District level:** DFOs and district level service providers should undertake rapid climate vulnerability mapping in the district and then locate forests and settlements in different parts of the district that are prone to risks. This work can be integrated with five-year strategic plans of DDC and DFO. Areas can be located with varying risk levels - extremely high, high, moderate and low risk zones. Four aspects need to be considered:
   a. Climatic data
   b. History and experience of past risks
   c. Levels of poverty
   d. Marginality and accessibility - e.g road access, communication network, distance from nearest towns
   e. General level of awareness and preparedness of people to potential disaster risks
2. **Sub-district level:** At sub-district level (such Rangepost or VDC), FECOFUN and local forestry staff can work with communities and local NGOs to develop disaster risk maps at the range post level, using the same criteria used for the district level mapping.
3. **CFUG level:** At each CFUG level, community leaders and forestry staff can develop similar maps at the CFUG level.
4. **Village / hamlet level:** building on the recent innovations to develop village and hamlet level action plans in forest management (within CFUGs), opportunity exist to formulate DRR reduction plans at village level.

References for further information

1. Timilsina-Parajuli, L., Y. Timilsina, and R. Parajuli. 2014. Climate Change and Community Forestry in Nepal: Local People's Perception. *American Journal of Environmental Protection,* 2 (1): p. 1-6.
2. FAO and the Center for International Forestry Research (CIFOR). 2005. Forests and Floods: Drowning in fiction or thriving on facts? FAO, Bangkok; CIFOR, Bogor.
3. Forbes, K. and J. Broadhead. 2011. Forests and landslides: the role of forests and forestry in the prevention of landslides and rehabiliation of landslide-affected areas in Asia. FAO, Bangkok.
4. Forbes, K. and J. Broadhead. 2007. The role of coastal forests in the mitigation of tsunami impacts. FAO, Bangkok.
5. Forest and Natural disaster risks reduction in the Asia and Pacific - http://www.recoftc.org/site/uploads/content/pdf/Forests%20and%20natural%20disaster_policy%20brief_363.pdf

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[i] Several studies in Nepal have reported the resilience and sustainability of CFUGs even during the period of civil conflict and political transition - such as: a) Nightingale, A. and J. R. Sharma. 2014. Conflict resilience among community forestry user groups: experiences in Nepal. *Disasters,* 38 (3): 517-539; b) Karna, B. K., G. P. Shivakoti and E. L. Webb. 2010. Resilience of community forestry under conditions of armed conflict in Nepal. *Environmental Conservation,* 37 (2): 201-209; c) Banjade, M. R. and N. Timsina. 2005. Impact of Armed Conflict in Community Forestry of Nepal. *ETFRN News,* (43-44): 81-83.

[ii] On a single landslide event in the district of Dolakha, 156 people were killed (http://reliefweb.int/report/nepal/nepal-says-156-people-killed-landslide-ends-search).

[iii] There are 17,000 CFUGs in Nepal according to the database of Department of Forest, and most of these are concentrated in the middle hills region of the country.

[iv] O'Brien, K., Eriksen, S., Nygaard, L. P., & Schjolden, A. 2007. Why different interpretations of vulnerability matter in climate change discourses. Climate Policy, 7 (1), 73-88. doi:10.1080/14693062.2007.9685639

[v] For example, MFSC. 2013. Persistence and Change: A review of 30 years of community forestry in Nepal. Kathmandu: Ministry of Forest and Soil Conservation.

[vi] Neary, D. G., Ice, G. G., & Jackson, C. R. 2009. Linkages between forest soils and water quality and quantity. *Forest Ecology and Management,* 258 (10), 2269-2281. doi:10.1016/j.foreco.2009.05.027

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