

Thinking about REDD+ benefit sharing mechanism (BSM)

Lessons from community forestry (CF) in Nepal and Indonesia

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Key lessons

- Benefit sharing (BS) approaches in community forestry (CF) are differentiated into: rights allocation-based, input-based and performance-based, from initiation to implementation and each approach has specific and complementary roles in ensuring effectiveness, efficiency and equity of benefit sharing mechanisms (BSMs).
- Rights allocation-based BSMs provide a more sustainable incentive than payment-based incentives for maintaining involvement in CF under conditions of inadequate financing. Maintaining the sustainability of payment-based incentives is problematic because of the need to price incentives correctly relative to transaction and opportunity costs. The need to compensate for opportunity costs is less relevant under rights-based BSMs.
- The type of rights matters. Clear, comprehensive and secure tenure rights that include rights to access, withdraw, manage and exclude, induces strong collective action.
- Effectiveness and efficiency of BSMs can be enhanced by structuring benefits as incentives to change behavior, particularly when compared to some input-based incentives that are not directly linked to halting of deforestation and degradation.
- Equity in BSM can be enhanced if revenues are allocated for development activities such as community infrastructure and facilities and social services and by explicitly weighting for the poor, women and marginalized groups.
- Though there can be equity trade-offs compared to funding individual payments, our case studies suggest a preference for development activities, especially if such payments are not that significant compared to current shared benefits.
- Transaction costs and the failure to compensate for these act as a barrier to smallholders and the poor
- For equity and long-term commitment, opportunity costs are important in deciding how benefits are shared, particularly if land-use competition is high. There are different types of opportunity costs (i.e. the opportunity costs of revenues from behavior change of individual household versus the rent of alternative land uses in the area included in a REDD+ scheme) and these differences should be considered in the design.

Reasons for REDD+ to learn from Benefit Sharing Mechanism under community forestry

By contrasting the CF schemes in Nepal and Indonesia, this infobrief aims to document, analyze and synthesize the institutional arrangements and incentive structures for the design of benefit sharing and how these can be adopted to REDD+.

There are three main reasons that highlight the importance of understanding the lessons learned from BSM under CF. First, CF institutions commonly have developed well established BSMs that incentivize forest management, are legitimate and recognized by national law, in countries such as Nepal. Second, CF generates and distributes co-benefits from timber and other forestry products, including ecological services and carbon. And, last, CF as part of CBNRM has been identified as one option for horizontal sharing of benefits between local stakeholders under REDD+.

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In Nepal, the analysis is focused on the REDD+ pilot project (2011–2014).¹ This project was set up on existing CF as the major forest regime, which has been implemented nationally by community forest user groups (CFUGs) since the 1990s. Though there exist other community-based forest management modalities, these are insignificant as compared to CF in their coverage and devolution of forest management rights. In Indonesia, there are at least six arrangements for involving communities, which are driven by forest function classification associated with different tenure conditions. The most relevant ones with clear arrangements for BSM are *hutan kemasyarakatan (HKm)* or CF (the specific term used in Indonesia) and *kemitraan* or community-company partnership scheme (or partnership scheme)^{2,3} implemented in most State forests in Indonesia, in which deforested and degraded forest areas occur.

Nepal: Communities have exclusive long-term management rights under CF arrangement – important for setting up the REDD+ pilot project

Nepal's CF scheme is widely considered as a successful approach in forest management (MFSC 2013) and therefore its lessons on BSM provide a good basis. The legal basis for CF in Nepal provides sufficient ground to secure communities' share of REDD+ funds though an explicit transfer of ownership of CF lands would further clarify it. The REDD+ pilot project brought three additional elements to the existing CF arrangement. First, as the project had objectives of reducing emission and enhancing local livelihoods, it made payments against

1 This project was funded by NORAD (Norwegian Agency for Development Cooperation) and implemented jointly by ICIMOD (International Centre for Integrated Mountain Development), ANSAB (Asia Network for Sustainable Agriculture and Bioresources), and FECOFUN (Federation of Community Forestry Users Nepal).

2 For other schemes, there are still limited actual implementation on BSM. Other schemes are: Community-based forestry plantations (*hutan tanaman rakyat – HTR*), Village Forests (*hutan desa – HD*), customary forest (*Hutan Adat*), and farm forestry (*hutan rakyat*) on privately owned lands. *Hutan adat* was approved on 20 May 2013 by the Court of Constitution (Mahkamah Konstitusi) to be separated from State forests (<http://www.hukumonline.com/berita/baca/lt5194c9568b9f7/mk-tegaskan-hutan-adat-bukan-milik-negara>). For further discussions, see: Nawir (2013); Partnership for Governance Reform (2011); Santoso (2008); Nawir et al. (2007); Cahyaningsih et al. (2006); and Poffenberger and Smith-AHanssen (2005)

3 Partnership is defined as the collaboration between local community and permit holders for: forest utilization or forest management, primary industry for forest products, and/or forest management unit (*KPH-Kesatuan Pengelolaan Hutan*) in the capacity development and granting access in implementing forestry partnership (*MoF regulation, Permenhut No. P.39/Menhut-IV/2013*)

certain biophysical and social criteria that were developed collectively in consultation with the communities. The biophysical criteria included carbon and biodiversity. The social ones included population of poor, ethnic groups, dalits and women. Second, the REDD+ funds have to be spent in a certain prescribed procedure that was outlined in *Operating Guideline of Pilot Forest Carbon Trust Fund* (ICIMOD et al. 2011). This was on top of CF guidelines, and was aimed at ensuring forest conservation and talks more on fund management. Third, a new institutional set up was created at both watershed level and national levels, which could bundle small CFUGs into reasonably larger units, particularly for measuring carbon and administration of the funds. The project was implemented in 105 CFUGs in three watersheds including mountain, hills and Terai regions of Nepal. The overview of BSM and relevant supporting conditions under CF and the REDD+ pilot project are presented in Table 1.

Indonesia: providing access for communities' involvement in managing State forest

The discussion for Indonesia is based on two schemes, *HKm* and the partnership scheme. Under *HKm*, a community (usually formed as a cooperative⁴) is granted a usufruct rights to manage an allocated area approved by the Minister of Forestry for 35 years, with the possibility of renewal (MoF 2009). The main objective of *HKm* scheme is to involve communities in State forest management, as part of the program to increase their participation in maintaining and/or restoring the State forests, and to resolve conflict over encroached forest. The main motivation for community members to participate has been mainly to secure access to State forests for cultivating food or cash crops on 30% of allocated area as their shared benefits, while maintaining 70% of the area as forests (MoF 2007; Nawir 2014).

Various partnership schemes between a community and a company were initiated in the late 1990s. In Java, Sumatra and Kalimantan, this was mainly developed by private and State-owned companies with the contract time frame based on the granted concession period. This has been considered as an effective strategy in resolving long-term land conflicts inside their concessions (Nawir et al. 2003; Maturana et al. 2005; Nawir and ComForLink 2007).

4 A tree grower group registered at the Ministry of Co-operative and Small/Medium Enterprises

Table 1. Overview of BSM and relevant supporting conditions under the four schemes in Nepal and Indonesia

Nepal		Indonesia	
Aspects	Community Forestry	REDD+ pilot project	Community and company partnership
1. Property right regimes for community involvement	State forestlands; access, withdrawal, management and exclusion rights are transferred to the locally organized groups	Pilot was conducted under formally registered and recognized community forests	Part of company concession right under a State-nested system limited traditional community rights are recognized informally by company
2. Description of BSM	Rights ^a allocation-based (bundle of rights): communities are entitled to all the benefits related to products; government gets 1.5% of revenues from the sale of two commercial species of timber	Mixed approach: based on rights allocation and performance. CFUGs also received money from project based on the biomass stock and increment, and social aspects (e.g. number of poor, indigenous people (dalits) and women)	Mixed of input-based and performance-based: timber production-based net BSM paid in royalty to community partners. Shared benefits between community and company varied in different companies' schemes
3. Scale/scope	Rules are nationally applicable though groups may have their own specific BSM innovations	The same criteria and norms were adopted in all pilot sites	Locally specific but varies (even if implemented by the same company)
4. Process of BSM design	Principles are given by the law, CFUGs take a lead with government and development agencies support	Pilot project team provided technical and financial support to develop and operationalize BSM	As <i>de jure</i> concession holder, the company determines all of the conditions for participating and BSM within the boundary of regulation concerning State forest management
5. Monitoring	Government monitors the BSM usually through submitted reports and occasionally through visits	Multiple entities monitor the BSM including the project team itself	Limited information sharing between company and community partners, and local government as the regulator and evaluator
6. Activities being rewarded	Improving forest condition: conservation practices and sustainable harvesting	Carbon enhancement by protecting their forest and promoting inclusive governance of CF	Securing timber plantation development and company access in the areas
7. The value of the monetary benefits	Most of the CFs especially in the hills enjoy forest product use (not in cash)	REDD+ money. Significant for those with less commercial timber, but less significant if high value timber is available	Royalty paid to community partners based on total volume or weight of timber harvested, varies based on distance and type of land)
8. Other benefits	Rights to CF and associated benefits are understood as entitlements; diverse ecosystem services; capacity building	Better forest conservation along with inclusive and equitable processes; Regular forest products, ecosystem services and institutional support	Financial (e.g. loans) and other incentives (e.g. rubber tree seedlings)
9. Main indirect benefits	Community social capital, and local democracy	CF benefits come to the groups mainly in the form of capacity building support	Securing traditional community rights and access inside concessions
10. Legitimate beneficiaries	All members of the CF group	All members of the CF group, select vulnerable and poor groups get more targeted benefits from the funds	Cooperative members bounded by a contract agreement
11. Mechanism for payment	Spent on public and social infrastructures, and 35% of revenues for pro-poor income generation activities	Spending on collective activities along with some targeted activities for the poor and marginal groups	Direct payment to cooperative and no formal shared benefits to local government

a State-nested system: State is the *de facto* holder of all the legal rights in State-owned forests, and cooperative or company has been granted the right to manage

b Rights to access and/or to manage a certain allocated area (usually inside State forest)

c Implemented nationally based on Ministry of Forestry regulation No P37 (2007). Compared to Nepal, there are only limited rights granted (not a bundle of rights/exclusive rights)

d In some districts, these were formalized under a partnership scheme between community and district government and supported by a local legal framework. The BS proportion was based on the results from a cost and benefit analysis (CBA) study conducted in Sumbawa district (Nawir et al. 2007; Nawir 2014).

The company has been able to develop its plantation in this conflict area, as the partnership scheme helped to provide secure access to their claimed lands inside the concession area (State forest) with guaranteed shared benefits from timber planted collaboratively by the community and the company. Some of the communities' lands are based on traditional rights. As part of setting up the contract, participatory delineation surveys help both parties to clarify the land boundary of each party (community and company). The overview of BSM and relevant supporting conditions under *HKm* and partnership schemes are presented in Table 1. These are based on several cases researched by CIFOR since early 2000.

Lessons learned from CF BSM in Nepal and Indonesia

The comparison is framed by the 3E principles in designing BSM under REDD+: carbon effectiveness, cost efficiency and equity (Angelsen 2008; Luttrell et al. 2012). Discussions relate to the BSM approaches throughout initiation to the implementation stages, as well as during the performance evaluation in measuring the effectiveness and the efficiency implications.

BSM approaches from the initiation to the implementation stages

From the initiation to the implementation stages, the BS approaches in the CF cases discussed here are differentiated into (Table 2): rights allocation-based, input-based (payment and/or other inputs are provided in advance) and performance-based (benefits are shared after meeting an agreed performance level). Rights allocation-based approach has been mainly used in the initial phase of CF, such as under CF in Nepal and *HKm* scheme in Indonesia. Under this approach, rights have been allocated so communities

have legal rights: to manage the areas and over the benefits resulting from forest management and/or development intervention. Land becomes the most important household capital to generate tangible benefits (e.g. NTFPs, timber), and intangible benefits (e.g. maintaining the customary value of land). Throughout the implementation, there is a shift from rights allocation-based towards a performance-based approach (i.e. *HKm* scheme) and a mixed approach between input-based and performance-based (i.e. CF in Nepal). The REDD+ pilot project in Nepal and partnership scheme in Indonesia have applied an input-based BS approach during the initiation, and then used a performance-based approach during implementation. For the pilot project, input-based payment through an up-front funding was needed to get the project going. In this project, a revenue-sharing arrangement is more common than a benefit (revenue minus the cost) sharing one.

Under the Nepal REDD+ pilot scheme, the local communities received extra funds based on their carbon stock and the level of participation of poor and marginalized people in forest management activities. As the project combines biophysical and social criteria for payment, these will include both performance-based and rights-based approaches. Further, CF and REDD+ pilot fund management guidelines prioritize social indicators including details on how much monetary and non-monetary benefits go to marginal groups. The reduction in carbon emissions is performance-based, but the inclusion of poor, women and marginalized people can be termed as rights-based criteria. The payment criteria were different from existing benefit-sharing scheme in CF. In REDD+ pilot two types of criteria were used in determining payments: (a) inclusion of the poor, women and other marginalized groups was given a 60% weight; and (b) biophysical indicators (forest biomass and carbon stock/increment) with 40% weight.

Table 2. Overview of BSM approaches throughout different stages

Stages	Nepal		Indonesia	
	CF	REDD+ Pilot	<i>HKm</i>	Partnership
Initiation	Rights allocation-based	Input-based on top of the CF rights allocation	Rights allocation-based	Input-based
Implementation and/or towards the end of the term	Mixed between rights-based and performance-based	Shifting toward performance-based	Performance-based (in managing the allocated area)	Performance-based (in producing timber)

Input-based approaches have been implemented under the partnership scheme in Indonesia, by providing a package of incentives upon signing up to the partnership contract. Incentives varied in different schemes in Jambi and West Kalimantan, but include:

- land incentive provided to compensate the economic value of households' lands to be managed under a partnership scheme (USD 1 per ha of acacia planted);
- infrastructure development incentive (USD 5.4 per ha of acacia planted);
- financial assistance to buy high-yielding rubber seedlings (USD 53.8 per ha of acacia planted) to be planted in household-owned lands;
- social funds provided in response to communities' demands (e.g. for social cultural ceremonies). For example, one company in West Kalimantan provides funds (USD 53.8 per hamlet) so community members could collectively perform a traditional ceremony prior to planting the land with acacia trees.

Effectiveness and efficiency of CF BSM

This section focuses on the expected activities being rewarded, the operational and transaction costs of the BSM and the opportunity costs considered in deciding on the shared benefits.

Motivating 'performance' in CF and REDD+ BSM

Up-front rights allocation under CF schemes analyzed here serves as an incentive for community participation in the management of State forests and/or company concessions. In Nepal, transfer of rights and sharing of benefits (as discussed in Table 2) are the basis for providing compensation to local communities' for their active involvement in halting deforestation and degradation (D&D).

In Indonesia, the main activities being rewarded vary depending on the types of rights granted and who is initiating the scheme for community involvement. Under the *HKm* scheme, these are mainly the prevention of forest encroachment and illegal logging in allocated State forest areas, which in a way serves to enforce the permanent status of the forest as a State property. Usufruct rights are granted to a cooperative. Under the partnership scheme, community involvement in developing plantation of pulpwood is important in securing company access to the claimed and conflicted lands inside its concessions, so company can plant fast-growing species. However, the effectiveness has been challenged by: (1) in *HKm*: limiting rights only to non-timber forest products (NTFPs) and no rights to harvest

timber for commercial purposes that has limited community participation effectively in the long-term; and (2) partnership schemes have had low shared benefits from harvested timber in the first rotation, compared to alternative activities. In one partnership scheme in Sumatra, where there has been an extensive development of oil palm and rubber plantations, only 26% of community partners were interested in involvement in a second rotation, despite the offer of a contract that would exceed 40 years. Therefore, the company introduced an up-front payment mechanism, which provides allowances of USD 226 per ha of acacia progressively planted by community partners for 6 years until wood harvesting. This is calculated based on the total estimated value of timber harvested at the end of rotation (year six). This has been proven to be effective in keeping community partners commit to the partnership contract.

The REDD+ pilot project aims to add a performance-based payment, building on existing CF benefit sharing arrangement. However, to date there has been no example of direct payments based on verified indicators of carbon enhancement. Under CF in Nepal, the local communities have been granted the rights to use and manage the forests and can exclude nonmembers. In most cases, they have to protect their forests using their own resources. In a few cases where there are active development projects in place, the group may receive some support in terms of community infrastructure and income generation activities, especially for the poor and marginalized groups.

Sustainability of the scheme has emerged as the major challenge for the REDD+ pilot project in Nepal, particularly in relation to funding for the continuing activities. NORAD supported Pilot Forest Carbon Trusts Funds equivalent to USD 100,000/year but ended after 3 years and now there is no money to pay for the group who are waiting for continuation of payments for their inputs or carbon increment. The local communities are now putting pressure on FECOFUN (their national network) for their next payments. In comparison, the CF program been in existence for over three decades and there is no major sustainability challenges. While there are few foreign aid support projects in certain parts of the country, CFUGs have been managing their forest irrespective of whether any external support is available.

Taking into account aims and objectives of BSM applied under the four schemes, suggested indicators in assessing the effectiveness and efficiency of BSM are summarized in Table 3.

Table 3. Suggested indicators in assessing the expected effectiveness and efficiency implications of BSM under the four schemes

Stages	Nepal		Indonesia	
	CF	REDD+ Pilot	Hkm	Partnership
In measuring input and/or performance	Protection of forests from illegal logging, forest fire, grazing, wildlife poaching; invest 25% of revenue in forest management activities and 35% in pro-poor activities	Carbon increment, benefit distribution to women, indigenous people and dalits (lower caste)*	Minimum cases of encroachment and reduced illegal logging cases; standing stocks maintained; and conflicts over land reduced	Total weight of timber harvested; conflict over lands minimized; no cases of land being handed over or sold; and minimum forest fires
In assessing the effectiveness and the efficiency implications	Secure tenure rights induces effective conservation, compared to State forests	Carbon funds induce local efforts, the funds are directly supporting forest protection	Increase participation in maintaining the State forest conditions and in reforestation program	Commitment to the second rotation and long-term contract; cooperation to increase wood production (on conflicted concession area)

* As included in ICIMOD, FECOFUN and ANSAB (2011)

Transaction costs are potentially high: The importance of cost-sharing in benefit sharing mechanism

Our analysis shows the importance of including a consideration of transaction costs in the design of BSMs. In all the CF schemes analyzed, transaction costs are high and this introduces inefficiency into the sharing of benefits.

First, community lands are often scattered and therefore have high transportation costs for collecting and marketing of timber and other tangible non-timber forest products (NTFPs). This is often an important factor in making CF uncompetitive. Carbon emission reductions do not require proximity to markets. This provides a potential opportunity for making CF more competitive by providing a complementary income.

Second, the challenge of economies of scale in forest management is a critical issue, both in Nepal and Indonesia. The REDD+ pilot project in Nepal cannot afford the estimates of MRV costs at the current scale of an average of 85 ha per CFUGs. It is possible to bundle several CFs for the purpose of REDD+ to provide a reasonable size of carbon credit and substantially reduce transaction costs. Further, a new institutional setup was created at both watershed and national level, which could bundle small CFUGs into larger units for measuring carbon and administering the funds. Similarly, the partnership schemes in Jambi and West Kalimantan aim

to manage block areas of 300 ha at a minimum, consisting of areas owned by 20–30 households and reduce the transaction costs of managing plantations.

Additional requirements of REDD+ in the REDD+ pilot project in Nepal have high transaction costs. Even during the payment period, the REDD+ payment may not have fully compensated for the time, efforts and resource costs invested by the local communities. These costs, apart from protecting the forests, were incurred during measurement, reporting, verification, and disbursement of the money as well as monitoring of the actions by the CF groups. As the scale of economy was too small, the cost incurred by the local communities appear to be relatively high.

Third, the existence of policy barriers that do not support smallholders also cause high transaction costs, such as requirements to submit an application to be granted management rights in Indonesia. Other causes are the lack of: capacity of district level forest staff and community institutional capacity (Nawir et al. 2006; Nawir 2013). There is a common high dependency (depending on the case) towards external assistance in facilitating the processes as well as covering the costs. REDD+ BSM can build on the existing, workable CF BSM if some of these costs are already covered. From the example of CF in Nepal, the stakeholders involved suggested that they mainstream REDD aspects into *CF Guidelines* where procedures for distribution of REDD benefits can be part of the *CF Operational Plan* (the internal document of the CF groups).

Overall, the BSM for REDD+ adopted from CF practices should take into account all the costs; the design should focus on both benefit-sharing and cost-sharing mechanisms (see Section 4.3.3 on discussion on the needs for practical valuation methods). Nepal cases have also shown that a mechanism could be set as part of the institutional arrangements to equally share the protection and management costs among all CFUG members. The CF group equally shares the protection and management costs through labor inputs, although the members may have different opportunity costs. Cost-sharing arrangements have also been applied among cooperative members under *HKM* in Indonesia.

Opportunity costs: Must be included in deciding shared benefits for community, particularly if alternative land-use values are high

Opportunity costs in the Nepal and Indonesia cases reflect different levels of external pressures and in turn, these have affected the extent of local communities' long-term commitments to participate in managing the forest resources. As a large part of the Nepalese economy is subsistence-based, including in the area managed under the two schemes analyzed here, opportunity costs are low and people have volunteered their time to manage the forests. There is a little cash income available to the households through the CF enterprise. In certain areas with relatively higher opportunity costs, many functions of CF management are conducted by hired laborers. The REDD+ pilot project has provided a complementary income to the existing CF management in Nepal, which is perceived as a bonus by the local communities.

In the Indonesian context, maintaining the community's commitment in the long-term has been very challenging (especially if there is no clear secure incentive in terms of exclusive management rights and economic benefits) due to the high opportunity costs of their managed lands and labor. Additionally, there has been conflicting implementation of policy and legislation to involve the community in State forest management, due to different priorities set by national- and district-level government. 'Full-hearted' commitment from central government is still needed to formally recognize community exclusive management rights, particularly in complementing support provided by a particular proactive district government who produced legislation to support community-based natural resources management (e.g. Sumbawa, Wonosobo, Lampung and Konawe). Scaling-up to other districts may then be possible later on.

The REDD+ pilot project shows that estimation of the opportunity cost is not straightforward as the land belongs to the State. The regulatory framework constrains options for management, with optimal commercial objectives of the forest products playing an important role in valuation of the opportunity cost. In addition, individual household foregone revenues from an alternative land use or labor activity might be different to the average foregone economic rent from other land-use options; the trade-offs between these two perspectives of opportunity costs should be considered in the valuation and design of a BSM. Lessons learned from Nepal have shown that poor members who used to rely heavily on forest are compelled to reduce collection of forest products, especially fodder, fuelwood and grazing although well-off members can compensate for loss of these products from their private land (Dhakal et al. 2011). Thus the cost of foregone use is higher for the poorest and leads to justification for inclusion of higher weighting for the poor and vulnerable in their BS scheme. In the Indonesia case studies, households in general prefer to invest their financial and labor capitals in oil palm and rubber plantations, therefore potentially leading to higher rates of deforestation and forest degradation.

Discussion in this section suggests that benefit sharing related to REDD+ schemes would work effectively if REDD+ is initially developed on lands with low opportunity costs in remote locations, particularly if shared benefits could not meet higher opportunity costs. If this could be successfully implemented, expansion to areas of high threat to be deforested (high value) could be done later on. Trade-offs to consider include whether the impacts on reducing deforestation in these areas would be comparable to areas of high deforestation threat. In this case, if REDD+ flows to remote areas that are unlikely to be deforested, then there will be very little additionality to be gained under the REDD+ funds. Therefore, it is important to equally value both the non-carbon and carbon benefits in REDD+ BSM. The cases in Nepal and Indonesia suggest that a rights-based approach in BS has shown to be the key to generating more benefits (tangible and intangible) than input- or performance-based approaches alone. The non-carbon benefits potentially displace the need for meeting high opportunity costs.

The discussions on equity discourse are focused on issues of rights that determine the shared benefits, the nature of allocated payments under BSM, and the needs for practical methods for valuing actual shared benefits and costs.

(Limited) legal rights over (limited) shared benefits from State forests: Can REDD+ mechanism add value in securing community rights, so equity in BSM is ensured

The CF schemes analyzed here have been used as one approach to transfer management rights of State forests to local communities. CF management and associated benefits are locally specific. Shared benefits under CF schemes analyzed here vary depending on the overarching policy framework underlying the exclusiveness of management rights (in State forests) granted to the community and its associated tenure arrangements, and whether it is an externally introduced BSM initiative under a specific pilot project, as in the case of the REDD+ scheme in Nepal.

In Nepal, BS is decided locally as part of implementing CF following a transfer of an exclusive bundle of rights in forest management to CFUGs, backed up by the legal framework. This has led to a smooth adoption of benefit sharing practices by the REDD+ pilot project. However, there is still some confusion about the communities' rights over carbon. Consequently, contested claims over carbon ownership have emerged which may have implications for REDD+ benefit sharing. In addition, interviews with CF members revealed that there is little understanding among communities of what they might possibly have to lose if they were to receive REDD+ benefits. Communities would support the REDD+ scheme as long as it does not result in any visible restrictions in their normal management and use of various forest products or does not pose any risks of curtailing their rights. As the case in Nepal, local people feel they are protecting/conserving the forest even without REDD+ scheme and if this scheme is introduced, it is seen as a by-product or a top up which they would appreciate.

In Indonesia, the two schemes of *HKm* and community-company partnership scheme have transferred rights (in a more limited sense compared to CF in Nepal) and shared benefits. *HKm* offers less shared benefits compared to community-company partnership scheme. Ownership of products is a strong incentive for local community to engage in the project and to continue their commitment in the long-term. However, some practical challenges remain; the effectiveness of communities to enjoy exclusive shared benefits (e.g. under a partnership scheme in West Kalimantan) has been hampered by difficulties

in obtaining formal recognition of community members' land ownership documents during the land acquisition process and has resulted in high transaction costs (Nawir and ComForLink 2007; Nawir 2014). Most of the land papers held by community members are based on informally verifying mechanism (e.g. verified by the head of village), which is not recognized under the formal system, and poses a risk to the community in claiming their entitled benefits in the future. While recognizing that having clear and secure tenure is a precondition for REDD+, in Indonesia, it is expected that REDD+ mechanism could add value in securing community rights over land and carbon (instead of potentially adding conflicts), in the form of a clear, long-term, exclusive bundle of rights on State forest. Overall, community members as a group (CFUG in Nepal or cooperative in Indonesia) can contribute to the success of REDD+ scheme, if they have a clear carbon ownership right as part of its BSM.

Ensuring equity: Allocated payments to public and social infrastructure

One of the challenges in designing REDD+ BSM in Nepal is to address the problem of social differentiation and inequality of access and benefits. Even in Nepal, despite widely hailed success, there have been critiques that the poor, women and other marginal groups have benefitted less, particularly from the more valuable products such as timber and from the group funds (Smith et al. 2003; MFSC 2013). Therefore, the debate has moved away from equality towards accommodating equity. Initially, CF members used to divide the forest products equally amongst themselves, nowadays, distribution of forest products, CF funds and employment opportunities tend to positively discriminate towards poor and other marginalized groups based on well-being ranking.

In CF BSM in Indonesia, community' exclusive management rights under a formal system is still ambiguous and the impact on equity is not clear. It depends, to some degree on who is defining the shared benefits and the types of forest product that is shared as a benefit. Equity in relation to NTFPs can be guaranteed for those who are part of the group receiving rights under the CF scheme, but not for non-group households. In term of forestry products with the highest economic values, such as timber, there is still an equity issue under *HKm* (i.e. which does not provide rights for timber harvesting), and partnership scheme (i.e. under market of price used in valuing shared timber).

Important lessons were learned from CF BSM analyzed in the two countries in addressing the risks from marginalization of women and the poor and the landless in Indonesia. Three lessons were learned in the design of REDD+ benefit sharing:

1. As initiated by many CFUGs in recent years, several initiatives have been introduced that include: a well-being ranking for targeting and pro-poor development investment, differential pricing for forest products and prioritizing poor in forest management related jobs (MFSC 2013).
2. Revenues can be divided between funding development activities (i.e. community infrastructure and facilities and social services); and direct payment to individual household. In this way benefits can be appreciated by all households and will be effective in affecting community members in changing behavior collectively.
3. Opportunity to work as laborers and/or to practice intercropping in *HKm* areas and company concessions are particularly important for those who are landless.

Practical valuation methods need to be explored, so shared benefits (and costs as well) can be estimated and to whom exactly

As discussed earlier, there are indirect and intangible benefits in the form of products and services resulted from CF forest management in Nepal and Indonesia e.g. benefits generated from the improvement of ecosystem services resulted from practices implemented by local communities. Intangible impacts include social capital and institutional development, such as strong local groups, good management capacity and skilled human resources. However, our case studies show that these have not been appropriately valued to be fairly and accurately included in calculations for sharing of benefits and costs. If BSMs are expected to be effective in enhancing equity, using the appropriate valuation methods will be a necessary first step. Therefore, it is crucial to develop practical valuation methods, so that shared benefits (and costs as well) can be calculated, and to whom the costs are incurred. It would also be beneficial if the BSM is reviewed regularly based on participatory processes and adjusted to fit the dynamic of local socioeconomic conditions. Valuing methods are a crucial part of this reassessment.

As part of the process of designing fair mechanisms for cost-and-benefit sharing, important steps include:

- taking into account the drawbacks in the process of defining the contract agreements under community-company partnership schemes, all relevant stakeholders need to be involved in defining the term 'fair' as the basis in designing BSM;
- Using participatory processes in identifying the components of costs and benefits to be included and shared based on invested contributions of all stakeholders involved, as seen in the case of defining the proportion of benefit sharing between local government and community as a group under CF scheme in eastern Indonesia (see Table 1). Further, whenever possible, the BSM should be based on the calculation of both tangible (financial) and intangible (environmental and social) costs and benefits.

Overall, the ecological, economic and social consideration of CF practices should be taken into account – besides carbon enhancement criteria in providing compensation – under REDD+ BSM. This would address equity issues in all of society, e.g. to low-emitting forest stewards (indigenous groups) who have significantly contributed to protecting the forests in the past; and a community whose customary rights are not legally recognized but has been protecting the forests, would have strong claims to getting benefits from REDD+.

Scaling-up: Legitimacy of process in ensuring the efficiency, effectiveness and equity under REDD+ BSM in the long-term

Decisions on a range of benefit sharing arrangements in Nepal are made primarily at CFUG level, while in Indonesia they are made by MoF (Ministry of Forestry) for community forestry management inside State forests, and by private sector partner under partnership arrangements. Many community members were not involved in the processes. Specific lessons learned from partnership scheme with company, long-term commitments of community partners depend on the extent to which companies keep their commitments agreed during initial negotiations and/or in the partnership contract. For example, a problem arose because transferring the

rights to benefit to heirs was not guaranteed under the community-company partnership scheme. This was not specifically included in the contract, despite a significant number of community members indicating during contract negotiations that this was a crucial point in considering long-term investments in timber.

A lesson learned from cases analyzed here is that all relevant stakeholders should be engaged in the process of designing of BSM in ensuring equity principles. Social capital generated under CF BSM through collaboration is a good start for ensuring equitable and fair BSM, particularly for the community to be involved. A strong policy support at the national level for BSM is required. As CF BSM in Nepal has shown, there is a smooth transition to REDD+ BSM that has been backed up by serious government support, as reflected in its policy, legal and institutional framework, including a strong legal mandate for forest authorities to hand over any part of a national forest to CFUGs. For further adoption in Indonesia, four main challenges have to be addressed (Nawir 2013; Nawir 2014). First, the central government (MoF) is required to be more definite in providing formal endorsement of local initiatives supported by a clear and relevant overarching policy framework endorsed by district governments and/or company locally initiated programs. Second, at the national level, inconsistent and conflicting changes of policy and regulations for community forestry should be addressed. District governments have a clear basis in translating the national policy into implementation program on the ground. Third, programs initiated by central and provincial governments have often not involved the FDA (Forestry District Agency) effectively in their planning and implementation stages. Fourth, monitoring processes by independent parties (such as local and/or national NGOs) should be institutionalized in any CF scheme. Central government should be playing the role of facilitator, instead of being directly involved in the implementation.

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This info brief is part of a series of reviews on existing literature and practices to derive relevant lessons for the design of REDD+ benefit sharing mechanisms. The reviews aim to stimulate debate on balancing effectiveness and efficiency, while ensuring equity in ongoing policy processes in the development of REDD+ as a performance-based mechanism.



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