OCCASIONAL PAPER

# The distribution of payment for forest environmental services (PFES) in Vietnam

## Research evidence to inform payment guidelines

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CIFOR
CGIAR
RESEARCH PROGRAM ON Forests, Trees and Agroforestry

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# List of abbreviations

| | |
|---|---|
| 3Es | Effectiveness, Efficiency and Equity |
| CIFOR | Center for International Forestry Research |
| CPC | Commune People's Committee |
| CSO | Civil society organization |
| FPDF | Forest Protection and Development Fund |
| FPIC | Free, Prior and Informed Consent |
| MARD | Ministry of Agriculture and Rural Development |
| MOF | Ministry of Finance |
| PES | Payment for Ecosystem Services |
| PFES | Payment for Forest Environment Services |
| pFPDF | provincial Forest Protection and Development Fund |
| PPC | Provincial People's Committee |
| REDD+ | Reducing Emissions from Deforestation and forest Degradation, and enhancing forest carbon stocks in developing countries |
| VNFF | Vietnam Forest Protection and Development Fund |

# Acknowledgments

The information gathered in this paper is based on accumulated knowledge and evidence from CIFOR's research on payment for environmental services, social forestry, reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries (REDD+) policies and financial incentive mechanisms in Vietnam since 2005, and specifically on PFES in Vietnam since 2008. We are grateful for the financial support provided by the European Union, the US Agency for International Development, the Japan International Cooperation Agency, the Norwegian Agency for Development Cooperation International Climate Initiative, the CGIAR Fund Donors, and the Swiss Agency for Development and Cooperation to carry out this work in Vietnam.

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# Rationale for this paper

This paper was produced in response to an increasing number of requests from the central and provincial governments in Vietnam for guidelines on payment distribution for PFES in the country. Our paper itself does not provide guidelines, but is intended to inform their development and to provide an analytical framework and technical inputs for the process.

The Government of Vietnam sees Payments for Forest Environmental Services (PFES), which are regulated by Decree 99, as a major breakthrough in the forestry sector. Annual PFES revenues achieved are estimated to be from VND 1000 to 1300 billion (in 2015, VND 1327.7 billion = approx. USD 60 million) and the total PFES amount collected from 2011 to 2015 was around VND 5200 billion. To date, 40 provincial Forest Protection and Development Funds (pFPDFs) have been established throughout the country. A major goal of PFES is to ensure environmental services providers (e.g. communities, individual forest managers, individual households, private actors or state organizations) are incentivized to protect forests and are paid for their efforts. Despite significant progress and achievements, PFES is also hampered by many challenges (Pham et al. 2013, 2014, 2016; Le et al. 2016; Loft et al. 2016); Amongst these, questions regarding how best to make these payments (e.g. payment methods, frequency and distribution) remain unanswered. Several provinces have piloted different payment approaches, such as group payments or community payments, but often on a very small scale. The effectiveness of these payment schemes is still to be fully analyzed.

The purpose of this paper is to help with the design and implementation of payment distribution mechanisms under PFES. We aim to assist and inform the development of guidelines by providing a review of lessons learnt on the ground.

# Who is the paper for?

As the primary objective of this paper is to assist policy makers in developing payment guidelines, our target audience is all levels of government agencies who are actually involved in designing and implementing PFES payment distribution mechanisms (e.g. the Vietnam Forest Protection and Development Fund (VNFF) and pFPDFs).

However, other actors, including donors, civil society organizations (CSOs) and international organizations, who are supporting the implementation of PFES, and communities and village management boards, who are handling actual PFES payment distribution, might also find this paper useful in shaping their design and implementation of PFES and other market-based instruments. Our paper may also be helpful to organizations interested in applying lessons learnt from PFES payment distribution in future REDD+ projects.

Our paper is divided into four parts:

**Part 1** introduces the concept, principles and analytical framework that underpin payment distribution scheme development, and provides a useful resource for those seeking an overview. It also provides overarching questions that need to be considered and answered before developing appropriate payment distribution mechanisms.

**Part 2** provides more detailed advice for those designing and implementing PFES payment distribution mechanisms on what they need to consider during each step of the design and implementation process.

**Part 3** provides an analysis of existing PFES payment distribution schemes in Vietnam to provide practical lessons learnt from using the 3Es (effectiveness, efficiency and equity) framework.

**Part 4** provides a summary of the key points for policy design.

# 1 Definition, principles and framework

This part discusses:
i. What we mean by benefit-sharing mechanisms;
ii. Principles for designing payment distribution; and
iii. An analytical framework to assess the payment distribution mechanism designed.

## 1.1 What do we mean by benefit sharing?

**Benefit sharing** refers to distribution of direct and indirect net gains from the implementation of PFES (Luttrell et al. 2013; Pham et al. 2013; Wong et al. 2016a). PFES implementation provides benefits for environmental providers, but also involves two main types of costs: (1) implementation and transaction costs, or the direct expenses incurred in setting up a PFES system and implementing the necessary policies; and (2) opportunity costs, or the foregone profits from the best alternative forest and land use (Pham et al. 2013). Therefore, understanding PFES 'benefits' requires a thorough understanding of both the costs and benefits involved in PFES.

**Direct** benefits include:
- monetary gains from finance related to PFES; and
- benefits associated with the increased availability of forest products and ecosystem services (e.g. non-timber forest products or improved water quality and quantity).

**Indirect** benefits include:
- improved governance;
- capacity building; and
- infrastructure provision.

Benefits also come with **costs** which include:
- direct financial outlays (implementation and transaction costs); and
- foregone revenues from alternative forest land and resource use (opportunity costs).

The benefit-sharing mechanism includes a range of institutional means, governance structures and instruments that distribute the net benefits.

## 1.2 Principles for designing payment distribution

**No one size fits all.** Although government agencies expect to have a guideline that can be applied in all cases, there is no single modality of payment that can fit all situations and contexts, especially for a national-scale program such as PFES. As each province, district, commune and village has its own social, political and economic context, the payment distribution and benefit-sharing mechanism that might work in one place might not necessarily be appropriate in another. Therefore, local government agencies have to assess their own context to design payment modalities that comply with the national legal framework, by adapting to the local context and building on the interest, capacity and consensus of pertinent actors. The idea of this guide is not about choosing one option over others, but about knowing and understanding how, where, when and by whom each option works best, and the legitimacy, based on local community input, of the final decision.

**It is not all about the outcome, but the legitimacy of the decision-making process matters.** CIFOR's research in Vietnam has shown that for PFES to work, consensus and consultation are at least as important as the actual payments. No matter how the payment distribution mechanism is designed and selected, it has to be conducted in a participatory manner where stakeholders are properly consulted and their voices are well-considered and taken into account in the final decision.

**Flexibility.** It is important to have a flexible payment mechanism so it can be revised as necessary. Since communities are adaptive and their preferences and choices over payment mechanism are not fixed over time, the payment distribution itself needs to be designed adaptively to accommodate changes.

## 1.3 Analytical framework

The 3Es (effectiveness, efficiency and equity) framework is one approach to assessing both the outcomes and the process of a policy instrument (Luttrell et al. 2013; Martin 2014; Pham et al. 2014; Wong et al. 2016b). When designing a payment distribution/benefit-sharing mechanism for PFES, the 3Es framework can be a useful tool to compare and evaluate different approaches to distributing payments:

**Effectiveness**. Does the payment structure lead to improved well-being (e.g. change in income), enhanced participation (e.g. increase in level of participation of different social groups) and improved environmental conditions (e.g. increase in forest cover or forest quality)?

**Efficiency**. Is the payment structure made in the most cost-saving and efficient way?

**Equity**. Does the payment structure consider adequate compensation relative to the costs incurred by different actors? Does the payment structure take stakeholders' voices into account?

Harmonizing these three objectives is not always easy, as one objective might create trade-offs for others. For example, ensuring all stakeholders participate in decision making (equity) might lead to higher transaction and implementation costs (efficiency). An evaluation of the different payment distribution methods provides a transparent comparison of the trade-offs, and it is important that the payment distribution method selected in a particular locality is built on the consensus of all stakeholders involved based on all available information.

# 2 Detailed step-by-step advice for those designing and implementing PFES payment distribution

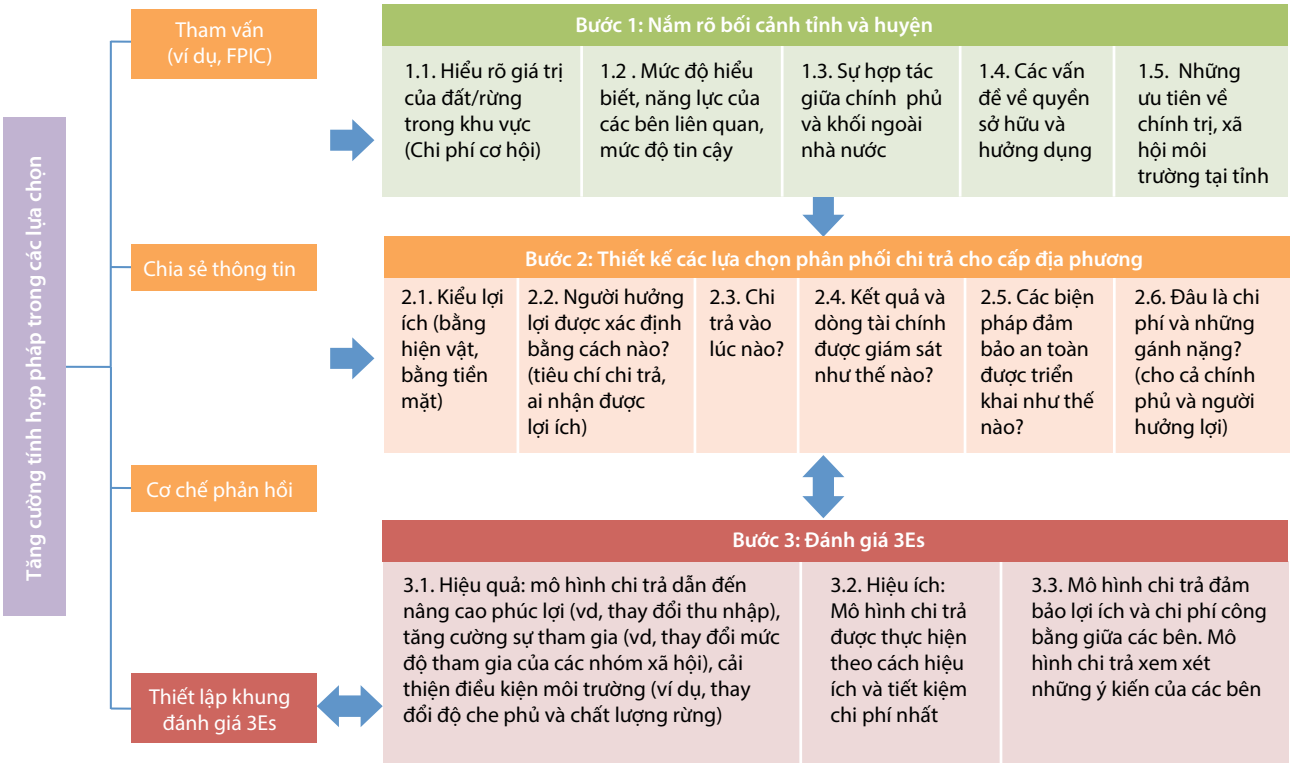


**Figure 1. Designing PFES payment distribution.**

Based on evidence from a 4-year research project[1], CIFOR developed a knowledge tree on benefit sharing for REDD+ (CIFOR 2014) that consolidates the research results into a practical structure for informing the design of a benefit-sharing mechanism. Although this is designed for REDD+, it has a lot of relevance for PFES payment distribution in Vietnam. In this section, we describe how readers can apply this knowledge tree to generalize options for PFES payment distribution in Vietnam. Figure 1 illustrates the steps to be carried out in designing a PFES payment distribution mechanism appropriate to the context here.

The PFES payment design is a pFPDF responsibility and should include involvement of FPDs, District People's Committees and Commune People's Committees (CPCs). Sufficient budgets and time should be assigned for each of the steps involved.

1 The CIFOR-led project "Opportunities and challenges in implementing REDD+ benefit-sharing mechanisms in developing countries" (2012–2016) is funded by the European Commission and examines the issue of REDD+ benefit sharing in six countries, and includes studies of the economic costs and benefits of enabling forest policy options, calculations of implementation and opportunity costs of REDD+ pilot initiatives, assessments of multi-level governance and decision making on forests and land use, and an understanding of how rights and tenure affect equity and preferences in benefit sharing.

## 2.1 Step 1: Understanding the provincial and district contexts

Each province has different social, political and environmental priorities and contexts; therefore payment distribution methods will vary. Understanding such contexts will help in designing a practical payment distribution mechanism that fits with existing conditions. The following contextual factors need to be examined as inputs for designing payment distribution.

### 2.1.1 The value of forest and land

Policy makers in Vietnam and the legal framework for the forestry sector mainly focus on the economic values of forest environmental services. However, their social and cultural values are equally important. Creating an effective financial incentive should involve considering not only how much financial compensation the ecosystem service providers should receive, but also what other social and cultural incentives could be used to enhance the involvement of local people in PFES. It is also important to acknowledge the highly unequal values across a country, and even across a province, due to variation in characteristics such as geophysical features (soil, biodiversity, remoteness) and markets (demand for specific timber species, competition to convert forests into other land uses). For example, in a province that hosts timber and agricultural production processing companies, forest and land is likely to have a higher value due to market demand. Also, different forest land contributes different ecosystem services; for example, riparian forests help protect water quality much better than upland limestone forests, however limestone forests may support some unique plant or animal species. Correspondingly, the differential opportunity costs borne by stakeholders can be highly inequitable (Börner et al. 2015; Nawir et al. 2015).

There are several concrete activities that pFPDFs can conduct to examine the variation in forest and land value. For example, an economic valuation of forests and environmental services is an ideal scientific and rigorous option where there is available financial and technical capacity in place. However, if funding and technical capacity are limited (which is often the case in Vietnam), pFPDFs can organize multistakeholder workshops to explore different values perceived by different stakeholders, including technical experts and local stakeholders. These workshops will not only help pFPDFs in capturing the full value of forest and land, but can stimulate discussions among stakeholders on how payment levels and payment distribution should be structured to meet effective provision of ecosystem services and to address the interests and concerns of multi-actor groups.

### 2.1.2a Level of capacity and understanding of government agencies on PFES

As different provinces are at different stages of PFES implementation, the capacities of staff in managing and monitoring PFES payment distribution at the provincial Forest Protection and Development Fund (pFPDF) level also vary. Selecting a payment distribution mechanism that is workable based on current capacity (e.g. understanding of PFES, number of implementation staff) can also help to accelerate PFES disbursement. For example, if the fund does not have sufficient staff to cover a large proportion of the PFES payment area with many individual, scattered and small-scale forest owners, then group payment is more desirable than individual payment. However, although this method might result in lower immediate implementation costs, it may not be the most effective or efficient over the long term. An investment into improving provincial staff capacity will be important in order to have the flexibility of changing payment distribution methods to adapt to new conditions over time.

### 2.1.2b The capacity and needs of local communities

Studies conducted by CIFOR in Lam Dong, Son La, Dien Bien, Nghe An and Hoa Binh show there are many cases where communities received large PFES payments (USD 2500–15,000/year). However, the money gained from the PFES program can be vulnerable to immediate spending if local people (both village leaders and community members) do not have good financial management skills (Pham et al. 2014, 2016; Le et al. 2016). As a result, in such communities, local authorities and villagers prefer in-kind payment (e.g. training). The level of trust among stakeholders is again a critical factor. Research on PFES conducted by CIFOR in Vietnam showed, where local people do not trust village heads or government agencies, they prefer cash rather than in-kind payments to monitor transactions easily (Pham et al. 2014).

A study by Pham et al. (2014) in Son La province has shown that level of trust among stakeholders will have a strong impact on the preference and decision of how payments should be distributed. For instance, collective use of PFES payments is only feasible if villagers trust the capacity and accountability of village leaders, and equal distribution of payments to all households is preferred when there is little trust between villagers and village leaders. In addition, in Son La, there are many groups (*nhóm Liên gia*) of 10–20 households that have self-formed to facilitate reciprocity and collective action in agricultural production and forest protection (Pham et al. 2014). Villagers believe that these groups can be a basis for receiving PFES payments as they are accountable to, and have a high level of solidarity among, members.

The effectiveness of cash payment and its impact on both local livelihood and forest protection and development also depends on the ability of the community and individuals to manage cash income. Wealthy, educated households and community heads often have better financial management skills than poor households. Therefore, the socioeconomic impact of a PFES cash payment is more visible in cases with better financial management skills. Villages that have village management groups with good financial management skills tend to have better PFES revenue utilization. While poor households often use PFES payment for daily consumption needs, such as food and petrol, the wealthy and educated households often invest in better agriculture production techniques, leading to better long-term income. Capacity building for both the village head and individual households on PFES financial management is therefore essential.

Moreover, background information on the context of local communities needs to be considered by pFPDFs. A consistent baseline survey on information such as population, ethnicity, language used, wealth status, sources of income, etc. is needed to ensure that information is shared in the right format and language. This would allow the outcomes of the PFES to be measured and compared across the country. Such information will be critical for PFES policy learning and adaptive design to improve on the 3Es of its outcomes.

### 2.1.3 Government collaboration with non-state actors

Collaboration between government and non-state actors can also enable effective payment distribution. For example, international organizations can monitor environmental services and conduct consultations with local people on their payment distribution preferences (e.g. Winrock in Quang Nam, ICRAF in Bac Kan, CIFOR in Son La). According to Decree 99, PFES is currently being formally monitored only by government agencies. CIFOR's research, however, has also shown there is strong interest from the private sector and CSOs in participating in the monitoring and evaluation processes of both environmental services and financial distribution. Having multistakeholder involvement and engagement in the inspection and monitoring of environmental services can help to strengthen the transparency and accountability of the process (Pham et al. 2013).

### 2.1.4 Rights and tenure arrangement

In Vietnam, PFES payment is only made to those that already have a clear tenure arrangement. Yet, there is often a mismatch between formal and informal land tenure (Pham et al. 2013; Le et al. 2016), and the forest land allocation process is slow and ineffective (Pham et al. 2016). A benefit-sharing mechanism under the PFES scheme could be challenging in contested areas or where there is unclear tenure. If not designed well, a PFES benefit-sharing mechanism could even create the reverse of the intended effect for PFES outcomes and negatively impact on the local people involved. The lack of a clearly documented land tenure system is also problematic. Only if a province has clear records of what land each individual is responsible for can provincial FPDF officials tie a forest, its condition and the responsible owner to a piece of land. Marking ownership, forest areas and forest condition on a photo-based map (e.g. from Google Earth) and posting it in a public space in each community is one approach that makes it clear exactly what PFES is funding and what each individual, household, community or organization is responsible for protecting. Disputes about boundaries need to be resolved before contracts are signed, to create transparency in making payments. All this information is fundamental for the conditionality intrinsic to PFES payments and,

in its absence, deforestation and forest degradation may go unreported. Land-use planning and land allocation need to be carried out carefully and according to local conditions to avoid unexpected negative impacts on the poor, such as the capture of land by elite groups and consequent landlessness. However, it should also be noted that a pro-poor approach (e.g. in land allocation) may compromise the environmental and social performance of PFES in some cases.

#### 2.1.5 Political, environmental and social priorities in the province

Each province has its own political, environmental and social priorities, and PFES payment distribution is also strongly driven by these priorities. It is important to harmonize and complement PFES with other policies and programs to enhance the overall development of the province. For example, in Lai Chau and Son La, PFES is seen as a critical contribution to overall provincial development. As a result, PFES is used strategically to incentivize large communities and large-scale forest management practices (e.g. forest management boards) to invest in social and community development facilities. However, if PFES replaces provincial investments for development, it could lead to a trade-off with the primary objective of PFES, which is to improve forest protection and development. Having stakeholders' consultation and consensus on how PFES money should be used strategically in coordination with other development funds over time for both forest protection and local development objectives is essential.

### 2.2 Step 2: Designing payment distribution options at the local level

Based on analysis of the existing provincial context, different payment distributions can be developed and considered based on the following factors.

#### 2.2.1 Types of benefits (in kind versus in cash)

CIFOR's research on PFES in Vietnam highlighted that, although PFES payments are only made in cash in the current PFES policy, there is an increasing interest in and preference of local people for in-kind payment (Pham et al. 2013, 2016). Both in-kind and in-cash payments have their own advantages and disadvantages (Table 1).

Further, CIFOR's research in Vietnam has suggested geographic and socioeconomic factors at the local level, transactions and implementation costs, and stakeholders' interests will need to be considered in assessing whether PFES payments are more appropriate as direct cash, non-cash/in kind or a combination of the two (Pham et al. forthcoming; Pham et al. 2014).

**Table 1. Consideration of the types of benefits.**

| | Advantages | Disadvantages |
|---|---|---|
| **In cash** | • Greater flexibility in the use of resources<br>• Capital for investment in both forest and non-forest land uses<br>• Immediate tangible reward for environmental services providers<br>• Lower transaction costs for pFPDFs | • Cash payment is often very small and therefore does not create a strong incentive for people to participate in PFES<br>• Investment in certain types of land uses can create unintended pressure on forest |
| **In kind** | • More likely to lead to long-lasting benefits and predicable welfare improvement if is well designed<br>• Potential to benefit the whole community if the decision making is accountable<br>• Stronger social motivation<br>• Suppliers appreciate benefits not solely for their economic value but also for the indication that society respects their efforts in forest protection and development | • Less flexibility<br>• Paternalistic if there is a lack of proper consultation with local people on which in-kind benefits are most needed<br>• Ambiguous implications for promoting collective action within groups<br>• Possibility of corruption through procurement processes |

**Box 1. Preferences for PFES payments.**

In villages studied by Pham et al. (2014) in Son La, which are remote and have high poverty rates, villagers revealed that they preferred to receive benefits in the form of transportation, such as trucks, to sell their agricultural products rather than direct cash benefits. Some villages with underdeveloped infrastructure expressed a wish to tailor the payments into infrastructure investment (Le et al. 2016).

Some of the key factors for determining legitimate payment distribution include the following (the list is not exhaustive):

***Access to market and existing infrastructure.*** For example, in-kind payment is often preferred by isolated communities that have poor access to markets, or communities which are in the need of basic infrastructure. In contrast, in-cash payments are often preferred by communities that have better access to markets and infrastructure.

***Level of trust, accountability and financial management capacities of local authorities and villagers.*** Pham et al. (2014) found that the principal factor determining the distribution of revenues is the extent to which villagers and the Commune People's Committee trust in the accountability and capacity of the village management boards and mass organizations (e.g. women's unions, farmers' associations).

***Existence of strong collective action and customary law.*** In-kind payments, especially in the form of common assets, are likely to be preferable in communities with a history of strong collective action. Le et al. (2016) demonstrated a case where a village – Muong Pon II – that had long engaged in collective forest protection actions in a community forest project showed a high preference for collective in-kind benefits (e.g. training on agricultural techniques). Villagers claimed that cash payments were small and often made on an individual basis, thus, collective in-kind benefits were more likely to incentivize all households in an equitable manner.

***Size of payment.*** Findings in Lam Dong, Dien Bien, Son La, Lai Chau, Nghe An and Hoa Binh provinces indicate that when a household only owns a small area of land (< 3 ha) and therefore receives a low level of payment (<USD 10/year), it prefers to receive benefits in the form of cash. These payments are spent on: (i) items for basic household consumption, such as food, fuelwood and medication (e.g. Dien Bien, Son La, Hoa Binh) and (ii) contributions to the village fund for community activities (e.g. Dien Bien, Son La). Which option is chosen depends on the household's needs but also leadership and the traditional practices of sharing in the community.

This list of factors is by no means exhaustive and provides an indication of how local socioeconomic and institutional factors interact in different ways to influence local preferences. An important prerequisite to increasing the effectiveness and equity of PFES is to create a process that allows for local expressions of preference, and enables diversity of payment approaches that are appropriate to each locality.

### 2.2.2 How are beneficiaries identified?

Although the defined beneficiaries of PFES payment are those who have legal rights to forest land, what has been shown in international case studies and in Vietnam is the complexity of defining who the real beneficiaries are and thus defining payment criteria. It is important in policy design to identify the targeted beneficiaries clearly as this will influence the payment distribution mode.

CIFOR research has identified six common rationales for benefit sharing globally (Luttrell et al. 2013) that are applicable in Vietnam.

***Legal rights rationale.*** Benefits should go to actors with legal rights related to ecosystem services supply. This is defined in Decree 99 that states only forest owners who have a forestry land-use rights certificate can receive PFES payment. This rationale is widely employed from the central to local level, and in all provinces under PFES in which individual households and local communities with allocated forest or holding land-use certificates (only the case of households) will be eligible to receive PFES payments.

***Contribution rationale.*** Benefits should go to those who contribute to forest protection. This rationale is employed in Son La and Dien Bien province. In these provinces, forest protection groups are established in a majority of villages and most of the villagers agree that the members of those groups should be incentivized as they contribute to forest protection. However, in practice, the benefits to these actors are often small and mostly in the form of labor safety equipment. Category 1C[2] forests such as those in Lai Chau, which contribute to forest conservation efforts should also be eligible for a share of PFES payments.

***Stewardship rationale.*** Benefits should go to forest stewards. This rationale addresses both past and current forest protection efforts. In many provinces, local authorities acknowledged that communities with long-established traditional forest conservation efforts and those with forests under designated watershed protection in northwestern Vietnam should be eligible for PFES payments. Yet, these communities might not hold formal forest land-use rights certificates and, therefore, would not actually be paid under Decree 99. There is inherent inequity for these communities who are performing the same forest protection tasks as those with formal forest land-use rights certificates yet doing so without PFES benefits.

***Cost-compensation rationale.*** Actors incurring costs should be compensated. In many provinces across Vietnam, the opportunity costs for the land (e.g. growing corn in Son La, coffee in the Central Highland and farming shrimp in the Mekong Delta) are high, and those who have to bear the burdens of not converting their forests should receive adequate PFES payments. Identifying these stakeholders, however, would be a challenge, unless there are procedures for inclusive local participation during the consultation stages.

***Facilitation rationale.*** Benefits should go to effective facilitators of implementation. In Vietnam, this rationale is specifically applied in the context of REDD+ or carbon sequestration services. CIFOR research (Pham et al. forthcoming) has highlighted that international companies who have invested in REDD+ and carbon sequestration projects argue that they should also be eligible to receive REDD+ payments. Luttrell et al. (2016) identifies a high level of subsidization, particularly by subnational government institutions, in the implementation of REDD+. Much of this cost is non-financial, and is in the form of time and transaction costs related to REDD+ policy design. This cost is not adequately recognized and compensated, although national and provincial governments receive 0.5% and 10% of PFES revenue, respectively, for their management role.

***Pro-poor rationale.*** Benefits should go to the poor. In many provinces, the PFES program targets the poor as recipients, because one aim of PFES is to enhance the livelihoods of forest-dependent communities. However, those poor households often do not have legal land-use right certificates and so are ineligible for payment under Decree 99. In addition, identifying the poor and vulnerable within a village is a challenging task as the local criteria for defining poor households differ from place to place.

In principle, PFES policy has to define beneficiaries clearly and consider the equity implications of neglecting, or declaring ineligible, groups who may have a moral claim on PFES payments. However, in reality, many provinces in Vietnam address more than one rationale and sometimes these conflict with each other in implementation.

### 2.2.3 When to release payment

Although Decree 99 and related guidelines regulate payments to twice a year (one advance payment and one for the remaining balance), CIFOR research in Vietnam found significant variation across the provinces (Table 2).

2 The forest land in Vietnam is classified under different classes including 1A, 1B, 1C, 2A, 2B, 3A1, 3A2, 3A3, 3B and 4. Amongst which 1A class consists of mostly grass while 4 class is defined as natural forest with high timber volume. In this paper, 1C refers to Forest land with mostly regenerated timber trees, where the average height is equal to or greater than 1m and the density of trees/ha is equal to or greater than 1000.

**Table 2. Frequency and ratio of payments in study provinces.**

| | Frequency | Ratio (%) | Rationale |
|---|---|---|---|
| **Son La** | 1 | 100 | • By FPDF: Son La has a large number of forest owners (more than 64,000), thus, payments are made once a year to minimize transaction costs.<br>• By local forest owners: Local forest owners receive low PFES payments due to the fact that most forest owners in Son La own small areas of forest coupled with considerably low levels of payments (USD 10 –15 per ha in recent years). Thus, they prefer a single payment that is large enough to reinvest. |
| **Dien Bien** | 2 | 50–50 | • By FPDF: Dien Bien FPDF decided to release payments in two installments a year with 50% of total payment for each. The payments are made twice to encourage compliance of forest owners.<br>• By local forest owners: The separation of payments can confuse local people. For example, Le et al. 2016 have found that local communities often misunderstand that the first payment is from PFES and the second payment is from other sources.<br>• Effectiveness of how PFES payment is used in addressing livelihood improvement is also limited. |
| **Nghe An** | 1 | 100 | • By FPDF: Disbursement rate of PFES payments is slow due to unclear forest demarcation, thus, a one-off payment is made to accelerate the disbursement rate.<br>• By local forest owners: A one-off payment is preferred as payments are low (there are no big buyers, e.g. large-scale hydropower plants in the region). |
| **Lao Cai** | 2 | 10–90 for households and communities; 90–10 for forest-owner organizations | • By FPDF: Two payments are made to promote compliance. However, forest organizations are seen as more reliable, so the first payment is high (90%) while first payment to households and communities is low (10%).<br>• By local forest owners: The first payment to communities and households is too low and cannot be reinvested efficiently. |
| **Bac Kan** | 2 | 50–50 for communities and households; 80–20 for forest-owner organizations | • By FPDF: This follows the same rationale as Lao Cai but the payments are divided equally for communities and households. The payments are low in Bac Kan, where there are no big buyers, e.g. large-scale hydropower plants. At the time of interview (2015), the ratio and frequency had been decided but payments had not yet been released. |
| **Lam Dong** | 4 | 20–20–20–40 | • By FPDF: Payments are spread out to create stronger incentives. Moreover, Lam Dong has a lower number of household and communities forest owners than other provinces, thus, transaction costs are still low for four payments.<br>• By local forest owners: They receive relatively high PFES payments so the division into four payments does not have a significant impact on livelihoods and investments can still be made. |

It is clear that the size of payment, the number and types of forest owners, and geography will influence the frequency of payment chosen. In structuring payments for environmental services, an important question concerns the timing of payments: Should they be spaced evenly, back loaded or front loaded? Although, in principle, PFES should be back loaded as a results-based payment system, in practice, PFES schemes favor the interests of the suppliers and tend to be based on inputs, particularly on specific land-use activities. Viewed broadly, however, this arrangement is really about risk allocation: the buyer is accepting the risk that requiring inputs (information on land-management activities) is a sufficiently close proxy to service provision to justify the payments. Upfront and on-time payments are important to create and maintain commitment of forest owners to PFES. However, the ratio of payment must be balanced to ensure that the incentive and reward approach is effective. For example, if the advance is 90% of payment, there is a high risk of noncompliance with PFES. In contrast, if there is no advance and upfront payment, there is a lack of incentive for people, especially the poor, to commit to forest protection and development. An upfront payment is made in some provinces but it is generally targeted at state organizations, as this group is perceived to be more reliable. However, local people, especially the poor, are likely to be the groups most in need of upfront payments (Tjajadi et al. 2015). Different ratios of payment applied to different groups (individuals versus state organizations) might also create perceptions of inequity and possibly cause resistance.

As PFES payments are often made annually, it is necessary to plan how to spend PFES effectively over time. For example, cumulative annual but small PFES revenues might help communes and villages to address significant financial gaps in reforestation activities.

### 2.2.4 How are performance and finance monitored?

A comprehensive set of criteria for monitoring and evaluation of financial flows, especially payment distribution from pFPDFs to forest owners, is still lacking (Pham et al. 2013). Moreover, findings on the social impacts of PFES are mixed, and credible data showing PFES as having a positive impact on local incomes are lacking. All agencies involved in monitoring social and economic impacts should work together to set the baselines for communities engaged in the PFES program. This initial assessment can then be used as a benchmark for evaluating the benefits of PFES in conjunction with or separate from other programs. Measurement of socioeconomic impact of PFES is critical for understanding policy impact but this could be very costly and, therefore, consideration of the costs involved and the scale of monitoring for realistic methods is essential. It is important to maximize the use of available socioeconomic data from the database collected and managed by the Ministry of Labour, Invalids and Social Affairs. Strategic monitoring and evaluation design methodology also needs to be in place before the implementation of PFES.

In the PFES legal framework, the fiscal activities of VNFF and pFPDF are supervised and monitored by two ministries: the Ministry of Agriculture and Rural Development (MARD) and the Ministry of Finance (MOF). The pFPDFs are under supervision of VNFF and the local Provincial People's Committee (PPC) (Decision 05/2008/QD-TTg). In both VNFF and pFPDF, a Supervision Unit is established to conduct self-monitoring. Moreover, MARD has issued Circular 85/2012/TT-BTC to establish a financial management mechanism for VNFF and pFPDFs. Who will monitor the payment flow from pFPDFs to forest owners remains to be decided.

#### Fiscal accountability

Financial reporting is of utmost importance and is a main concern of VNFF and pFPDFs. While recipients are free to decide how they spend their PFES benefits, monitoring how, when and what monies are being distributed and the impacts of the payments on social well-being are important. Delays in verifying and distributing payments create mistrust among both buyers and sellers, which is likely to reduce their engagement in the program. However, stakeholders are also concerned that there is little guidance on how provincial FPDFs can spend their administrative portion or how communities and village management boards can spend PFES revenue made to ecosystem services sellers. The lack of any oversight mechanism in villages and communities makes it possible for local authorities to misuse PFES

revenues (Pham et al. 2013). Establishing a clear legal framework and guidance on both rights, responsibilities, sanctions and law enforcement systems for misused PFES is essential.

### Transparency

Information disclosure is critical for transparency in benefit sharing and should be considered during the process of designing payment modalities. Information should be accessible to all relevant stakeholders in appropriate formats and languages.

Communities can be informed about PFES payments by various means: (i) a list of forest owners and the amounts they are paid is displayed in the CPC office and community hall; (ii) information is broadcast through local loudspeakers; and (iii) information is disseminated through village meetings (Son La FPDF in 2012). The adoption of a particular means of information distribution needs to be situated within the local context according to what methods will be most effective. For example, Pham et al. (2013) found that community halls are rarely used, thus, displaying a list of forest owners, posters or leaflets in the community hall might not be effective.

Transparency must be embedded into all steps of a PFES payment distribution system, from drawing up contracts to verifying compliance to receiving and distributing payments. Internal checks or multi- or third-party monitoring boosts the accountability of the system. In addition, changes must be made to the current grievance mechanism, as many PFES participants – that is, local suppliers of environmental services – cannot fully access it for various reasons. Barriers to access include not understanding the system, not knowing their rights, being unable to read or write or the village leader not forwarding concerns to higher-level officials for resolution. A process for handling grievances in which people's complaints are addressed in a timely manner and without fear of reprisals needs to be established and monitored. In Lao Cai and Son La, the pFPDFs have established a grievance handling system where forest owners can send their feedback and complaints about PFES via a hotline (the phone number is displayed at community halls) or email. However, the effectiveness of these grievance channels must be assessed over time.

### Who monitors?

In the provinces of Dien Bien and Son La, payments are often transferred to CPCs first and then released to communities. Often village heads are the focal points for receiving payments from the CPCs and distributing them to the ecosystem service providers or deciding how to use payments in their communities. To monitor payments at this step, pFPDF staff could verify with village heads (e.g. through a hotline or grievance handling system) the amounts involved and when CPCs released payments to them. In Dien Bien province, payments are made to villagers by village heads at village meetings, which CPC representatives or local forest rangers attend and act as third-party observers.

The participation of other actors might be considered. For example, a model of a multistakeholder trust fund, with representatives of buyers, suppliers, NGOs, academia and government agencies, was applied in the Hoa Binh Afforestation and Reforestation clean development mechanism (AR-CDM) project (Pham et al. 2009) and a cooperative model was tested in Thai Nguyen (Vu 2015). These models earned the trust of both buyers and suppliers of environmental services due to their incorporation of participatory decision making and representation of all actors.

Improving participation and transparency requires the introduction of new protocols and mechanisms. In some cases, more inclusive and transparent procedures have been developed. For example, in Son La and Dien Bien, the village has assigned a secretary to take minutes in every community meeting. These minutes are agreed upon at the end of the meeting and signed by all attendees, both leaders and constituents, to show their agreement. Payments for environmental services are then monitored and inspected to check that they match the community's decision, and they are reported on in subsequent community meetings. According to the management board of this village, this procedure is effective in addressing local concerns. Where such clear procedures have been developed, they should be shared, institutionalized and considered for adoption by other communities to ensure that PFES revenues – and any future REDD+ revenues – are used in accordance with community preferences.

### 2.2.5 How are people safeguarded from harm?

***A legitimate and effective dispute resolution mechanism*** is essential for resolving conflicts among stakeholders. Among all provinces studied in CIFOR's research, Son La and Lao Cai have a grievance handling system in place to receive and resolve feedback from local forest owners over PFES matters.

For the hotline grievance handling system in Lao Cai and Son La, 50 phone calls (9 from individual households and community forest owners and 41from local officers and FPDF staff at district branches) had been recorded in Son La and no calls had been recorded in Lao Cai at the time of interviews. In Son La, the hotline was set up at a few pilot sites only and the number of the hotline was not available to all forest owners. Son La FPDF plans to provide the hotline number to all forest owners covered by PFES to increase the effectiveness of the system. In Lao Cai, we found that information about the hotline is positioned at the bottom right-hand corner of a page in a 4-page leaflet, which might be overlooked by readers.

Language might also be a barrier for a grievance handling system. We observed in Hmong village in Son La that villagers had limited understanding of PFES as both villagers and village leaders were not fluent in the Kinh language that official communications about PFES are made in. This factor should be taken into account in designing an effective grievance handling system.

***Participation of all relevant stakeholders.*** Restricting participation of certain groups in the PFES process could had negative impacts on the legitimacy and effectiveness of the payment distribution process. In Vietnam, CIFOR's studies found that local communities in Son La and Dien Bien can only take part in the decision-making process once the money reaches the communities; they have little to zero participation in decisions on payment distribution from the pFPDF to communities (Pham et al. 2014; Le et al. 2016; Loft et al. 2016). To enhance participation of communities, the PFES policy should specify a framework that enables participatory decision making beyond just the commune or village leadership structure. For example, in several provinces, such as Son La and Dien Bien, PFES payments will only be released if there is evidence of an agreement on how the payment will be used that has been signed by the villagers. This also requires the development of a grievance handling system where local people can freely feedback and report any inadequacy in policy implementation. Participation can also be enhanced through the process of free, prior and informed consent (FPIC) which ensures the presence of: (i) information about and consultation on any proposed initiative and its likely impacts; (ii) meaningful participation of forest managers; and (iii) involvement of representative institutions (UNPFII 2005).

Participation of non-state actors such as CSOs, international non-governmental organizations (INGOs) and the private sector in the designing and monitoring of PFES can also help to ensure the accountability of the program. For example, participating ecosystem service buyers could request that their representatives be included in the inspector team. They can also request to have access to PFES outcome data and, thus, strengthen monitoring/accountability. CSOs and INGOs

**Box 2. Participation in the decision-making process over payment distribution in Dien Bien.**

In Dien Bien, the type, size and timing of benefits transferred from Dien Bien FPDF to forest owners are determined by Dien Bien FPDF without involvement of local ES providers. The agreement on PFES is also designed by Dien Bien FPDF with the support of forest ranger forces. Le et al. (2016) indicated that local ecosystem service providers receive very limited information about PFES, which probably impedes their ability to be involved in the decision-making process.

Moreover, even the commune officers or village leaders (who act as representatives of communities) only play a minor role in the decision-making process. They only follow the schedule and steps set out by Dien Bien FPDF. The buy-in of this group should be taken into account in the overall process as this is a critical aspect of the project's legitimacy.

could have a role in actual monitoring, depending on their specific interest (i.e. biodiversity/forest cover, livelihoods, etc.), and also host monitoring/tracking data on open platforms that allow for public accountability.

### 2.2.6 What are the costs and burdens for each payment distribution option?

Each payment distribution option has both costs and burden implications for each of the various stakeholders involved. These costs and burdens include direct costs (e.g. meeting and transportation costs), opportunity costs, transaction costs and operational costs (e.g. staff/personnel). Understanding these costs and burdens is essential to avoid social conflict and negative impacts on local livelihoods. CIFOR's discussion with a large number of pFPDFs revealed that only direct costs are recorded by provincial authorities while other related costs are overlooked. There is also no template or guidelines on how to collect these data in a systematic way. The REDD+ Cost Model is a flexible accounting tool developed by CIFOR and Mazars-Starling (Greenberg et al. 2016) for supporting REDD+ and PFES project proponents to calculate project implementation costs; this is a useful tool that could be adapted for this purpose. Please visit http://www.cifor.org/redd-benefit-sharing/resources/tools/redd-cost-model/ for further exploration of the REDD+ Cost Model.

## 2.3 Step 3: Assessing the 3Es of payment distribution options

The aim of Steps 1 and 2 is to aid pFPDFs to develop different payment distribution options. The 3Es framework might then support pFPDFs in analyzing these different options in a systematic way. pFPDFs can assess payment distribution options in terms of their ability to deliver 3Es outcomes. Of the 3Es, effectiveness refers to whether this payment distribution can improve environmental services as stated in Decree 99 and whether the PFES payment actually reaches the targeted group in a timely manner. Efficiency considers whether PFES schemes and payment distribution are set up, implemented and monitored in a cost effective manner (financial performance). Equity refers to both distributive equity (the fair distribution of PFES payments) and procedural equity (the inclusiveness of PFES processes; social performance). Harmonizing the 3Es is a challenge and requires intensive and regular dialog with stakeholders involved in all three steps.

### 2.3.1 Mainstreaming step: Enabling legitimacy of the options

Consultation, information sharing, feedback loops and participatory decision making are essential and should be mainstreamed in all three steps above to ensure legitimacy of the payment options.

***Consultation.*** The participatory engagement of both environmental services providers and sellers in all three steps is crucial in order to understand their preferences and legitimize the options that work best for them. For example, without proper consultation with different groups of actors (rich, poor, ethnic groups, small-scale forest owners, large-scale private companies, state-owned enterprises and forest management boards), a pFPDF will not have the information it needs on preferences for the payment schedule, payment modalities and mode of payment suitable for each group. The lack of proper consultation can also put PFES policies at risk of failing on the ground due to impracticalities.

***Information sharing.*** Stakeholders need to be properly informed in order to make decisions. Information on the level of PFES payments, conditions for payments and the status of payments needs to be communicated clearly to stakeholders in a timely manner. CIFOR's research has shown that misunderstandings due to poor information exchange among actors has led to mistrust and low willingness of ecosystem services providers to participate in the PFES scheme (Pham et al. 2014). Not only should information be shared but it has to be shared in forms accessible to different groups. For example, most information on PFES is only available in the Kinh language or in written forms, while our studies in Dien Bien and Son La show that many communities have high rates of illiteracy and cannot read Kinh. Studies in Dien Bien and Son La show there is a considerable gap in terms of PFES information between village heads and villagers in the communities studied. Measures to enhance information access for villagers and reduce their dependence on village heads include distributing

posters and leaflets in villages and disseminating PFES information via local TV or radio (Le et al. 2016). The information provided should be targeted at participants, provided at various venues, and distributed by accountable and independent facilitators. The format in which information is conveyed should also take into account social, institutional and cultural barriers. Communication and consultation processes must be culturally appropriate, with information provided in the appropriate languages. Sufficient time and budget resources are also required for information sharing.

***Establishment of a grievance handling system.*** Ensuring two-way communication is critical. A grievance handling system should be in place with a hotline or email (if possible) for pFPDFs. Institutional requirements to address issues raised need to be well-budgeted and monitored, and used as an input to improve the PFES institutional setting.

***FPIC (Free, Prior and Informed Consent).*** The process of obtaining FPIC, if designed and implemented well, can be an effective learning tool that empowers local communities and enhances their participation in PFES (Pham et al. 2015). FPIC has not been widely exercised, thus, it should be seen as a learning process for both local people and local authorities. The details of procedural norms (e.g. who will participate, how long the consultation will last, what type of compensation should be made), therefore, need to be considered and designed carefully.

According to CIFOR's research in Vietnam, community participation in decisions on payment distribution from pFPDFs to CPCs and then to villages is limited. Despite the range of options for distributing PFES revenues and the variety of preferences expressed by villagers, a problematic aspect is that villagers have little involvement in decision making (e.g. in the design of payment mechanisms and monitoring of environmental service provision). In most cases, "participation" only means that villagers were present at the village meetings, as passive spectators. Local authorities used these meetings to inform villagers about PFES, rather than to seek meaningful input. Local communities have limited participation in decision making to determine either the type of benefits (in cash versus in kind) or timing and frequency of benefits (when and how many installment payments are made) even though those factors have a strong influence on the effectiveness of the use of PFES payments for livelihood activities. Having adequate consultation with local communities on how PFES should be distributed will ensure sustainable and long-term commitment and engagement of villagers in the PFES scheme.

# 3 Analysis of existing PFES payment distribution schemes in Vietnam using the 3Es framework

In our case studies in seven provinces, we found four common payment distribution schemes, namely: payment to village funds; payment to groups of households; payment to cooperatives; and payment to individual households. The following table highlights some of the advantages and disadvantages for each option, as well as important enabling conditions to ensure 3Es outcomes.

For further consideration, these existing PFES payment distribution schemes were analyzed through the lens of a 3Es framework.

**Table 3. Current payment modalities under PFES programs in seven case study provinces.**

| Modalities | Advantages | Disadvantages | Enabling conditions |
|---|---|---|---|
| **Payment to village funds through payment to village management boards on behalf of the village** | • Low transaction costs<br>• Can be the basis for common/ community investment | • Pose the risk of elite capture and domination by powerful groups<br>• Risks of opaque financial management as decisions are made by boards<br>• Village does not have legal status to enter PFES contract<br>• Poor financial management capacity of the village leaders | • Accountable leadership with strong financial management skills<br>• Clear monitoring and auditing protocol<br>• Trust by community |
| **Payment to groups of households (10–20 households living next to each other)** | • Low transaction costs | • The groups do not have legal authority to deal with noncompliance activities | • History of working together, same cultural groups<br>• Well-established groups (trust among members) |
| **Payment to cooperatives established by the community itself** | • Helps community to obtain legal title to enter PFES contract<br>• Provides a means to audit and monitor PFES payments | • Risk of weak cooperation in communities without a tradition of collective natural resource management<br>• Poor financial management capacity of cooperative leaders | • Group has a history of working toward livelihood improvements<br>• An accountable structure should be in place<br>• Good financial management skills |
| **Payment to individual households** | • Eliminates elite capture<br>• Inclusion of all groups, including the poor and marginalized | • Small size of payments makes it less effective<br>• High transaction costs<br>• Possible payment to non-participating households for forest management | • Households that manage large areas under PFES have sufficient revenues and strong incentives |

**Table 4. 3Es analysis of existing PFES payment modalities in Vietnam.**

| Modalities | Effectiveness | Efficiency | Equity |
|---|---|---|---|
| **Payment to village funds through payment to village management boards on behalf of the village** | • Tailoring payments to collective use in both forest protection and livelihood activities<br>• Collective benefits might enhance participation of all villagers including the poor and marginalized<br>• Depends on the financial management skills of village management boards | • Distribution cost is low<br>• Costs and expenses can be incurred for management of the payments | • Potential to benefit the whole community; but there are risks of elite capture as decisions are made by village boards who are typically local elites<br>• Mutual trust within a village and facilitation capacity of the management boards is crucial |
| **Payment to groups of households (10–20 households living next to each other)** | • Forest patrolling might be more effective due to peer support and reinforcement in such a group structure | • Reduced transaction costs compared with payments to individual households<br>• Medium transaction cost | • How payments are shared among the groups depends on differing criteria (groups with higher number of members get pro-rated larger share or groups with better performance?) |
| **Payment to cooperatives established by the community itself** | • Payments can be reinvested into forest protection and livelihood activities | • Operation costs and the costs of payment is low<br>• Low transaction costs | • Cooperative rule |
| **Payment to individual households** | • Forest under clear tenure and clear responsibilities, rights and benefits is often better protected | • High transaction costs | • This modality adopts an egalitarian principle |

CIFOR's research findings show it is challenging to incorporate local preferences into the distribution of PFES revenues. They also highlight a lack of adequate institutional arrangements to facilitate 3Es outcomes (e.g. an effective grievance mechanism and a functioning monitoring and evaluation system) and the obstacles to PFES posed by high opportunity costs and cultural factors that disallow both disagreement and the imposition of penalties for noncompliance.

The research also highlights that the focus of PFES payments on the ground in Vietnam, so far, is largely on equity issues and overlooks both efficiency and effectiveness. However, focusing on equity does not necessarily mean that the outcomes are equitable. In many cases, because of concerns about equity and corruption, all revenues are distributed equally among all villagers. This approach, however, ignores the achievements of individual environmental service providers and discourages local forms of forest management and conservation, leading to ineffectiveness. Although this approach conforms to local interpretations of 'equity', as meaning equal payments for each household, it overlooks other aspects of equity. These include an equitable reward for performance (where those who protect forests better receive higher payments), equitable returns (where payments received cover opportunity costs) and fairness (where those who provide services do not also then pay for those services through higher utility bills, so they derive a net benefit; and where those who protected and improved forests in the past are rewarded for doing so). 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 future REDD+ schemes (Pham et al. 2014).

Adopting a combination of distribution mechanisms can help to broaden the scope of who benefits from PFES. However, when PFES revenues are small, dividing the total among a number of activities might also reduce the efficiency and effectiveness of the outcomes. The amount of revenue generated through PFES has fallen short of the early high expectations. In practice, PFES will function best as a complement to existing environmental and social programs rather than as a replacement (Rodriguez et al. 2011; van Noordwijk et al. 2012). Indeed, under Decree No. 99, the program is structured as a redistribution of natural resource taxes rather than as a classic voluntary PES scheme. Our findings also indicate that it could be useful to assess the combination of benefit-sharing options in each commune, to determine not only how the mix contributes to 3Es outcomes, but also how it may contribute as a rural development strategy. However, the challenge lies in setting priorities for spending PFES revenues, given government funding for wider community development (Pham et al. 2014).

# 4 Conclusion and key points for policy design

Benefit sharing is often understood as referring to the distribution of financial benefits, but it encompasses broader forms of social accountability and responsibility. A PFES benefit–sharing mechanism needs to be designed to (i) maximize equity among the actors responsible for reducing deforestation and forest degradation; (ii) improve the effectiveness of forest management; and (iii) to increase the efficiency of national and subnational programs (largely by minimizing transaction and implementation costs).

In most of these cases, the equity aspect of PFES payment modalities are restricted to either equal benefits or benefits based on current performance. In many cases, these payments cannot match the high opportunity costs of the forest land conversion to agriculture and increases the inequity faced by certain forestland owners. These factors are not particularly motivating for local ecosystem service suppliers for protecting forests.

Thus, it is important that the process for designing PFES payment options provides opportunities for procedural equity. Facilitating broad local participation in designing the payment option, increasing accessibility to information and ensuring capacity building as part of the options will all enhance procedural equity. These processes can help to increase the legitimacy of the payment design, enable buy-in of the PFES program and help increase the effectiveness, efficiency and equity of PFES outcomes.

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The purpose of this paper is to help with the design and implementation of payment distribution mechanisms under PFES. We aim to assist and inform the development of guidelines by providing a review of lessons learnt on the ground. As the primary objective of this paper is to assist policy makers in developing the payment guidelines, our target audience is all levels of government agencies who are actually involved in designing and implementing PFES payment distribution mechanisms (e.g. the Vietnam Forest Protection and Development Fund (VNFF) and provincial Forest Protection and Development Funds (pFPDFs). However, other actors, including donors, civil society organizations (CSOs) and international organizations, who are supporting the implementation of PFES; and communities and village management boards, who are handling actual PFES payment distribution, might also find this paper useful in shaping their design and implementation of PFES and other market-based instruments. Our paper may also be helpful to organizations interested in applying lessons learnt from PFES payment distribution in future REDD+ projects.

In this paper, we will first introduce the concept, principles and analytical framework that underpin payment distribution scheme development, and provide a useful resource for those seeking an overview. We will then provide more detailed advice for those designing and implementing PFES payment distribution mechanisms on what to consider during each step of the design and implementation process. We will also provide an analysis of existing PFES payment distribution schemes in Vietnam to provide practical lessons learnt from using the 3Es (effectiveness, efficiency and equity) framework and summarize the key points for policy design. We suggest that PFES benefit-sharing mechanisms need to be designed to (i) maximize equity among the actors responsible for reducing deforestation and forest degradation; (ii) improve the effectiveness of forest management; and (iii) increase the efficiency of national and subnational programs (largely by minimizing transaction and implementation costs).

CGIAR RESEARCH PROGRAM ON Forests, Trees and Agroforestry

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