

Lessons from the perceptions of equity and risks in payments for forest environmental services (PFES) fund distribution

A case study of Dien Bien and Son La provinces in Vietnam

Anastasia Lucy Yang, Pham Thu Thuy, Dieu Hang, Grace Wong, Le Ngoc Dung, Januarti Sinarra Tjajadi and Lasse Loft

Key messages

- There are currently five payment distribution models implemented in Dien Bien and Son La provinces under the national payment for forest environmental services (PFES) program for community forests: (1) equal distribution to all households within a community, (2) payment for forest protection groups, (3) building infrastructure, (4) community investments, and (5) livelihood development options e.g. microcredit schemes. Each of these models has pros and cons for achieving the 3Es outcomes of effectiveness, efficiency and equity. Current payment distribution models focus on the equality aspects and overlook the equity, efficiency and effectiveness of the program. Combining different payment distribution options can enhance the 3Es outcomes.
- The main underlying factors that drive villagers' to decide on a payment distribution model are the local communities' perceptions on equity, the size of the PFES funds and their trust in local authorities' accountability and capacity.
- There is a risk of PFES contractual obligations being breached given the absence and their associated of regular auditing and monitoring of financial transactions. A better monitoring system and auditing system is required to assess the chain of benefit distribution, from ecosystem service payments provided by the users (hydropower/water companies), the transactions mediated by the intermediaries (FPDF, commune government) and benefits received by the sellers (village committees/households). One option for those communities with access is to promote the use of banking systems to deliver funds from the province to the community. Alternatively, mobile banking systems could be an option in addition the government should aim to improve the capacity of people in the village to manage and record all of their financial transactions.
- Local people have a limited understanding of how the PFES funds are distributed; they are unsure of their eligibility, the payment amount, the timing of payments and the conditions attached to the payment. Enhancing information dissemination, availability and transparency about payment conditionality and distribution is recommended to support both effective decision-making on resource use and PFES overall.

1. Introduction

Reducing Emissions from Deforestation and forest Degradation (REDD+) is a performance-based mechanism that aims to provide financial compensation for the reduction of carbon emissions through sustainable forest management practices (Wertz-Kanonnikoff and Angelsen 2009; Loft et al. 2014). One of the biggest challenges for countries that wish to implement REDD+ activities is to develop appropriate and institutional structures to distribute both monetary and non-monetary benefits in an effective, efficient and equitable manner (Luttrell et al. 2012, 2013; Pham et al. 2013b; Loft et al. 2014). As REDD+ is still in its early stages, CIFOR has been following the progress of other similar benefit-sharing mechanisms to derive lessons for REDD+. The payments for forest environmental services (PFES) system in Vietnam, implemented nationwide since 2011, provides valuable insights for REDD+. While the Vietnamese Government has approved the national REDD+ action plan, the Ministry of Agriculture and Rural Development (MARD) is still working on how best to link REDD+ implementation to the existing PFES system for payment distribution for the provision of carbon sequestration services (Pham et al. 2013a; 2013b).

PFES is a key policy mechanism in Vietnam, similar to REDD+, in terms of its aims of improving management of forests, increasing forest area and quality and the improving the social well-being of local people. Vietnam underwent extensive deforestation in the past with loss of 5 million ha of forest, representing 28% of the total land losses area between 1943 and 1990.¹ Since the 1990s, the Vietnamese Government has attempted to reverse this trend through the implementation of a number of reforestation and forest management programs, of which PFES is the most prominent. Forest cover has since increased to almost 40% of the land area by 2011, mainly reflecting increases in production forest (Pham et al. 2013a). This remarkable achievement has also witnessed a steady decline in the overall forest quality and area of remaining natural forests (Pham et al. 2013a).

The main bulk of PFES financing comes from hydropower plants that account for nearly 98% of total funds (Pham et al. 2013a). The payments are aimed at watershed protection through

¹ <http://www.kiemlam.org.vn/>

the provision of forest ecosystem services such as soil protection; reduction of erosion and sedimentation of reservoirs, rivers and streams; and regulation and maintenance of water sources for production and people's daily needs (Pham et al. 2013a). In this PES-like system, hydropower and water companies represent the buyers and the forest owners are the suppliers. The PFES program is estimated to have collected more than VND 3329 billion (around USD 166 million) over its 3 years of implementation, with almost VND 1000 billion (around USD 50 million) collected annually (VNFF 2014). PFES payments are based on contracted forest area, i.e. within the watershed of the hydropower plant, and the amount of money obtained from the water companies and hydropower services forest service buyers; the provincial forest protection and development fund (FPDF) calculates payment for the beneficiaries. The beneficiaries (sellers) are the forest owners within the watershed who are paid per hectare of forest under protection services.

For both REDD+ and PES to be effective, a key question is how benefits can be distributed fairly (Costenbader 2010). Luttrell et al. (2013, 52) argue that, "benefit sharing is important for the creation of the necessary incentives and measures," in order to meet objectives, "but it must be perceived as fair by stakeholders or it will threaten the legitimacy of, and support" for the program. This reflects the number of people that are being compensated for their efforts and how benefits are being distributed. Even when payments are low, people can feel satisfied if legitimacy has been achieved. As argued by Pham et al. (2014), local peoples' preferences for benefit-sharing mechanisms and decisions on how funds should be distributed and used can influence the scheme's effectiveness in achieving forest management and poverty reduction goals. The payment distribution models will have to adapt to each local context (Pham et al. 2013a).

Another equity dimension is procedural equity, i.e. participation in decision-making in the design of the initiative and the benefit-sharing mechanism. Evidence shows that having a more inclusive and informed public increases acceptance and trust and arguably improves the longevity and effectiveness of a policy or program (Mann and Gennaro 2010; Luttrell et al. 2013). Pham et al. (2014) argue that, "local preferences for, and their ability to influence decisions on, the distribution and use of PES payments are a factor determining its effectiveness for collective forest management, action and rural poverty reduction" (p. 1). Amongst stakeholders, there can be asymmetries between access to information and resources, which can create imbalances between capabilities and distort participation (McDermott et al. 2013). Where there are large variances in people's capabilities to participate and in their understanding of compliance, the effectiveness of the program will be weakened. Thus, even free, prior and informed consent (FPIC) processes will be ineffective if participants lack the information, time and opportunities to participate effectively (Szablowski 2010; McDermott et al. 2013).

This Info Brief summarizes the perceptions of equity in relation to the distribution of PFES and the procedural equity afforded in its design and implementation based on two studies from CIFOR's Global Comparative Study on REDD+ and the benefit-sharing project.² Preliminary findings from the Dien Bien province, northwest Vietnam are synthesized with results from a study in

Son La (Pham et al. 2014), highlighting key lessons for PFES. These key lessons focus on the risks and barriers to effective implementation related to both information-sharing and benefit-distribution. The study is a collaborative effort between CIFOR, Dien Bien Forest Protection and Development Fund and Son La Forest Protection and Development Fund.

The structure of the info brief is as follows: firstly, the selection criteria and study methods used in Dien Bien province are presented. The vertical distribution of PFES funds are from provincial to community level; the horizontal distribution of PFES funds are at community level. Lastly some key recommendations are outlined based on the synthesized key findings from the two cases studies.

2. Methodology

2.1 Site selection: Dien Bien province as a case study

To illustrate our rationale for case study selection we illustrate our selection for the Dien Bien province. The same rationale was applied in the Son La province study (Pham et al. 2014). The Dien Bien province started to implement PFES scheme and established a provincial steering committee in 2011. The Dien Bien Provincial Forest Protection and Development Fund (FPDF) was established in 2012. In the same year, Vietnam Forest Protection and Development Fund (VNFF) transferred the first payment of VND 100 billion (USD 5 million) to the Dien Bien FPDF which was released the following year to recipients .

The Dien Bien province study sites include four districts: Tuan Giao, Tua Chua, Muong Lay and Dien Bien. From each of the selected districts, one commune was selected (Ta Ma, Muong Bang, Lay Nua and Muong Pon) and a total of eight villages, two from each commune were selected, as illustrated in Table 1. These study sites were selected based on variation in the level of PFES funds received, number of ethnic groups and development priorities; this was important in capturing local socio-cultural perspectives on equity relative to payment levels and village development. Interviews in the Son La study similarly included a diverse representation of respondents (Pham et al. 2014).

2.2 Methods

Multiple survey methods were used to interview different stakeholder groups at village and household level (Figure 1) including a literature review, village head survey, focus group discussions (e.g. participatory rural appraisal [PRA] techniques) as well as household interviews. Focus group discussions and quantitative and qualitative household surveys provide opportunities to capture a range of possible responses and were conducted with a total of 52 village heads from the four communes and 179 households from the eight selected villages in Dien Bien province. In each village, 25% of households in the village participated in the interviews representing a balance in terms of gender, age and wealth status in the samples. Table 1 illustrates the number of interviews conducted, further disaggregated by gender (with 98 male respondents and 81 females) and ethnicity; the majority of interviewees were of Thai ethnicity, followed by H'mong, Khang and only one respondent identified as Kinh. For the Son La study see Pham et al. (2014) for more details.

2 <http://www.cifor.org/redd-benefit-sharing/>

Table 1. Number of interviews (village heads and households) conducted per commune and village in Dien Bien.

District	Commune	Total village head interviews	Village	Total household interviews	By gender		By ethnicity			
					M	F	Thai	H'mong	Khang	Kinh
Muong Lay	Lay Nua	10	Ho Luong 1	15	6	9	14	-	-	1
			Hua Huoi Luong	13	5	8	-	13	-	-
Tuan Giao	Ta Ma	16	Ke Cai	28	13	15	-	28	-	-
			Na Dang	28	23	5	-	-	28	-
Tua Chua	Muong Bang	20	Doi 2	22	11	11	22	-	-	-
			Doi 6	24	8	16	24	-	-	-
Dien Bien	Muong Pon	6	Muong Pon 2	29	14	15	29	-	-	-
			Huoi Un	20	18	2	2	18	-	-
TOTAL		52		179	98	81	91	59	28	1

Source: adapted from Le et al. (2015)

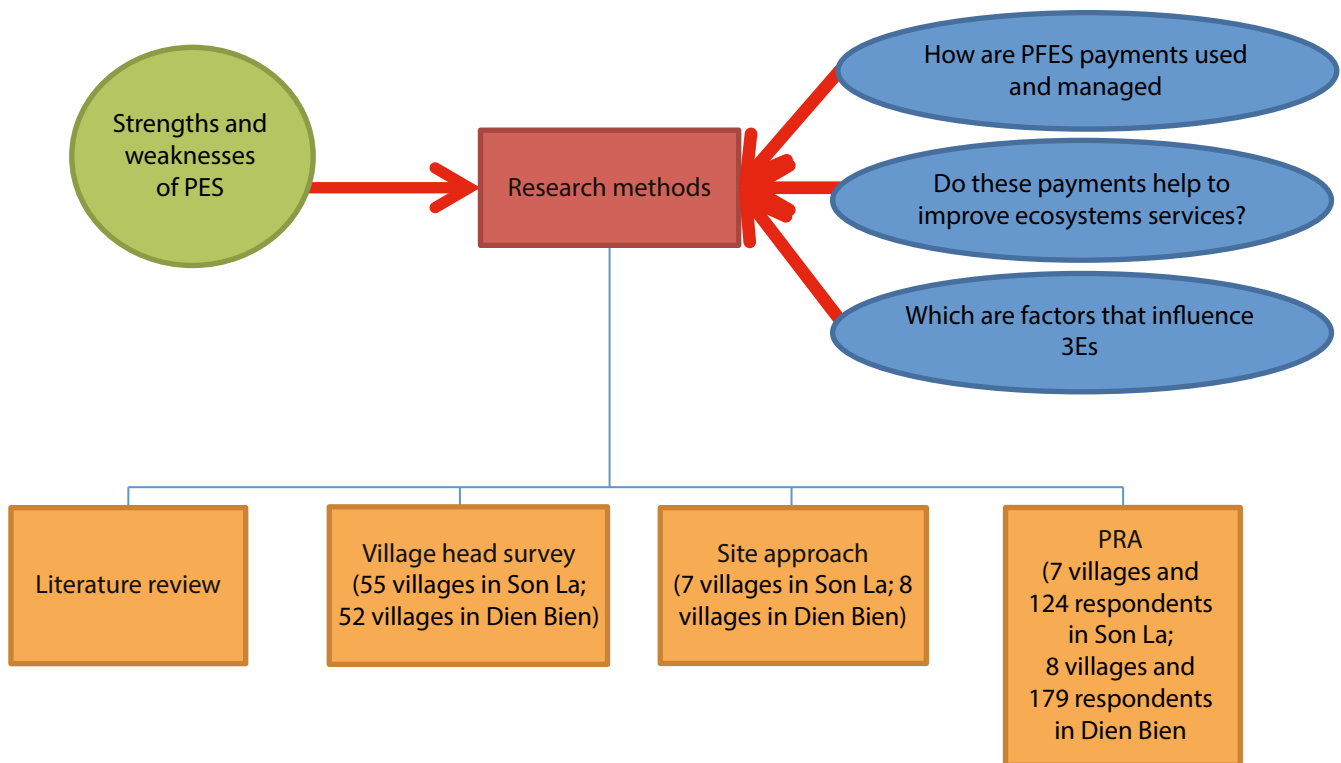


Figure 1. Research methods in Dien Bien and Son La.

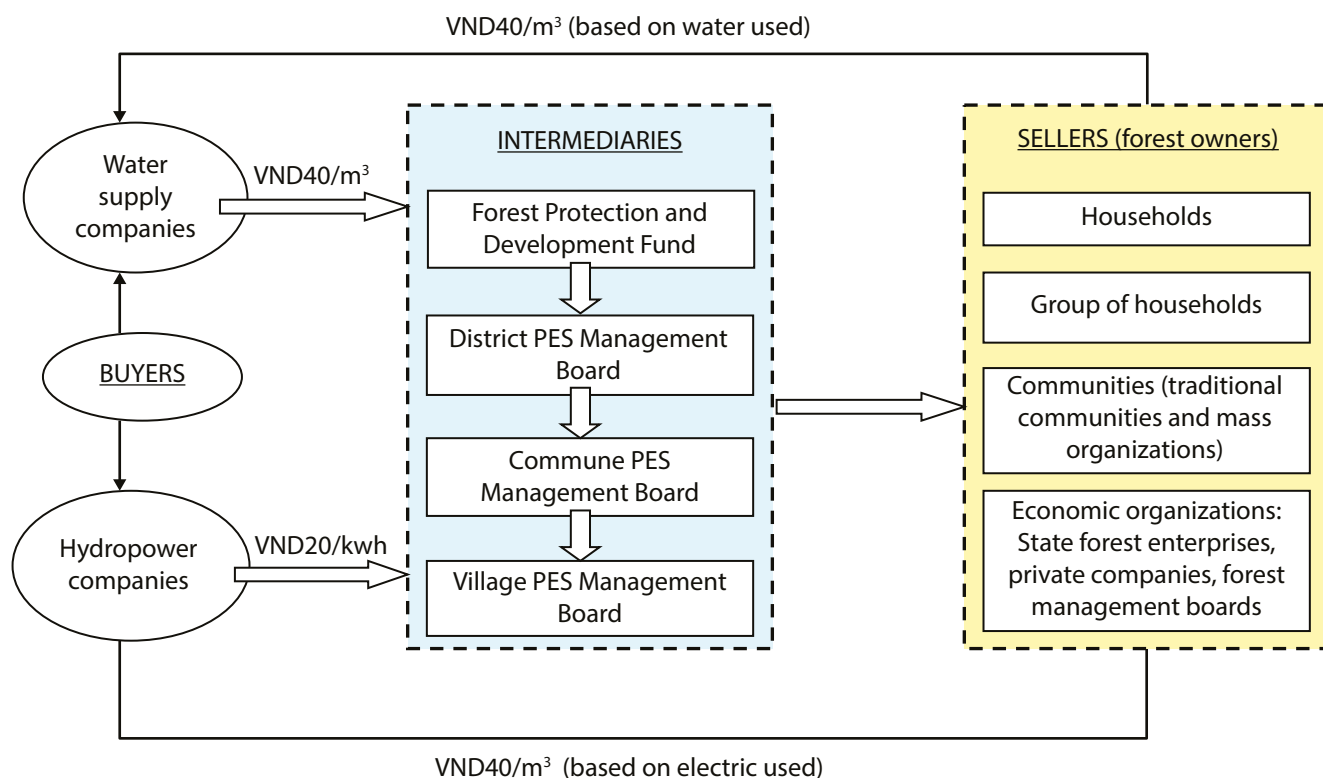


Figure 2. Institutional arrangements for PFES fund distribution.

3. Key findings

The following discussion provides a summary of some of the major challenges and lessons learned from PFES in Dien Bien and 'son la' provinces. Overall, there were several risks associated with the distribution of benefits and information dissemination which influenced the effectiveness of PFES.

3.1 Current PFES distribution mechanisms being implemented in Dien Bien and Son La

Vertical distribution (provincial to local level)

The institutional arrangement for payment distribution in both provinces is outlined in Figure 2. The provincial FPDF receives money from central FPDF and from buyers within their province; they then transfer funds to the districts³ and on to local commune authorities (e.g. CPC) or local forest ranger units. The CPC or local forest ranger units are responsible for distributing the funds to the community or household level. This vertical fund distribution, from the central to provincial fund, is largely tracked through an electronic banking system and therefore transactions can be reported and made accountable.

Horizontal distribution (community level)

The community decides how funds are to be distributed for PFES horizontal fund distribution at local level. However, PFES funds are at high risk from misappropriation at this level as transactions are more difficult to track. The PFES funds are transported to the village and distributed to the households during village meetings. The village head will distribute funds during a village meeting

and commune staff or forest rangers may also act as observers. In most cases, accountability is limited as the financial transactions at local level are not traceable due to the lack of auditing and monitoring requirements by the central and provincial FPDF.

In both Son La and Dien Bien provinces, PFES funds were distributed under five different payment models:

- equal distribution to all households within a community;
- payment for forest protection groups;
- building infrastructure;
- community investments;
- livelihood development options e.g. microcredit schemes.

Villages may also combine these options in their payment schemes. However, in both Son La and Dien Bien, local people expressed a preference for equal distribution of the funds among households (Figure 3). Son La had a higher preference overall, at 72%, compared to 56% for Dien Bien case study. Forest protection received more of a contribution from communities in Dien Bien at 28% compared to Son La at 7%, which alternatively emphasized investments in village assets. In Dien Bien, a higher proportion of the village's funds were diverted to other activities, for example village celebrations at 14% compared to only 2% in Son La.

In Son La, two factors were found to influence local people's preferences for certain approaches to PFES fund distribution: (1) their level of trust in the accountability and capacity of their management bodies, and (2) local interpretations of equity. In Dien Bien, the two main factors are: (1) the amount of PFES funds allocated, and (2) trust in village management groups. In Dien Bien, interviews highlighted that where the payment was high, local people are more likely to choose the option of equal

³ Son La FPDF also has branches at district level

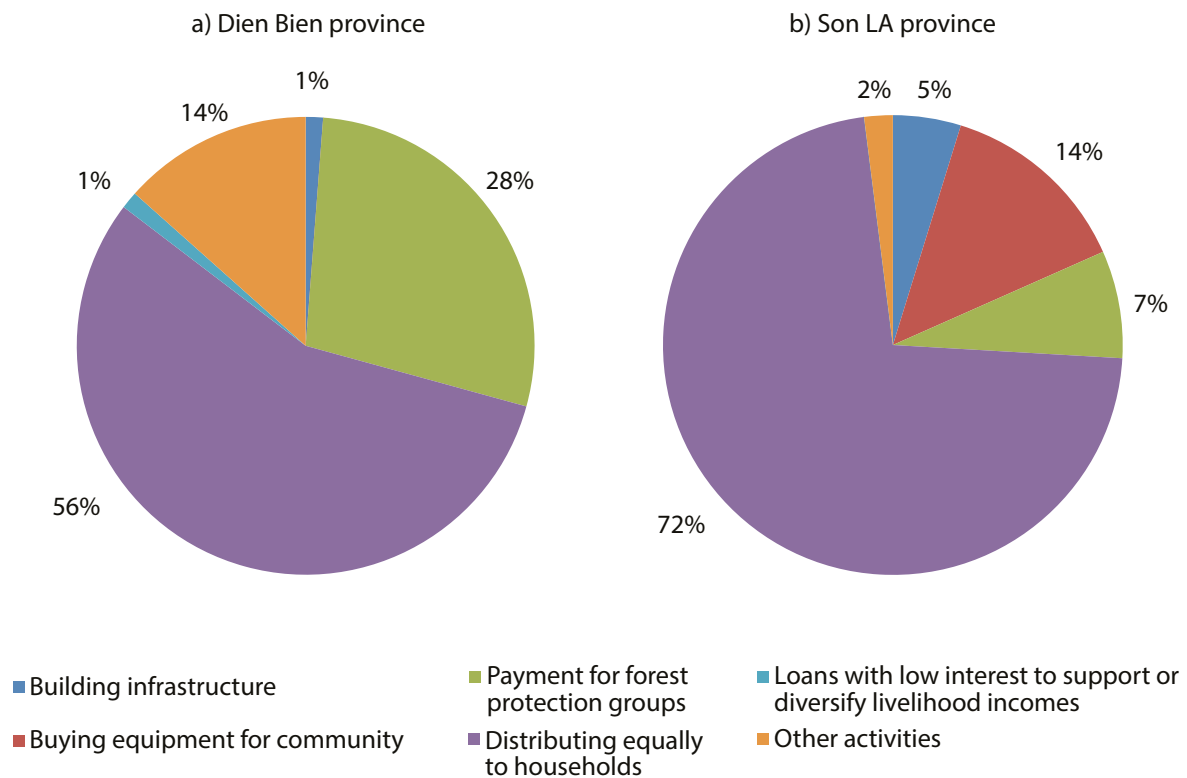


Figure 3. Respondent choice of payment distribution options in case study villages in Dien Bien (2014) and Son La (2012).

payment, but when the payment was low, they preferred to pool the funds and spend it on a common use. In Son La, when local people mistrusted their leaders, they preferred to receive equal payments because they were afraid that collective spending would lead to a misuse of funds (Pham et al. 2014).

The strengths and weaknesses of each of the five payment schemes and their specific implications for 3Es outcomes are illustrated in Table 3. In both provinces, existing distribution systems tend to focus on equality rather than on effectiveness and efficiency but this does not mean that the outcomes will be equitable. Due to common concerns about equity and corruption, the PFES funds are usually distributed equally among all villagers (Pham et al. 2014). Further, when equal payments are made between beneficiaries and overall payments are low, efficiency is poor due to the high transaction costs for distribution. Alternatively, if there are low payments and they are pooled together, this can reduce transactions cost and improve efficiency. Transaction costs are reduced when funds are used to compensate forest protection teams but the effectiveness will depend on whether people are compensated for their labor or not.

Procedural equity in payment distribution

The institutional and organizational arrangements in the study villages in both provinces do not provide for procedural equity. The FPDF, village management boards and supervision units do not include ordinary villagers; the villagers therefore have no influence over decision-making. In practice, community meetings often serve only as platforms where the village head can make or deliver his final decisions; but these are the only way of formally

engaging ordinary villagers and social norms dictate that people do not contradict their leader's decisions. Improving participation requires the introduction of new protocols and mechanisms. In some cases, more inclusive and transparent procedures have been developed. For example, in Ban Phay village in Son La, the village assigned a secretary to take minutes during every community meeting. These meeting minutes were agreed upon at the end of the meeting and signed by all attendees, both leaders and constituents, to record their agreement. PFES funds were then monitored and inspected to check that they matched the community's decision, and they were reported on in subsequent community meetings. According to the management board of this village, this procedure was effective in addressing local concerns.

The limited information on PFES benefit distribution appeared to be an important factor in creating uncertainty and distrust. In many cases, villagers had little to no knowledge on where the PFES money came from, who should pay them, and the timing and amount of payments. In some cases, eligible households didn't know what PFES was. In many cases, villagers knew that PFES funds were for forest protection but didn't understand where the payments were actually being sourced from i.e. who the buyers were. This was especially the case in villages where the payment was very low; in Ho Luong village for example, households received an average of VND 40,000 (USD 1.8) per households in 2014 (Table 2). In some cases, villagers (in 15 households) reported that they could not recall receiving any payment at all. In Dien Bien, 64% of households did not know who managed the payment and 88% did not know how the village PFES money was stored or secured. Similar patterns were also found in the case of Son La (Pham et al. 2014).

Table 2. Allocated PFES funds in studied villages in Dien Bien (as perceived by the village heads in 2014).

Village	Forest area (ha)	No. of household	PFES payment/village (VND)		PFES payment/household (VND)	
			2013	2014	2013	2014
Ho Luong 1	17.5	84	5,851,000	3,350,000	60,000	40,000
Ho Huoi Luong	>900	44	828,000,000	792,000,000	5,500,000	4,400,000
Ke Cai	2,156	115	754,600,000	*	7,400,000	7,400,000
Na Dang	143	93	*	*	500,000	500,000
Doi 2	15.5	98	54,250,000	31,000,000	500,000	500,000
Doi 6	212	77	*	*	600,000	600,000
Muong Pon 2	1,119	111	*	*	1,500,000	500,000
Huoi Un	Unknown	16	*	*	100,000	100,000

* Village heads were unable to remember the amount.

Table 3. Assessment of the 3Es outcomes of PES revenue-distribution options.

Options	Effectiveness	Efficiency	Equity
1. Equal payments to all households	Enhances villager's responsibility; reduce elite capture; not necessarily performance-based	Low level of payment in Son La	All villagers can benefit, equality is emphasized
2. Payments made to forest protection groups	Better Incentives for regular control but if there is a low level of payment labor efforts may not be rewarded	Higher efficiency to pay fewer people	Few villagers can benefit but beneficiaries are rewarded directly for their effort
3. Common assets for community hall	Enhances community collective action but may do little to support the community's economic development	Higher efficiency to pool funding – lower transaction costs	All villagers can benefit, equality is emphasized
4. Building infrastructure	Support livelihood development; reduce pressure on forest	Payments might not be sufficient to cover the costs of infrastructure	All villagers can benefit, equality is emphasized
5. Livelihood development options e.g. microcredit schemes	Livelihood development; activities may lead to pressure on forests	Higher efficiency to pool funding – lower transaction costs	Criteria to classify 'poor' households; sustains funds and can be based on villages/villagers' needs but only a small number of households will benefit

4. Recommendations

Promote information provision

Information dissemination of PFES is crucial for effectiveness and to ensure that people understand what it is they are participating in. The accessibility, type and extent of information provided is as important as how it is communicated. Currently, both PFESs contractual and general information is only available in the Kinh language (the main language of largest ethnic population group in Vietnam) leading to a risk of misunderstanding for minority ethnic groups and a low compliance of PFES contracts. As identified in Table 1, the majority of households are from ethnic groups other than Kinh, such as Thai, H'mong, and Khang. The agreement is often written by Kinh language, without any translation into the local language of the other ethnic groups. This outlines the need for PFES information to be made available in the village in the appropriate languages. Further high illiteracy in the villages poses another barrier for information access to local people. Therefore verbal communication in the local language will need additional emphasis.

In many cases, the village head authorizes the PFES agreement on behalf of the village. Therefore even if the villagers can read the agreement, it is usually only accessible through the village head who is responsible for sharing PFES information with the rest of the village. Yet interviews indicated that a number of village heads (as well as villagers) could not remember what was contained in the agreements as noted in Table 2. There is a risk that villagers could unintentionally violate the contract, as a result of not knowing or having access to what the contract regulations are. Efforts should be made by FPDFs, CPCs and forest rangers to promote the role of someone to support the village head – a village member with representative authority (e.g. higher-educated, elder etc.) involvement and knowledge of PFES – to avoid an information by supporting and emphasizing their bottleneck. In addition to the distribution of PFES information materials and provision of more options to communicate locally, a grievance system and/or a hotline could also assist in providing information to the local people as needed (Pham et al. 2014).

Support village fund management

The current PFES funds a distribution system, which relies on village visits to distribute cash payments, needs to enhance its accountability; security and options for financial transactions systems need to be tested, developed and implemented. A more secure financial system such as the village fund model provides an example of how this might work in practice, by using the banking system to transfer money from the provincial fund to the village level. Mobile banking systems are a good alternative option to banks as banks are often situated long distances away from villages and this can prevent access. In addition, FPDF and the CPC should try to develop the capacity of village heads and others at the community level in managing finances. This would be valuable to ensure a consistent and transparent accounting system for PFES expenditure, where received funds and payments are recorded. Written records are especially important when evidence from this study illustrates that the village heads in many cases were unable to recall the amounts of PFES funds that the village had previously received, as shown in Table 2.

In Muong Pon 2 village, the PFES funds were managed effectively through a village fund model. The Muong Pon Forest Community Development project (which was implemented prior to the PFES) established a management team, including the village head, an accountant and a cashier. The management team opened a bank account to manage the village fund for the forest protection team; it informs the villagers of the interest accrued to the PFES funds and helps villagers to plan how they want to use the fund. The community can use PFES funds to invest in village development through the existing credit models (revolving fund – a reserve of money is used to lend to one or more borrowers) to channel funds to local people for livelihood development activities.

To promote village development, the input of PFES funds in existing village funds models could be valuable. The use of existing credit models (i.e. revolving fund, credit schemes) for PFES payment is especially useful for villages where the current payment is perceived as low. Thus, by pooling the funds together this model will assist in contributing toward people's livelihoods in the village and potentially better forest management. The potential for small credit models is an area for further research.

Improve contract compliance through monitoring and evaluation

A monitoring system is required to assess the distribution of benefits provided at all stages of the PFES fund transfer by the users (hydropower/water companies), the transactions mediated by the intermediaries (FPDF, commune government) and received by the sellers (village committees/households). Villagers can also play an active role in monitoring the PFES funds at the local level with support and training provided by the commune people's committee (CPC) and the FPDF.

There are some efforts identified that aim to reduce some of the risks of non-accountability, with self-reporting from the village to the CPC as a requirement but there is still no official audit for payment distribution. A financial accounting system has been implemented in Dien Bien and includes a village ledger to record PFES funds. In some cases, village heads record how payments are distributed and ask villagers to sign (or stamp their fingerprint) to record village financial transactions. This system could be enhanced and consistently implemented; training and capacity building at a village level would also be valuable. In order to monitor the payment distribution, representatives of CPCs and local forest ranger unit may attend the village meeting in which payments are distributed but in the study only two village heads acknowledged that this occurred in practice.

Monitoring and evaluation of the PFES funds was also considered problematic due to a weak link between performance and payments. For example, the FPDF staff priorities are to distribute payments and disseminate information to the villagers rather than to assess their performance. The lack of regular and small-scale forest monitoring systems is also a barrier to monitoring forest cover and quality. Communities self-report to the FPDF staff on their performance of forest protection activities; if there is poor understanding of the PFES compliance criteria villagers may not know what the assessment is based on (i.e. conditions of compliance). Therefore there is a high risk of local people being subjective and reporting favorably in order to receive the payment.

Bundling payments

Combining PFES funds with other benefit sharing mechanisms e.g. other economic or development financing in each commune needs also to be assessed. Combining different payments could improve people's motivation to deliver by contributing more substantially to their livelihoods and incomes. The impact of bundling payments on the 3Es should be evaluated and how such a benefit distribution arrangement could be designed to support an integrated sustainable rural development strategy should also be investigated. However, the challenge lies in setting priorities for spending PFES expenditures, given government funding for wider community development. Addressing this challenge requires an understanding of the planning system for government expenditures.

Our findings also suggest that PFES and REDD+ should be seen as complementary to and integrated with government social and economic development programs, especially given their multiple social and environmental objectives. Revenues from PFES and REDD+ could be considered as additional to program budgets for social and economic development and could be used to achieve environmental or sustainability objectives. This integration may help to enhance efficiency in delivery of funds and provide a means to invest in a coherent monitoring and evaluation system, which will be critical for assessing the effectiveness of efforts to achieve the multiple objectives of these measures.

5. Conclusion

The current approach to PFES fund distribution overlooks the needs of local people and results in inefficient use. Although the approach of equal payments meets the local interpretations of 'equity', it overlooks other aspects. For example, equity could be considered as adjusting the payments based on efforts; thus those who perform better on forest protection activities should receive higher payments as compensation. Furthermore, compensating sufficiently for forgone opportunity costs may enhance the effectiveness of the PFES as an incentive and may stop the conversion of the forest for other purposes. In addition, not accounting for past achievements made by individual environmental service providers may be considered unfair and discourage traditional local forms of forest management and conservation, leading to ineffectiveness. Finally, the buyers (hydropower and water utility companies) simply pass on the cost of PFES funds to their customers, as such, the sellers who provide services who are actually also paying for their own services through higher utility bills. These issues must be addressed adequately, or the benefit-sharing approach of simply distributing revenue equally will continue to undermine the effectiveness, efficiency and equity of PFES and any future REDD+ schemes.

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This 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.



RESEARCH
PROGRAM ON
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This research was carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads CRP-FTA in partnership with Bioversity International, CATIE, CIRAD, the International Center for Tropical Agriculture and the World Agroforestry Centre.



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