A maize hill slope nearby community forest in Na Thau village. Photo: World Agroforestry Centre/Do Trong Hoan

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CHAPTER 6

Piloting a carbon-PES scheme in Viet Nam—the case of Bac Kan Province

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Highlights

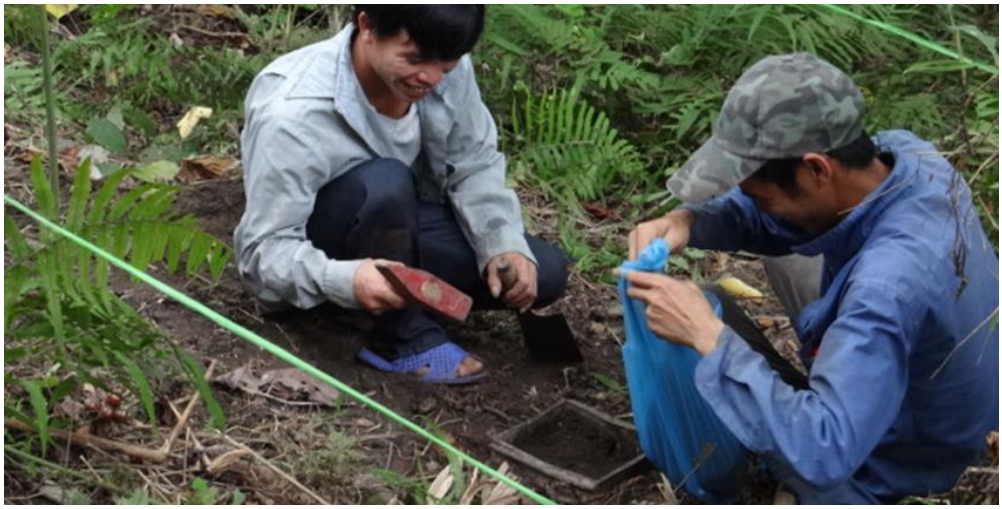
- A Payment for Forest Environmental Services (PFES) policy was facing operational issues.
- A Payment for Ecosystem Services (PES) based on a co-investment paradigm was piloted.
- An intermediary boundary organization is key to community involvement in PES schemes.
- Policy would benefit from broadening the scope of PFES.

6.1 Overview of PES in Viet Nam

6.1.1 A brief history of payment for forest conservation and development in Viet Nam

The history of providing incentives to rural households for forest protection and plantation in Viet Nam traces back to the early 1990s with Program 327 (1992–1998) and its successor Program 661 (1998–2010), commonly known as the 5-million-hectare reforestation program. These programs issued nearly two million forestland contracts to households in the uplands for forest protection and tree planting on designated protection and production forests[1, 2]. Just before the end of Program 661, in 2008, the Government of Viet Nam issued Decision No. 380 (2008–2010) that established a national program for Payments for Forest Environmental Services (PFES). The aims of the PFES program are to establish a market-based forest protection mechanism through valuation of ecosystem services, alleviate poverty, and secure ecosystem services from forests. These ambitious goals drew hundreds of million dollars from the market to pay forest dwellers for their conservation efforts[1]. By the end of the pilot implementation of the PFES program in 2010, the Government issued Decree No. 99/ND/CP/2010 (here in after referred to as Decree 99), which outlined a nation-wide implementation. Currently, PFES is being implemented across Viet Nam through contracts based on existing forestland titles with millions of dollars in committed funding from both public and private sources[2].

[1] Viet Nam Forestry Development Strategy 2006–2020



Two villagers working on a forest carbon monitoring plot established in the community forest in To Dooc village. Photo: Do Nguyen Minh Duc (3PAD project)

6.1.2 Commoditization of environmental services (CES): current efforts and challenges

Payment for Forest Environmental Services (PFES) policy in Viet Nam is a government's movement towards reducing State budget's burden of providing financial resources to forestry sector. This is based on the concept of "commoditized ecosystem services" (CES) where a monetary value tag is assigned for each type of ES used by consumers. Decree 99 regulates payment for five forest environmental services: (i) watershed protection; (ii) drinking water supply; (iii) landscape beauty and biodiversity for tourism; (iv) forest carbon sequestration and retention, and (v) provision of spawning grounds for aquaculture (Table 6.1). It was said to be the first national policy to define 'environmental service providers' and those who benefit from forest-based ecosystem services – the 'service users'[2].

Table 6.1 Environmental services regulated by Decree 99 in Viet Nam[3]

Forest environmental services	ES beneficiaries/users (buyers)	ES providers (sellers)	Price
Hydrological services (watershed protection and water supply)	• Water utilities • Hydropower producers	• Forestland holders and forest protection sub-contractors	• 20 VND/kWh of commercial electricity output • 40 VND/m^3 of clean water output
Scenic/landscape beauty and biodiversity for tourism	• Enterprises providing eco-tourism and nature-based tourism - related services	• Forestland holders and forest protection subcontractors	• 1–2% of revenue from eco-tourism
Biodiversity support (provision of spawning grounds for aquaculture)	• Aquaculture enterprises and households	• (Mangrove-)forestland holders and forest protection subcontractors	• Not yet defined
Climate regulation services (carbon sequestration and retention)	• Liable greenhouse gas (GHG) emitters (likely non-Vietnamese entities)	• Unclear, likely forestland holders and subcontractors eligible for carbon service payments	• Not yet defined

PFES provides incentives directly to legal (forest-)land holders that own land-use rights certificates (LURC) issued by the Government with certain requirements regarding forest conservation (mostly forest patrolling). Those who do not hold such LURCs may benefit indirectly by subcontracting conservation work mostly with state-owned forest enterprises and large land holders. Since the process of obtaining LURCs is long and tedious, a significant proportion of forest households do not possess these certificates for the land that they manage. There have been both concerns and evidence that PFES is far from a fair and efficient mechanism in mobilizing and distributing resources for forest conservation and development.

First, only a small number of village households who obtained LURCs received PFES benefits while those who held unrecognized customary tenure were excluded[2]. Unclear and overlapping property rights directly hindered commoditization of ES as this is largely based on 'private goods' characteristics. Second, there is a high transaction cost involved where land holding is highly fragmented (because most forestland has been allocated to smallholders), as is the case in Son La Province[4,5]. Third, the top-down process steered by government agencies with flat-rate payments was not effective in enhancing local participation and capacity. Many PFES stakeholders therefore appreciate an alternative (group-based) approach that can help to accelerate forestland allocation and can be easily embedded into the culture and ordinary life of forest-dependent communities[6].

6.1.3 Forest carbon sequestration and retention

The PFES policy has focused primarily on water supply and regulation, soil conservation and landscape conservation for tourism purposes. The payment for carbon sequestration and retention services scheme has been far less developed. Apart from being hindered by unclear tenure rights, the national legal framework for carbon service payment including carbon rights and ownership has been uncertain. Currently, no one is eligible to claim any carbon 'rights'. Additionally, 'performance-based' carbon service payment is a challenge given the lack of adequate monitoring and verification. Although PFES payment to service providers is said to be conditional, actual monitoring of forest cover is inadequate, based mainly on reports by the very people who take part in the scheme. Local governments are required to verify only 10% of the reports, but usually fail to do so owing to a lack of resources[7]. These challenges, among others, hampered carbon payment initiatives such as REDD+ from moving beyond the preparatory 'readiness activities'.

6.2. Rewarding carbon sequestration services in the degraded landscape of Bac Kan Province, Viet Nam

6.2.1 Co-investment in landscape stewardship

In order to address the bottleneck surrounding tenure rights and benefit distribution of PFES, an alternative approach to PFES was suggested based on the principles of Co-Investment in landscape Stewardship (CIS)[8].These are: (i) entrust the local resource management; (ii) full trust of management plans & local monitoring with high social capital; and (iii) flexible contracts, broad sanctions. Overall, the CIS was chosen for several reasons:

- Per-capita financial incentives from the current PFES (and any carbon payment schemes) are low, and are not sufficient to be interpreted as compensation for opportunity skipped (COS) or as commoditized environmental services (CES).

- Strict conditionality is not expected, which is suitable in the context of inadequate law enforcement and the low financial capital of the overall landscape as well as of the local communities.
- Collective rights and actions are suitable for the large forest area in Viet Nam's northern mountainous regions, where tenure rights are either currently lacking or overlapping (individually).
- Monetary incentives (as given in past PES-like programs such as Program 661) may either be insufficient or (in many cases) undermine social norms.

We see this CIS approach not contradictory but complementary to the PFES which employs the CES paradigm. CES appears to be more suitable to deal with large-scale and massive numbers of transactions but requires more developed PES market elements (arguments of efficiency); CIS seems to better fit smaller-scale transactions and minimizes the need of strict PES pre-conditions to enhance participation and distribution of benefits (arguments of fairness). Some authors argue that the co-investment paradigm creates a basis of respect and relationship that allows the commodification paradigm to develop[9]. Additionally, by involving various stakeholders through its openness, CIS offers opportunities to include different perspectives in managing the agroforestry-mosaic landscapes for both economic and environmental objectives that have been often neglected by policymakers and PES-buyers who consider ES-benefits from forests only.

In the following sections, we introduce a pilot of CIS for carbon sequestration services in the degraded landscape of Bac Kan Province in northern Viet Nam. Our view is that this pilot will help establish the conditions that allow local communities to fully participate in and reap benefits from PFES and other PES-like initiatives in the medium- to long-term.

Focused group discussion with a female group in Na Thau village on possible risks with forest carbon preservation agreements. Photo: World Agroforestry Centre/Do Trong Hoan

6.2.2 Project sites in Bac Kan Province

Bac Kan is among the most forested and poorest provinces of Viet Nam. As agricultural land is severely lacking, many local communities have been pushed into dependence on unsustainable land-use practices including slash-and-burn, illegal logging, monoculture cultivation on slopes and forestlands, and cattle grazing. A pilot payment scheme for carbon sequestration was set up in two villages of the province: one village with an issued LURC for community forest (To Dooc village) and one village without such a certificate (Na Thau village) (Figure 6.1). These two villages were chosen to better understand the effects of providing LURCs as incentives to local farmers. The other conditions of the two villages are similar: forest covers the upper slopes and mountains, but forest quality is generally poor due to heavy logging and slash-and-burn practices before the 1980s; farmers cultivate small plots (0.3–0.8 ha/household; mostly maize monocropping) on steep slopes ranging from 30°–60°, and some farming plots lie within the community forest area.

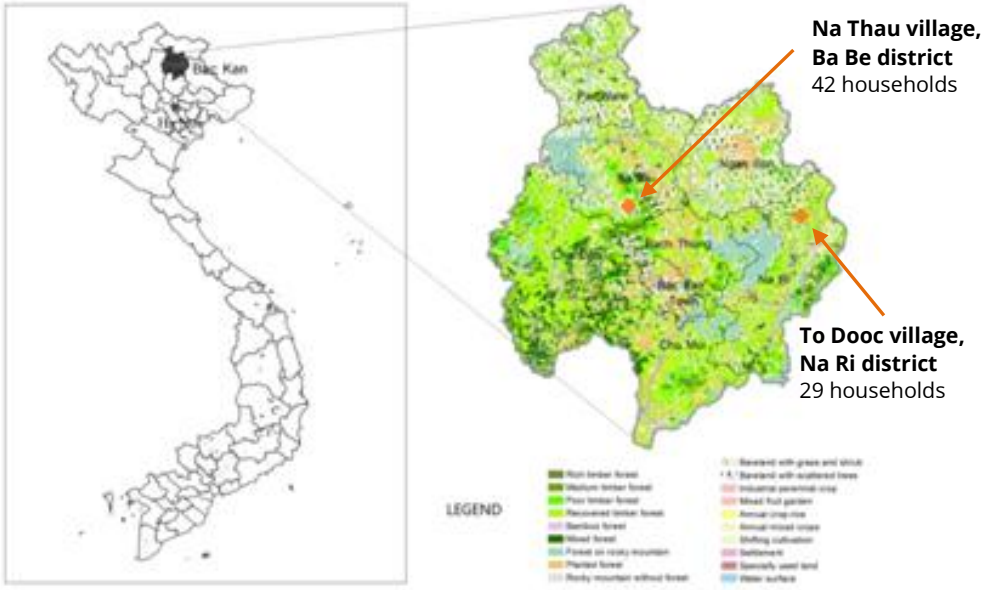


Figure 6.1 The project sites in Bac Kan Province

In Bac Kan Province, where a PES scheme is being piloted by ICRAF and the 3PAD project, about 30% of the forestland remains unallocated[2] (Figure 6.2), which means that forest communities are unlikely to ever benefit from the PFES program even if they were managing the forests well through customary arrangements.

[2] In Viet Nam unallocated forests are automatically assigned to Commune People's Committee (CPC) for management. In practice, most of the CPCs do not manage these forests because there are no available resources for them to do that.

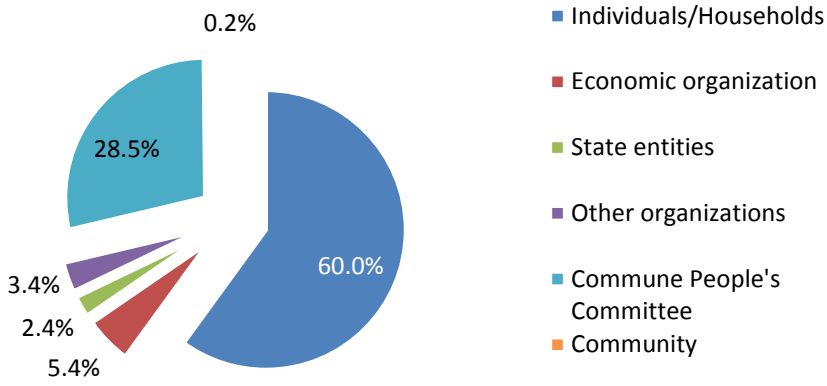


Figure 6.2 Share of forest area managed by forest user groups in Bac Kan Province.

(**Source**: Department of Agriculture and Rural Development of Bac Kan Province 2010[10])

6.2.3 Structure of the rewards scheme

Designing the rewards scheme was done based on data collected and analysed jointly by ICRAF and local partners, particularly the 3PAD project. By reviewing the national PFES context and policy and through participatory landscape analysis, issues and solutions for the targeted landscape were found and analysed. A number of stakeholder consultations, meetings and training sessions were also conducted so that local policymakers and villagers could directly participate in the design of the pilot scheme. These are described in more detail in steps (1) and (2) of section 2.5.

As shown in figure 6.3 below, the pilot model was designed to shift (i) unallocated protection forests (~100 ha of each village) to community-managed forests with temporary land titles, and (ii) maize monocropping in forest patches (about 40 ha of each village) to agroforestry. Our assumption is that a 'bundle of incentives' including forest land titles, financial support, and technical support for agroforestry development will be sufficient to positively change local farmers' attitudes, and thus behaviour, toward forest protection and sustainable agriculture, and that this will eventually lead to enhanced landscape carbon stock (and associated environmental services) as well as improved local livelihoods in the long run.

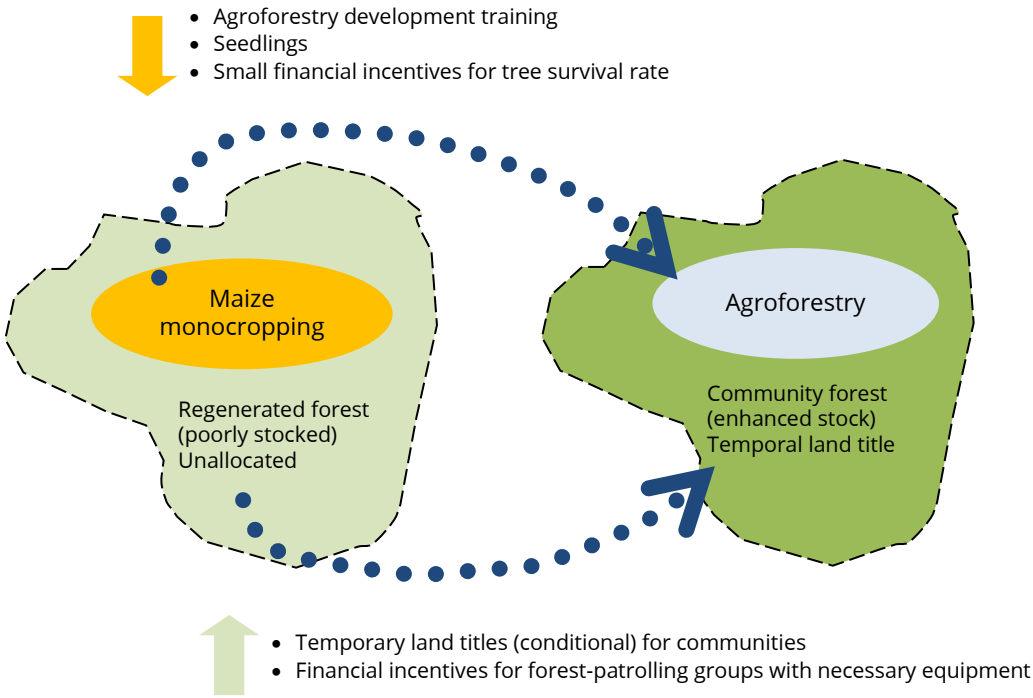


Figure 6.3 Pilot incentives target at shifting current unsustainable land-use practices to more sustainable ones

This pilot scheme differs from the national PFES policy in that it employs a bottom–up, flexible approach that brings stakeholders together to design, develop and implement incentive schemes for environmental services. Furthermore, it aims at strengthening collective land tenure rights for sustainable conservation and improving the targeted environmental services at a landscape rather than land-use level. Table 6.2 below describes the differences in more detail.

Table 6.2 Comparison of pilot incentive scheme design and the existing national PFES program

PFES (nation-wide)	Pilot incentive scheme
Incentives to individual land holders	Incentives to the whole community (village)
Cash incentives only (flat-rate payment)	Mainly in-kind incentives, only a small portion of cash incentives
A LURC in the form of a Red Book (*) is a prerequisite	LURCs in the form of a Green Book (**) or even Red Book (in a longer-term vision) are rewards for collective efforts
Forestland only	Carbon-rich land uses
Input-based (forest area, forest type, quality, and origin)	Input-based (tree seedlings, technical support) AND performance-based (tree survival rate, forest violence reduction)
Unclear or top-down monitoring and reporting	Participatory (bottom-up)monitoring and reporting
Compulsory payment of 'ES users' to forestland holders for forest protection alike	Co-investment for landscape conservation

(*) Red Book: Long-term (50 years) land allocation for forestry land
(**) Green Book: Temporary land title for forestland, often in the form of a forest protection contract (1–5 years)

Within the pilot model, ICRAF Viet Nam acted as the technical and financial co-investor, whilst the two village communities provided their own resources and time. As intermediaries, the Pro-Poor Partnerships for Agroforestry Development (3PAD) project and local state organizations (Commune People's Committees) facilitated community mobilization, training and fund transfers. Table 6.3 shows the benefit distribution of the pilot scheme. At the commune level, financial incentives were channelled through the Community Development Fund (CDF) established by the 3PAD project. At the village level, villagers entrusted village leaders with the funds from the CDF. Village leaders in turn allocated the money to community members based on contribution to communal forest protection activities.

Table 6.3 Benefits provided to communities and individual households for carbon sequestration and enhancement through forest protection and tree planting

Targeted land uses	Service providers	Intervention	Rewards/benefits
Poor-quality forest currently under the CPC (Commune People's Committee) administration	Na Thau village community use/access rights protection and production forest granted by the CPC To Dooc village community obtained the Red Book before our pilot started	• Forest patrolling • Assisted regeneration of poorly protected forest	• Financial benefits for forest patrolling and tree plantation in the forest (based on local labour cost) • (Forest) land-use rights for community forest • Technical training for forest protection and participatory carbon monitoring
Maize monocropping on sloping land, managed by individual households	Individual households practicing maize monocropping	Establishment of agroforestry on individual farms inside the forest protection zone	• 1-year establishment cost for Melia + fruit trees + maize agroforestry system • Financial benefit for tree survival rate >80% • Technical training for agroforestry development

6.2.4 Early results and observations

The pilot scheme was designed and implemented, acknowledging that it may take a long time (5 year or more) to observe significant changes in local forests' carbon stock (the target ecosystem service). However, one year into the pilot, we already observed improved farmer attitudes towards community forest protection (better understanding and knowledge towards community forest management and incentives scheme recorded in both villages) and promising behaviour in tree plantation (tree survival rate exceeding 90% in To Dooc village and nearing 60% in Na Thau village) (see Table 6.4 below). Farmers' self-organized forest guard groups have also been maintaining their patrolling schedule and timely reporting forest encroachment cases. Although no changes were observed in forest cover, there have been signs of improved forest quality. In 14 out of the 15 forest-monitoring plots in the two villages, both the diameter and the number of trees increased (due to natural regeneration).

Table 6.4 Changes in key indicators of the piloted incentive scheme in Na Thau and To Dooc villages after one year of implementation

Indicators	To Dooc village	Na Thau village
Tree survival rate on agroforestry plots	92%	58%
Number of monitoring plots with increased tree diameters (out of total)	6/7	8/8
Community forest land-use right certificates obtained	Yes (before the incentive scheme was piloted)	Yes (after the incentive scheme was piloted)
Improved attitude towards practicing community forest management in general*	38%	67%
Improved attitude toward economic benefit of community forest management to household*	72%	64%
Improved attitude toward economic benefit of community forest management to the whole village*	60%	66%
Improved attitude toward roles of community forest in capturing carbon in timber*	17%	45%
Improved attitude towards individual capacity to protect community forest*	31%	45%

* of improved households

(Source: 3PAD's technical report to ICRAF on 'Establishment and monitoring of pilot incentive scheme under REALU and Secured Landscapes project', and results of ICRAF's attitude monitoring)

Although a set of monitoring indicators have been developed and actually monitored during project implementation, we found that it is difficult for local villagers to organize monitoring by themselves without external technical assistance. Monitoring works are also considered costly according to the local standards. These challenges must be addressed before this scheme can be scaled up.

The small plum tree in maize field: under an agreement between ICRAF and two selected village communities, free fruit tree seedlings are provided to households to turn their monoculture maize fields to agroforestry fields. Photo: World Agroforestry Centre/Do Trong Hoan

6.2.5 Role of intermediary boundary organizations in facilitating forest carbon services: Capacity building and community involvement

Under the PES schemes in Bac Kan Province, we highlight the role of the IFAD loan project (3PAD) and local state organizations at grassroots level (Commune People Committees, CPCs) as intermediaries in transferring the funding from the buyer to the service providers and facilitating the planning and implementation of the incentive scheme. Their active involvement is summarized in the following three steps.

(1) Strengthening local capacity and understanding of the national PFES. Developing methods to determine ES values, incentives structure, services providers and buyers

- 3PAD organized all stakeholder consultations and workshops to discuss the incentive structure with the relevant stakeholders including negotiation between providers, users and intermediaries.
- ICRAF and 3PAD jointly conducted a scoping study and surveys in two pilot sites. 3PAD and the CPCs held policy dialogues with provincial and communal leaders.

(2) Participatory landscape analysis. Understanding land-use patterns in the pilot sites, livelihood options, and local preferences for incentives

- ICRAF and 3PAD jointly conducted participatory analysis of landscape, poverty, livelihoods and environment dynamics. A number of tools were used, including a trade-off analysis between different land-use scenarios (FALLOW model), a participatory landscape analysis (PaLA), a participatory analysis of poverty, livelihoods and environment dynamics (PAPOLD), and a rapid carbon stock appraisal (RaCSA).
- ICRAF undertook two surveys on stakeholders' preferences of PES incentives[11].

(3) Designing the PES incentive scheme

- 3PAD, CPCs and ICRAF held focus group discussions with village, commune, district and provincial stakeholders including meetings with forest owners, forest protectors and forest managers.
- 3PAD and CPCs held stakeholder dialogues to finalize the pilot PES scheme implementation plan.

(4) Monitoring and implementing the incentive scheme

Local state organizations (CPCs) and 3PAD

- Sampling the design for the PES pilot scheme
- Staff training for regular data collection on forest protection activities
- Yearly regular forest inventory/monitoring and coordination of community forest-monitoring activities

Two village communities

- Applying field data protocols in data collection and management for forest patrolling
- Implementing tree planting inside and outside the forest
- Regular forest patrolling

The performance of intervention activities to deliver carbon sequestration and enhancement through forest patrolling, tree planting inside and outside the forest can be verified through regular and occasional monitoring and measurement of indicators as indicated in Table 6.3. In the context of the pilot scheme, the participatory forest monitoring and tree planting inside

and outside the forest is presented here as an approach to improve the involvement of local state organizations (CPCs) and village communities in the pilot scheme at grassroots level.

6.3 Challenges and ways forward

A key challenge found in this pilot model is that it is too early (just over a year) to see solid evidence on how the incentive scheme led to improved livelihoods and enhanced carbon sequestration/retention. Meanwhile, it took stakeholders a long time (approximately 10 months) to negotiate and agree on the design of the pilot as well as the work plan. This is a potential obstacle for such schemes to be mainstreamed into the national PFES. Another challenge is in setting up and maintaining operation and quality of the monitoring system. Although a set of monitoring indicators have been developed and actually monitored during project implementation, we found that it is difficult for local villagers to organize monitoring by themselves without external technical assistance. Monitoring works are also considered costly according to the local standards. These challenges must be addressed before this scheme can be scaled up.

Our early results suggest that through the pilot scheme, local communities (who lacked land tenure rights and capacity to manage their forest in the beginning) have demonstrated their ability to protect the community forest (and thus deliver forest carbon sequestration services). They have also improved their attitude towards forest protection in absence of the direct cash payment that is often offered by more market-oriented PES schemes. While long-term financial resources for the scheme cannot yet be guaranteed, enhancing stakeholders' capacity through day-to-day management and monitoring of the pilot scheme is central to its sustainability.

For such a scheme to be mainstreamed into regular provincial development agenda, more active involvement of boundary organizations (with long-term funding and commitment to PES development) like 3PAD will be needed. We also suggest that the national PFES consider other policy options that achieve more active participation from local stakeholders. More specifically, it may utilize a part of the PFES budget to support the development of PES schemes that can help balance fairness and efficiency, thus helping to build trust between partners and allowing wider participation as well as broader stakeholder perspectives. In this light, the above case study may provide a good example for PFES to start with.

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