COMMUNITIES, COMPANIES, AND CONSERVATION

Payment for Forest Environmental Services (PFES) Practitioner's Guidebook

Based on the implementation experience in Vietnam

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The Vietnam Forests and Deltas Project (VFD) ran from 2012-2021 in partnership with Vietnam's Ministry of Agriculture and Rural Development (MARD). The first phase of VFD supported the acceleration of Vietnam's transition to climate-resilient, low-emission, sustainable development by improving forest and natural resource management and engaging communities in the development of action plans to address climate risks and vulnerabilities. The second phase of VFD improved the effectiveness and efficiency of Vietnam's PFES mechanism.

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Message from the project director

One of the fundamental challenges of forest conservation is how to make it more valuable to keep trees standing than to cut them down. Around the world, government, communities, and companies have started creating payment for ecosystem services (PES) systems for rural households who protect the environment to receive payments from those who benefit from an environmental service. For example, a company that benefits from clean water in a local river may be willing to pay the local community to protect the nearby forest because it helps reduce runoff into the river after storms.

Over the last 15 years, USAID, the Government of Vietnam, and Winrock International have partnered together to design and implement an innovative payment for forest environmental services (PFES) system that has generated more than $700 million for 500,000 households across Vietnam to protect more than six million hectares of forest.

This internationally recognized system has become a model for sustainable financing for forest protection at a national scale, focused on supporting the needs of local communities. PFES creates a win-win-win for forest managers, local communities, and the companies that benefit from the forest protection. As PFES continues to grow and evolve, new lessons emerge and opportunities develop to improve the system. This document provides an overview of the history of PFES, including key highlights from the recent USAID-funded Vietnam Forests and Deltas Program. We hope that this tool can guide development partners around the world as they establish their own PFES systems and learn more from Vietnam's experience.

COMMUNITIES

Improving the livelihoods, income, and well-being of communities and households

COMPANIES

Demonstrating the value of the sustainable protection of forests to private-sector organizations

CONSERVATION

Protecting forests, landscapes, and ecosystems for sustainable use and enjoyment

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What is Payment for Forest Environmental Services (PFES)?

In a Payment for Ecosystem Services (PES) policy or mechanism ecosystem service users compensate individuals or communities that protect or sustainably manage ecosystems that provide essential services such as clean water, carbon sequestration, or flood absorption. PES is considered a market-based mechanism that places a financial value on a previously unvalued or undervalued service to incentivize desired behaviors.

As Vietnam was designing a system to meet their needs, they prioritized an emphasis on forests. Therefore, they decided to call their new system Payment for Forest Environmental Services, or "PFES" for short. PFES planners wanted to target sectors and institutions that rely on forest environmental services. For example, hydropower plants rely on the continued provision of consistently flowing and silt-free water to be able to operate; ecotourism operators rely on the existence of biodiverse and beautiful landscapes to attract tourists; and greenhouse gas emitting industries rely on forests to help remove and sequester CO_2 from the atmosphere.

Community-led patrol

Service Providers

payments to communities for protecting forests

Service Buyers

Hydropower plant

less soil in water for improved plant operations

VIETNAM PFES TIMELINE

2006

Payment for ecosystem services, or PES, as a concept was first introduced to Vietnam in 2006 during the development of a new biodiversity law. In the same year, the first feasibility studies of PES in Lam Dong province were carried out by Winrock International with support from the MacArthur Foundation.

2007

Beginning in 2007, USAID began its support of a new pilot PES scheme in Vietnam focusing on forest environmental services. USAID provided support through the Asia Regional Biodiversity Conservation Program (ARBCP), in which Winrock International worked closely with the Ministry of Agriculture and Rural Development (MARD) to pilot a the PES scheme in Lam Dong province. The mechanism was named Payment for Forest Environmental Services, or PFES, to highlight the important role of forests in the system.

2010

After two years of piloting in Lam Dong, plus lessons from another pilot scheme in Son La province, the Government of Vietnam issued Decree 99 on September 24, 2010 to establish the first national PFES policy in Southeast Asia.

2012

USAID launched Vietnam Forests and Deltas (VFD) to support the Government of Vietnam in ensuring that the PFES system is an effective tool in accomplishing the country's environmental and socio-economic goals.

2020

	2006	2010	2020
Provinces	2	2	45
Households	216	9,000	540,000
Payments	< $1M	$4M	$723M

all figures are cumulative

ACCOMPLISHMENTS:

$ 723,000,000 in funds transferred since the onset of PFES from 2011 to 2020

45 provinces now participating in PFES

540,000 households benefiting annually

6,600,000 hectares of forest protected through PFES in 2020

27 provinces making electronic payments to forest owners

3 provinces piloting data collection and entry in a national PFES monitoring and evaluation system

What is in this guidebook?

Each country or landscape requires a customized solution that fulfills the social, economic, political, and cultural requirements of that context. No guidebook can possibly consider all such situations. Accordingly, the PFES Practitioner's Guidebook provides a helpful framework for designing and implementing a program that fits the local conditions. In this way, it is a guidebook and not an instruction manual. We encourage teams to adapt the content of this guidebook to best meet their objectives.

The PFES Practitioner's Guidebook is presented in five phases: Engage, Define, Build, Implement, and Innovate. With each of the phases, there are steps or components. Although these phases and steps are presented in a linear format, the actual sequencing will vary according to the local context. The numbering of phases and steps within this guidebook serves more to organize the content rather than endorse a fixed order of completion. In general, practitioners will likely move through these stages in the listed sequence, returning to earlier phases as the situation evolves or new information is received.

The experiences of PFES in Vietnam have been intertwined within the steps. Rather than group all of these experiences into a single story separate from the steps, the PFES Practitioner's Guidebook places this rich content alongside the steps. It is hoped, in this way, that PFES practitioners will be able to see how this step was applied. These stories are not intended to show the "right" or "only" way in which the steps should be completed. They serve only as a means to illustrate the guidance.

PFES Phases

1 Engage
pages 7-10

2 Define
pages 11-20

steps or components

- Review context
- Establish coordination
- Raise awareness
- Build capacity
- Sketch
- Assess
- Connect
- Valuate

3 Build
pages 21-24

- Determine rates
- Define transfer
- Document agreement
- Prepare actors

4 Implement
pages 25-28

- Build trust
- Reduce risk
- Improve knowledge
- Increase inclusion

5 Innovate
pages 29-34

- Carbon
- E-payments
- M&E

Phase 1 : Engage

It can hardly be surprising that the process begins with engaging the leaders who will own and implement the PFES framework. However, in the haste to implement an activity, this critical engagement can be overshadowed with other priorities. Every step of this process should be conducted in partnership with the individuals, agencies, and organizations that operate and benefit from this framework. It is your role to ensure equitable engagement across the organizations and within the communities.

Although the steps are listed in a linear fashion, they will likely overlap in implementation. Consider the four steps as a deepening of the engagement with the identified actors. In the first step, the mode is inquiry and discussion. The second step shifts to planning and direction. The third and fourth steps increase motivation, knowledge and skills through the activities of awareness raising and capacity-building. Some activities will include elements from multiple steps. The identification of new actors may necessitate going back to an earlier step. Thinking of these steps as levels of deepening engagement with key actors might be a more helpful way of reading this guidance.

In the first step, as with any development initiative, it is important to understand the history, context, and motivations of the situation. What has been done in the past? What are the current conditions? What are the motivations for the various organizations to do (or not do) a PFES program? An open mind with lots of questions will build a solid foundation of understanding for your implementation team. This inquiry also identifies the official and unofficial stakeholders that need to be involved in the building and implementation of the PFES program. Establishing a steering committee (or other locally appropriate mechanism) will be critical in establishing priorities, leveraging partnerships, and making the most of limited resources.

The last two steps are raising awareness and building capacity of the leaders themselves. As with most initiatives, there is likely a core group of individuals who are the champions for the PFES program. There will be varying levels of knowledge and certainly limited capacity for implementing such a program if it has never existed in the region. An ongoing series of awareness-raising activities and capacity-building events can prepare all stakeholders to create a common vision and to successfully implement a PFES program.

Step 1 | Review context

Understand the current context surrounding the implementation of a PFES program. Identify the champions driving the program and all stakeholders who should be engaged. Define the motivations of all relevant agencies, organizations, and communities. Ask what similar activities have been conducted in the past and what are the current policies influencing the situation. Keep an informal and unofficial list of potential services, buyers, and providers as you proceed, updating it as you gather new information.

Step 2 | Establish coordination

Establish a coordination mechanism for the key stakeholders. This can be an advisory council, steering committee, or any other appropriate format for the local context. It is important to share implementation activities with this group even if there is an initial trade-off for speed. This group can identify potential roadblocks and critical resources that can improve implementation. Also, although your organization may be responsible for overall direction, it is important to build a PFES program in partnership with the appropriate local organizations.

Step 3 | Raise awareness

Raising awareness is the first step to getting support and collaboration from key stakeholders and constituents. For many people, a program that pays people to protect ecological resources may sound very unusual. It is important to give people time to understand new models. Often, raising awareness can be accelerated by showcasing successful programs from other regions or countries. While presenting examples, it is also important to collect questions, concerns, and comments to ensure that they are adequately addressed or incorporated into the PFES program.

Step 4 | Build capacity

Building the capacity of the leaders who will be defining, building, and implementing the program is a long-term effort that will continue while implementing the other phases and steps of this guidebook. Sequencing training events to the timing of these phases – define, build, implement – will help ensure that valuable learnings and failures from other locations are successfully applied to the local context. Where available, consider linking your stakeholders with corresponding individuals within existing PFES programs.

REVIEW CONTEXT

Reviewing the local context is a best practice in all development initiatives. It is even more important when building a new economic, social, regulatory, and environmental framework – such as a PFES program – that will likely involve actors from the public, private, and community sectors. In reviewing for PFES, consider the following context categories: historical, political, social, and ecological. Inevitably, there will be overlap and interaction between these categories.

Historical : Examine past efforts of conservation within the entire country and specifically within targeted regions (if they are known). Determine what factors have led to the attempted conservation of natural resources and which programs have been successful.

Social : Understand the cultural and economic practices regarding forest use. Review how communities, businesses, and households engage with the targeted areas. Determine general economic or social benefits or losses to constituents

Political : Review the legal policies that underpin the access, use, and protection of natural resources, particularly those laws related to the targeted forests. Review protection efforts of other natural resources to see similar policies that could be applied to forests.

Ecological : Review the components of the targeted forest both as an ecosystem in itself and within the broader ecosystem. Identify the broad factors that are currently influencing the health of the ecosystem and the impact it is having on other systems.

Vietnam, like many countries in Southeast Asia, had suffered the loss of critical forestlands and other environmental degradation from the expansion of agriculture and unbridled economic development. Diminishing forestlands caused reduced water quality, increased soil erosion, diminished access to forest products, and reduced the aesthetic appeal of natural landscapes.

Socially, the consequences of these degraded forests were felt downstream. Water supply companies and hydropower companies had to process polluted waters that reduced the efficiency and life expectancy of reservoirs and machinery. Tour companies had fewer options for tourism activities. The communities themselves faced flash flooding and fewer economic opportunities.

Historically and politically, the Government of Vietnam had established management boards for protected areas, but these relied heavily on funding from the central government. There were few incentives for local organizations and households for protecting landscapes, especially those outside of protected areas.

Leaders of the Government of Vietnam, particularly within the Ministry of Agriculture and Rural Development, desired to launch a pilot activity to demonstrate the effectiveness of a PFES program. The government was eager to test models in two areas, Lam Dong Province in the Central Highlands and Son La Province in the north. This coincided with USAID's goal to help partner countries develop the capacity to improve landscape-level ecosystems and biodiversity habitats.

2 ESTABLISH COORDINATION

After reviewing the context and identifying the key stakeholders, establish a steering committee. Depending on the local context, this can be an advisory council, working group, or other appropriate format. Have as broad a representation of the various groups and stakeholders, to the extent possible, even if that means trading off a little efficiency. In general, it is better to ensure that all voices and concerns are heard before progressing too far in implementation. This group, regardless of the exact name and format, should strive to share understanding, mitigate risks, leverage resources, and identify actions.

Share understanding : Disseminate findings and preliminary conclusions with your steering committee as you progress. Others will provide additional context that may have not been previously uncovered. Also, the steering committee may be one of the only existing platforms for actors from different sectors to share information and broaden perspectives.

Leverage resources : Different organizations have different financial, social, and other resources that can support the design, build, and implementation of a PFES program. A steering committee is a great venue to share needs and challenges that others may be able to easily address.

Mitigate risks : All new programs have a chance of failure. Those that succeed have a high probability of causing unintended consequences. Routinely meeting with a steering committee can help to identify potential and emerging risks. Open discussion also shares responsibility with all actors without unduly blaming the implementer.

Identify actions : A steering committee can help to identify actions. At a minimum, they can endorse or inform proposed work plans. Co-implementation is not always a reality. Nonetheless, avoid moving too far ahead of your local stakeholder organizations.

A national PFES Steering Committee was established in Vietnam. As there was broad interest and support across the government, participants included representatives from the Ministry of Agriculture and Rural Development, Provincial People's Committees, Office of the Government, Ministry of Planning and Investment, and Ministry of Finance. The government agencies also had access to private sector organizations and community groups within their areas of oversight.

The committee defined its role as reviewing, leading, and monitoring PFES implementation, and determining the selection and sequencing of forests and communes. Having all relevant agencies on the steering committee helped to coordinate the creation and execution of new policies to promote and expand the PFES program.

3 RAISE AWARENESS

Raising awareness, in this phase, is primarily focused on the key decision-makers and influencing stakeholders. The audience will primarily be the members of the steering committee as well as any other individuals who will be involved in the design of the PFES program. A broader awareness-raising campaign to inform private-sector organizations and community groups will occur in a later phase. For now, the focus of this awareness-raising effort is to ensure that the key decision-makers have the information they need to design a PFES framework that builds on past efforts and gives them adequate knowledge to customize the program to the context of their country.

The best method for raising awareness is to identify counterparts in other countries who have implemented a similar program. Providing government officials, private-sector actors, and community leaders the opportunity to speak with corresponding individuals in other contexts allows them to speak the same language and to have greater confidence in the content. This dialogue can occur through study tours, visits from experts, and virtual conferences.

During the development phase, the U.S. Forest Service (USFS) supported a study tour to the United States for participants from Vietnam, Cambodia, and Thailand. The tour visited successful PES watershed-management projects in which upstream forest and ecosystem service providers receive financial incentives from downstream beneficiaries. Participants also learned how PES programs in Hawaii, Oregon, and New York calculated economic demand for watershed services and garnered support for the services through tangible economic incentives.

Through presentations, site visits, and discussions with local officials, participants learned about interagency cooperation, innovative public-private partnerships, and legislative and legal support mechanisms designed to encourage private-sector involvement in service delivery. The project worked with the Vietnamese participants to identify the best practices presented in the study tour when designing the PFES mechanism with Vietnamese water utilities, hydropower companies, and tourism operators. The tour also exposed the participants to the range of scientific, legal, political, and administrative procedures required to facilitate PES projects in the United States and their relevance for Vietnam.

4 BUILD CAPACITY

Provide capacity-building to all individuals who will be responsible for implementing the PFES framework. In some contexts, this may be primarily government officials. In other regions, this may be primarily private-sector actors and community leaders. Further, capacity-building, although listed in this first phase, will be ongoing as specific regions are selected, various components of PFES are designed, and responsible agencies are identified.

If your PFES process is heavily led by government agencies, then capacity-building around drafting appropriate policies and legal frameworks would be an immediate priority. If there is a need for assessing the potential services of a forest landscape, then technical training sessions will need to be provided. Training for the service providers themselves will come in a later phase. The focus on capacity-building here is for those agencies and organizations that will be defining and operating the PFES program.

To prepare Lam Dong Province to undertake the PFES program, the project worked with provincial officials to establish a Lam Dong PFES Technical Working Group made up of forestry and environmental experts from the province, as well as key technicians and civil servants from relevant government agencies.

The project organized a series of workshops and discussion groups with experienced international PES experts, including experts from the New York City Water Supply-Catskill Watershed Corporation and the Heredia Public Utilities Company of Costa Rica. Provincial technicians were also supported in attending overseas courses and undertaking study tours to build their capacity and improve their knowledge in tourism (Australia), watershed management (United States), and water modeling (Thailand). The project facilitated more than 50 technical training sessions for officials and technicians from more than 15 provincial agencies.

Phase 2 : Define

In Phase Two, you will define the PFES framework. It cannot be stressed enough that this is an iterative process. Although this phase is explained in four steps, the process is circular. As you collect more information, the framework will be adjusted. However, it is critical that you start with a framework informed to the extent possible by the discussions you have had with the leaders and stakeholders in Phase One.

The framework will have three essential elements: services, service providers, and service buyers. Services to protect the forest are completed by the service providers in exchange for fees paid by the service buyers. Further explanation is provided on the next page for these three elements. Depending on the complexity of the framework, and the level of trust between service providers and service buyers, a fourth element might be needed: service broker. The service broker serves as a neutral party to hold payments from service buyers until completion of services has been confirmed. The service broker provides increased transparency through reporting and can add legitimacy to the framework, allowing it to expand to additional service providers and service buyers.

As you draft and assess the elements of this framework, it will be important to engage the representatives of the potential service providers and service buyers. As much as possible, involving them in the process can increase their understanding of the framework and, ultimately, willingness to engage with the other parties. Building trust across all groups starts now. Being transparent in your work and facilitating dialogue with potential participants will provide critical feedback as to shortcomings and strengths of the framework.

The valuation is the ultimate "rubber meets the road" moment of the framework. Although every effort will be made to calculate a true value for services that adequately compensates service providers while adding value to the operations of service buyers, there is an inherent conflict of interests that must be negotiated. Of course, service providers want a high value placed on services. And, service buyers seek to pay a low fee. Government agencies and other stakeholders external to the transaction may also have interests and motives on the valuation. Go slow, as this process may take time. Time spent on this task can potentially save a lot of angst later, and potentially keep the framework alive.

Step 1 | Sketch

Draft the framework based on the best information you have. Your stakeholders may have already selected the geographic region, specific services, and even the organizations. Or, none of this has been determined. Sketch the framework that shows the current best understanding of the services, service providers, and service buyers. This is an iterative process and the framework will be adjusted, so don't worry if it is not perfect at this stage.

Step 2 | Assess

Conduct assessments as needed to confirm the geographic region, specific services, potential service providers, and/or targeted service buyers. The depth and breadth of these assessments needs to match the requirements of your stakeholders (and, of course, your budget). Based on the findings from the assessments, you will make adjustments to your framework.

Step 3 | Connect

Engage your stakeholders and representatives of the potential participants. Your stakeholders may include funders, government agencies, and local advocacy groups. Potential participants include members of the communities who will provide services as well as representatives from the industries who will be service buyers. After sharing your assessments and sketch, listen to the feedback and make adjustments to the framework as needed.

Step 4 | Valuate

Determine the value of the services. The value of the services needs to meet the needs of both the service buyers and the service providers. First, it needs to show a cost savings to the service buyers in operational costs and asset protection. Second, it needs to exceed the potential earnings from unsustainable or illicit activities that harm the forest. If there is a service broker, then the price needs to cover transactional and oversight costs.

Ecosystem Services are broadly defined as the benefits people receive from ecosystems. The Millennium Ecosystem Assessment divides ecosystem services into four categories:

- Provisioning of food, fresh water, fuel, materials, and other goods;
- Regulating climate, water (floods, droughts, quality), land quality, disease;
- Supporting services such as soil formation and nutrient cycling;
- Cultural services such as recreational, spiritual, and religious benefits.

Humans rely on ecosystem services to ensure their basic well-being, but demands on ecosystems are increasing, thus creating a need to conserve and protect ecosystems to ensure continued benefit to people.

Service Providers are the individuals and communities who live in or near the ecological area and who have the ability to protect and conserve ecosystems by providing services. For example, a community can patrol areas of protected forest, enforce prohibitions on tree clearing, and establish fire watch stations. The combination of these services can reduce soil erosion and soil run-off, increasing the efficiency and profitability of downstream hydroelectric power plants. Often, households within these communities must balance short-term economic value from the environment (i.e., cutting trees for timber or clearing land for crop planting) with long-term, less tangible benefits from ecosystem services. Compensation for ecosystem services can incentivize households to conserve them.

Service Buyers are the organizations who rely on ecosystem services for their business operations. Service buyers can be private-sector organizations or public service providers, like a water utility. Service providers can be located within or outside of the immediate ecosystem. Ultimately, the service provider is gaining an economic benefit from ecosystem services. An example would be a hydroelectric power plant that needs to reduce sediment deposited in their reservoirs. A service of reducing soil run-off into the waterways would increase the efficiency and profitability of the power plant.

SERVICES

1 SKETCH

The first step is to determine which service will be the focus of PFES. It is better to start with a single focus than to overcommit. The services can be thought of in two groups according to where the service buyers will monetize the benefits: on-site and downstream. The on-site services focus on benefits that will be realized by service buyers in the forest itself. Examples of these services are natural beauty, biodiversity conservation, and spawning grounds. Downstream services generate benefits that will be realized outside the forest itself. These services include soil protection, water regulation, and carbon sequestration. It is important to note that both on-site and downstream services benefit the forest; the benefit to the service buyer is just realized differently.

PFES in Vietnam began with a focus on biodiversity, as this was aligned with the primary objective of conservation for the original USAID-funded Asia Regional Biodiversity Conservation Program. The project focused on the Dong Nai watershed and surrounding areas in Dong Nai, Binh Phuoc, and Lam Dong provinces. When the USAID-funded Vietnam Forests and Deltas project started, and after significant engagement with the Government of Vietnam, the focus of services shifted to soil protection, as there was a significant need for this benefit from downstream hydropower plants. Later, services were expanded to include water regulation for companies engaged in fresh water supply.

2 ASSESS

Next, assess the services to determine the viability, targets, and potential unintended consequences. For viability, determine how well the service can be provided by the local communities. Identify existing incentives that would continue current harmful practices and, to the extent possible, the potential consequences (social, economic, ecological) of changing practices. Calculate a baseline of the current health of the system, using indicators and measures relevant to the service. For example, if focused on soil protection, calculate current levels of productive soil, run-off rates, and current preservation practices. To the extent possible, calculate a quantifiable measure of the system's health such that services can later be measured to maintain or improve the health of the ecosystem.

Under ARBCP, with biodiversity as the primary service, the team assessed critical ecological processes (habitat manipulation by very large herbivores and predation by large carnivores); three focal communities (upland evergreen forest, non- or slow-flowing wetlands, and fast-flowing rivers and streams); and 36 focal taxa (five mammals, seven birds, one reptile, one amphibian, and 22 plants). The team also conducted a spatial assessment to determine the level of economic threats in the priority conservation areas. The combination of these studies enabled the team to understand how to assess the impact of the services against the threat of existing practices.

3 CONNECT

In this step, connect with all critical stakeholders, including funders, government agencies, potential service providers, and potential service buyers. The depth, complexity, and frequency of these engagements will, of course, depend on the situation. At a minimum, it is critical to ensure all stakeholders understand the mutual benefits of PFES to each actor. Share information collected from the assessments. Use the conversations to surface objections and concerns. Engagement activities, depending on budget and time, can include study tours, expert presentations, and community-level awareness campaigns. While there is a teaching element to engagement, this is not intended to train service providers or government officials on implementation. The opportunity may be used, however, to gain information on potential capacity-building needed later for implementation.

For Vietnam, the U.S. Forest Service provided a study tour for stakeholders. Through presentations, site visits, and discussion with local officials, participants learned about interagency cooperation, innovative public-private partnerships, and legislative mechanisms to support service delivery. Community outreach efforts included a multimedia publicity program of billboards, radio, and television. These were followed by contests, performances, and competitive role-playing skits to encourage attitude and behavioral change.

4 VALUATE

The valuation is the last and most critical step of this phase. In a purely transaction model, the costs of conducting the services would be determined and the price set accordingly. However, the needs and influences of other stakeholders must be considered. The price must be high enough to disincentivize old, harmful practices. The price must not be too high as to exceed the economic benefit to service buyers. Government agencies are balancing the needs of both constituents. For now, calculate the time and material costs of providing the services. This is your starting point for engaging with service providers and service buyers.

The Vietnam project identified specific services that would be provided under conservation. These services included routine patrolling, reporting of illegal encroachment activities, installing signage, establishing fire breaks, removing combustibles, and constructing fire sentry towers. For each of these services, the project determined the initial construction or purchase costs, ongoing maintenance and supply costs, and labor needs to conduct these services in each of the seasons (in particular, the dry season, where an increase in services would be required to reduce the risk of fire).

Services

SOIL PROTECTION, EROSION CONTROL
Deforestation leads to erosion and loss of soils that negatively affects downstream hydropower plants and fresh water supply companies. Protecting trees and expanding forest lines can create a strong root system to protect the soil and a canopy to protect the topsoil from excessive rains.

WATER REGULATION AND SUPPLY
With intact roots protecting soil, forests act as a sponge, absorbing water that is slowly released into streams and rivers. Some water goes deeper, into underground aquifers. Water that is taken up by trees moves back into the atmosphere through evapotranspiration that supports a stable water cycle.

BIODIVERSITY CONSERVATION
Intact forests provide essential habitat for species large and small, including endangered species. Coastal mangrove forests provide critical spawning grounds for fish – a critical protein source for many people in the world.

NATURAL LANDSCAPE BEAUTY
Intact forest areas provide natural beauty that entices tourists to take a break from urban areas, and offers the opportunity to view wildlife. Intact forests also provide difficult-to-quantify mental health and spiritual benefits to those that live in and around them.

FOREST PRODUCTS
Forests provide timber and non-timber products that support nutrition and health, as well as economic opportunities to people living in and around them. Forest products such as medicinal herbs and tree crops like cashew and coffee may be consumed directly or sold for profit. Forests also provide materials like timber and thatch to construct shelter or sell.

CARBON SEQUESTRATION
Forests are often referred to as “the lungs of the planet.” By taking in CO_2 and releasing oxygen, forests are critical to the survival of all living beings. Forests and the biomass in them store carbon for long periods of time, making them a critical factor to mitigate increasing CO_2 levels.

SERVICE BUYERS

1 SKETCH

In this step, identify the potential service buyers. Depending on the selected service, the specific buyers may already be known. If not, identify the business sectors that would benefit from these services. For example, if the service is natural landscape beauty, then the tourism sector would be targeted. From here, identify potential firms within the sector. Identify how these services would benefit their operations. Make introductory visits to actors within these industries to better understand their operations. List questions and topics that should be included in an assessment.

The Vietnam project began with a focus on watershed management that emphasized biodiversity conservation. For this service, the project identified tourism operators in Lam Dong province. Although this remained a priority, the project expanded priorities to include the service of soil management when they learned of interest by potential service buyers. Specifically, two hydropower companies, Da Nhim and Dai Ninh, and Sai Gon Water Company were identified. When water regulation was later added as a service after the initial launch of the program, the project identified Dong Nai Water Company. In this iterative process of defining the PFES framework, the selection of services, service providers, and service buyers must be done together. Do not adhere to the these steps in a specific order as the process will need to be altered to meet the specific context.

2 ASSESS

Assess and understand the operations of the potential service buyers. It is critical to thoroughly comprehend the business model and related operational costs of each service provider. Identify the specific intersection points where potential service buyers engage either directly with the ecosystem or with the effects of the ecosystem. At each of these intersection points, determine the negative impact on the operations of the service provider. Identify the approximate costs in labor, resources, downtime, customer satisfaction, and other inefficiencies at these intersection points to the extent possible. This information can be collected in conversations with service providers or through comprehensive studies. It is important to be able to articulate in a few sentences why the services will provide a clear economic benefit to the service buyer.

Two hydropower plants were identified as potential service buyers who would likely benefit the most from PFES services in Vietnam. The project used a Soil and Water Assessment Tool (SWAT) to analyze water runoff and corresponding sediment. Generally, more sediment is carried into a stream running through agricultural land than a similar stream running through intact forest. The storage capacity of downstream reservoirs decreases as a result of sedimentation, shortening the reservoir's useful lifespan and creating a significant and quantifiable financial loss. Using SWAT, the project calculated the impact on hydropower plants from two scenarios: preserving 45,000 hectares of forest versus converting this land to agriculture. This model estimated the varying water inflows and related costs to each scenario, which was critical information to the understanding the operations of hydropower plants.

3 CONNECT

Connect with the service buyers to share findings and preliminary conclusions from the assessments. This dialogue can be done with a group of similar service buyers or with individual organizations, depending on context and sensitivity of the information. The goal of these conversations is to demonstrate understanding of their operations and to confirm the validity of assessment findings. It is also important to note the receptivity and openness of service buyers towards addressing the inefficiencies identified in the assessments. Try to uncover any concerns or hesitations from service buyers on addressing these topics. Identify if there are other activities that they have implemented, are implementing, or plan to implement to address these inefficiencies. These are alternatives that can inform the final selection of services.

Sustainable and effective conservation in Lam Dong province depended in part on the development of ways for forest residents to reap measurable financial rewards from the province's inherent beauty and aesthetic values. After completing several studies that provided a basis for medium- and long-term sustainable tourism planning, the project facilitated a dialogue with the tourism sector and related government agencies to discuss options and to draft a plan to fund conservation of Lam Dong's natural and cultural assets. Potential payers were identified and awareness programs were implemented to expand knowledge about the economic benefits of services (and lack of services) on tourism operations.

4 VALUATE

This last step is a critical element of the framework. Ultimately, what price will service buyers be willing to pay? A primary factor that service buyers will consider is the impact on the operations. A thorough assessment and understanding of their operations, as completed in the earlier steps, will provide a degree of accuracy in establishing the correct price. Another factor is the confidence that service buyers will have in trusting that service providers will actually perform the services indicated. Consider reporting, monitoring, and other actions that can increase transparency from the viewpoint of the service buyers. Although protecting the environment can be seen as a goal all onto itself, it is critical to understand and agree on the financial components of the transaction as this will most likely lead to long-term viability of the service provision program.

In the assessment step, the Vietnam project had assessed the impact on reservoir performance of hydropower plants for two different scenarios: preserve forest versus convert to agriculture. A model was established that took into consideration the sediment deposited in the reservoir for the two scenarios. The total power generation forgone due to the shift between the two scenarios was estimated, followed by the cash-flow from the power generation during the lifetime of the reservoir. The change in the profit between the two scenarios was estimated. These models showed that one hectare of forest attributed about $69 per year from benefits to the hydropower plants in water regulation and reduction of sediment.

Service buyers

HYDROPOWER PLANTS
To generate electricity, plants need large quantities of clear water. Silt and soil from forest erosion clogs the turbines which reduces efficiency and raises costs. The lifespan of the facility also depreciates quickly, increasing the maintenance cost of the entire plant.

AQUACULTURE PRODUCERS
Coastal forests (mangroves) provide essential nursery habitat for aquaculture. Inland aquaculture operators benefit from clean water to supply their operations. In Vietnam, the primary aquaculture species are shrimp, tilapia and catfish.

ECOTOURISM OPERATORS
Forests provide natural beauty that entices tourists. In addition, the habitat provided by forests creates opportunities to view wildlife in their natural environment.

INDUSTRIAL WATER USERS
Clean water is essential to many manufacturing companies, ranging from textile to beverage production.

WATER UTILITIES
Public water systems may rely on groundwater or surface water to provide piped water supply for both rural and urban areas. Forests play an essential role in regulating water supply by slowly absorbing and releasing water into the ground.

CARBON EMITTERS
Forests are a carbon sink – removing more carbon from the atmosphere than is released from a given area. Carbon offsets are increasing in popularity as companies try to pursue more sustainable practices, and forest areas can be certified to provide carbon offsets if they are adequately managed or protected.

SERVICE PROVIDERS

1 SKETCH

Determine the potential service providers who are best positioned to provide the identified service or services. It is critical to understand the local organizational system, both from a political and community perspective. Seek existing organizations that are already providing similar services. Determine if any existing local networks or associations would be capable of providing the services. Initial inquiries are necessary, but be sure to limit any commitments until you have defined the framework (broader engagement will come in a later step). Although the assessment comes next, it can be helpful to determine the types of questions or topics that should be covered in the assessment.

The Vietnam project worked through the local Provincial People's Committee to explain their conservation objectives. Existing forest management boards were identified as a critical ally and entry point into the communities. Initial discussions with these boards mapped their zones of influence which had a significant overlap with the targeted watershed areas. However, there were several areas not covered by the boards. The project worked with the leaders of five local hamlets to identify existing households that could provide patrolling and clearing services. The project also determined that they needed a series of questions in their assessment to better determine the workload of these services against the current time allocation of these households.

2 ASSESS

The next two steps – Assess and Connect – occur near simultaneously. Initial efforts will include a combination of capacity assessment and awareness raising. This explanation will focus on the capacity assessment, but keep in mind that this will be done while also raising awareness. It is important to understand the current practices of individual households and the surrounding community towards the targeted forest regions. Determine the existing rules and practices for accessing forest resources, protecting the natural assets, and monitoring the health of the ecosystem. Review the capacity of existing social infrastructure which can include community boards, citizen associations, or social hierarchies. Determine if there have been past efforts to either protect or harvest natural resources. Assess the general viewpoints towards the value of the landscape either in short-term benefits or for deeper cultural significance.

The Vietnam project began with determining the perception of forest communities towards natural resources. A positive discovery was the existence of forest management boards in many of the sub-regions surrounding the targeted ecosystems. The commune leaders and forest management boards had interest in maintaining the forest system but lacked resources to consistently monitor and maintain the forest. As can be expected across communities, there was a variation in understanding about conservation and the long-term value of sustainable practices. Community stakeholders agreed that a broad awareness campaign would be necessary along with the training of the specific individuals who would be providing the services.

3 CONNECT

Connecting at the community level includes two activities: broad awareness-raising and engagement of potential service providers. Eventually, the goal is to have service providers conducting monitoring, preservation, and protection activities on behalf of the wider community. It is critical that the broader community knows of these activities and understands the importance of these activities towards the larger goals of natural resource preservation. Otherwise, service providers could be placed in difficult situations of enforcing practices that anger community residents.
The service providers themselves need to co-construct the roles that they will perform in completing the services. Be sensitive to the selection of individuals and households, particularly gender roles and participation of minority groups. It is important to ensure that benefits accrue equitably within a community and that begins with ensuring knowledge is shared fairly across all groups.

The Vietnam PFES work began with broad sensitization campaigns both at the commune and district levels within the Dong Nai River basin. These campaigns focused on the larger topic of conservation. Local campaigns, launched in coordination with district officials and community leaders, featured contests, performances, and competitive role-playing skits. Several of the skits were televised across the Lam Dong province with an estimated reach of one million residents. Within target communities, discussion groups were held with local constituents to discuss service-for-payment models and to explain why service buyers would be willing to pay for specific services.
The project shared information on potential services and service buyers as identified in the assessments, and collected feedback from the community participants.

4 VALUATE

Valuation, as cannot be overstated, is a critical step in the process. From the perspective of service providers, the valuation must meet two primary criteria. First, the price structure must positively incentivize individuals and households towards conservation actions, deterring them from seeking harmful, short-term activities that deplete natural resources. Second, the price structure must sufficiently compensate individuals for the time and resources applied to the conservation practices as well as any opportunity costs from forgone income-generating activities. As much as possible, it is important to construct services that can coincide with existing household and community practices, being mindful not to over-stretch current livelihood and household responsibilities.

PFES developers in Vietnam worked with community leaders to explain the basic operations of hydroelectric power companies, tourism companies, and other potential service buyers. This series of explanations helped communities to understand the needs of the service buyers and to realize that there was a ceiling on the price that could be charged. Likewise, the project analyzed the time and resources that would be required to provide services. Discussions with community leaders and representatives helped to confirm an acceptable price range that would cover operational costs, compensate people for labor, and ultimately keep the majority of participants committed to the program.

Service Providers

FOREST COMMITTEES
In some areas, communal or state-owned forestlands are managed by forest committees that play a structured role in deciding how forests can be used, such as for agroforestry, or completely protected from human encroachment, patrolling for and reporting illegal activity (like unlawful timber harvesting or poaching). Forest committees are made up of people living in and around forests that have a deeply vested interest in conserving forested areas through the services they provide.

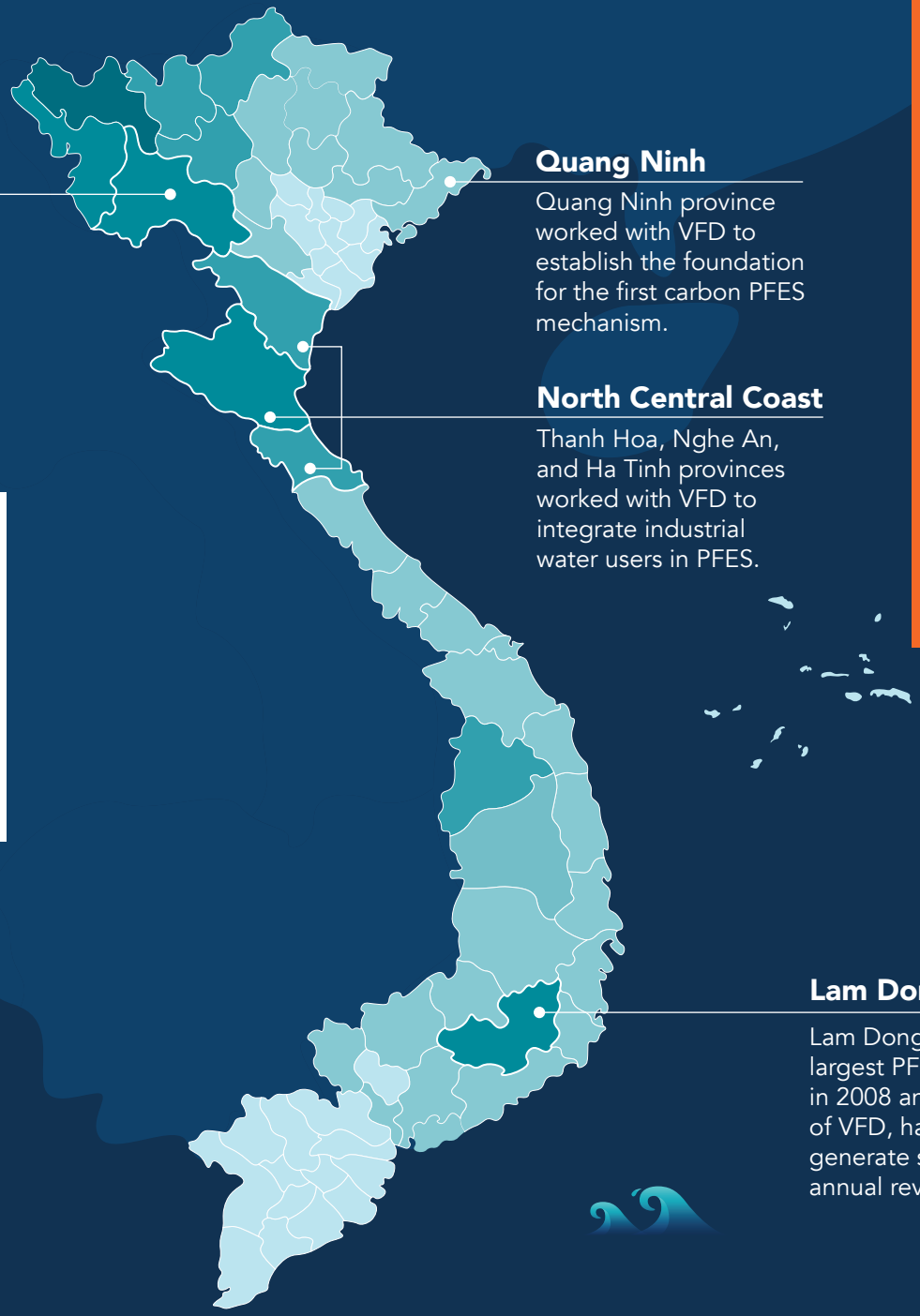
COMMUNITIES
Communities may take an active role in managing communally owned forestlands. In some areas, there may be local rules and regulations on forest use, and designated roles and responsibilities for community leaders and community members. Community leaders in particular can play an important role in implementing national or provincial forest protection measures.

HOUSEHOLDS
Privately owned forest lands might be used for production, such as for timber or agroforestry products, or may be kept intact as natural forest for conservation purposes. Depending on forest ownership practices in a given place, private forest owners may play an outsize role in protecting and managing forests.

PRIVATE-SECTOR
Corporate-operated forest areas are typically used for productive purposes, such as timber plantations, coffee, cocoa, and other profitable crops. Management practices in corporate-owned forests vary widely, but as consumer demand for sustainably grown products increases many private-sector companies are investing in more sound management practices.

Payment for Forest Environmental Services in Vietnam

Total Revenue by Province, 2019



Son La

Son La province, one of the first PFES pilot provinces, worked with VFD to establish e-payment systems and empower women to manage PFES funds at the village level.

Quang Ninh

Quang Ninh province worked with VFD to establish the foundation for the first carbon PFES mechanism.

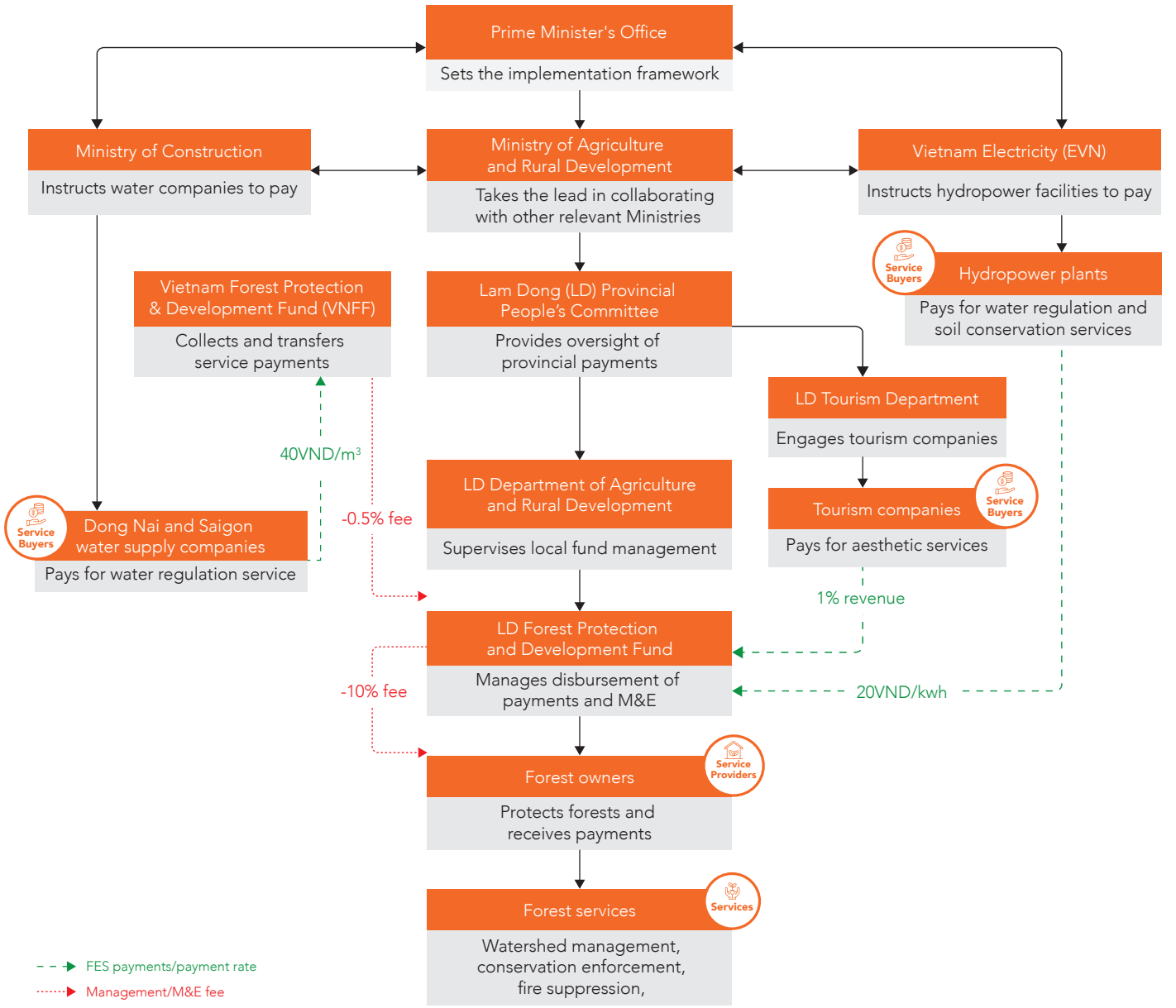
North Central Coast

Thanh Hoa, Nghe An, and Ha Tinh provinces worked with VFD to integrate industrial water users in PFES.

Lam Dong

Lam Dong province was the largest PFES pilot area starting in 2008 and, as a close partner of VFD, has continued to generate some of the highest annual revenues.

After several rounds of assessments and engagement activities, the Government of Vietnam outlined a framework for a PFES pilot stage in two provinces. The diagram below outlines the structure of the pilot in Lam Dong province.



Vietnam PFES Framework

The design of a PFES framework can be as simple as a triangle with the three core elements of services, service buyers, and service providers. Over time, the triangle can evolve to include the roles of additional actors, including regulatory bodies, government agencies, and intermediary funds.

The PFES framework on this page was adopted by the Government of Vietnam for a PFES pilot stage. The three core elements are shown in the diagram next to the corresponding icons: services (forest services), service providers (forest owners, service providers), and service buyers (water supply companies, tourism companies, hydropower plants).

The top of the diagram shows the role of the government in enforcing the framework. The Ministry of Construction oversaw the water companies (paying 40VND per cubic meter of water) and Vietnam Electricity (EVN) oversaw the hydropower plants (paying 20VND per kilowatt hour). Local provincial governments oversaw the tourism department, which coordinated with tourism companies (paying 1% of revenue).

One other key element of this framework is the role of a fund. The use of a transfer mechanism, such as a fund, will be explained in the next phase of this guidebook. The fund acts as an intermediary between the service buyers and service providers. The fund provides transparency and builds trust between the other actors by ensuring that service providers complete services and service buyers make payments.

In Vietnam, depending on the service area, payments are processed through either a national PFES fund or provincial funds. These funds use a small percentage of the payments for their own management costs, and then transfer payments to service providers based on the payment schedule.

The design of PFES frameworks will differ according to the types of services, service buyers, and service providers selected. There is no "right" framework. It is more important to be flexible and to capture the roles of all actors, agencies, and organizations, making adjustments as situations inevitably change over time.

Phase 3 : Build

With a clear definition, the construction of the PFES program can begin. This is rarely a linear process. New information will surface while establishing components of the program. Adjustments will need to be made to emerging conditions and changing opinions of stakeholders. Be flexible and patient. Better to go slow and ensure that everyone is heard than to move too quickly. Every local context will be different as to the sequencing of steps, but the four key areas listed below should be carefully considered.

Sooner than later, determine the rates. Without agreement on a rate structure there will be little progress. There are many stakeholders with different priorities that may conflict with the needs of others. Facilitating discussions with the stakeholders and helping all parties reach agreement is a critical first step. Define how these payments will be transferred, whether directly between service buyers and service providers or through a third-party entity.

Document everything. This can be an agreement between the service buyers and service providers or it can be a government policy. Ensuring that all parties understand all commitments is critical to long-term success. And, finally, prepare actors to perform these commitments. Build the capacity of the communities, households, and individuals who will be providing the services. Help the service buyers to measure the impact of the service on their operations to increase their confidence and commitment to the PFES program.

Step 1 | Determine rates

After all of the assessments have been completed, there is still a range of acceptable rates under which a PFES program could operate successfully. There is no standard method for determining a rate. Keeping open and positive dialogue between service buyers and service providers will be critical in reaching a rate structure that all participants can support for the long-term. If government agencies are involved, provide as much information as possible to support their policy.

Step 2 | Define transfer

Define the mechanics of how the funds will be collected from the service buyers and transferred to the service providers. This can be a simple routine transfer. Or, this can include a third-party entity to serve as a broker between the two parties. This transfer mechanism could provide additional roles of service monitoring and impact reporting to further improve transparency, understanding, and confidence in the PFES program.

Step 3 | Document agreement

A policy can range from a simple agreement between service buyers and service providers up to a national government edict. It is important to ensure that all terms, actions, and conditions are documented in such a way that they are understood by all parties, particularly service providers. If a transfer mechanism is involved, then additional information will need to define the role, oversight of this entity, and means of conflict resolution.

Step 4 | Prepare actors

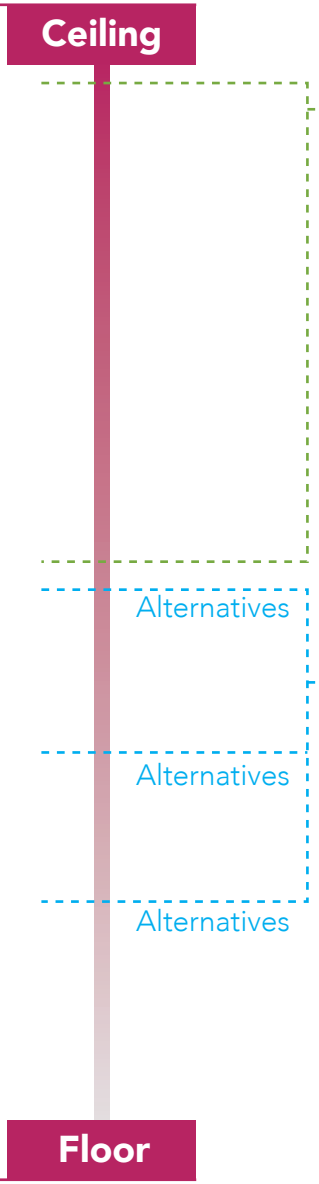
With a rate structure, transfer mechanism, and documented agreement, it is now time to prepare all actors to perform their roles. Most of the learning and skill acquisition will be by the service providers in learning the new skills for their role within the PFES framework. Also help service providers expand or establish sustainable agroforestry livelihoods to resist temptations of short-term destructive actions. Be sure to help service buyers monitor the impact of services on their operations to increase their commitment.

DETERMINE RATES

Setting rates is a challenging task that involves many considerations from multiple stakeholders. The following guidance is offered as a suggested process based on experience and reflections in Vietnam, but should be adapted to the realities of the current context.

Ceiling. The ceiling is the maximum price that could be charged for the services. The ceiling is usually determined by calculating the business case for two scenarios from the perspective of the service buyers. In the first scenario, calculate the operational costs to the business if the degradation of forests continues at the current pace. In the second scenario, calculate the operational costs to the businesses if the services limit degradation of forests. The difference between these two scenarios -- the operational savings to the business -- is the most a service buyer should pay. Use caution in setting a price too close to the ceiling. If the service buyers improve their operational efficiency just a little, then there would be no business rationale to continue buying the services.

Floor. The floor is the minimum price that could be charged for the services. The floor is usually composed of two parts: service costs and transaction costs. The service costs are the investments, materials, and labor needed by service providers to perform the service. The transaction costs are the expenses for conducting, paying, monitoring, and reporting activities within the program (whether these are conducted by the service providers or a third-party intermediary). The price paid by service buyers should exceed the combination of service costs and transaction costs. Use caution in setting a price too close to the floor. If there is a slight increase in any of the costs associated with service delivery, then service providers may not continue to provide the services.



Policy

Policy. The other elements - ceiling, floor, alternatives - provide the economic rationale behind setting the price. If the PFES model is being established directly between service buyers and service providers without government intervention, then this may be all that is needed. However, government agencies have a wide range of constituents and priorities to consider. Sharing the economic considerations will help the government agencies to assign an appropriate rate while being aware of the risks for sustaining PFES activities. Governments may attempt to raise the ceiling (or offset the service buyer fees) by offering a subsidy. Be careful as even temporary subsidies have difficulty being repealed.

Alternatives

Alternatives. The PFES model has identified specific services to conserve forestlands that will promote long-term sustainability. However, there are also short-term activities - legal and illegal - that service providers could choose as alternatives to the proposed services. List these alternatives on the rate diagram. Note that these alternatives could be anywhere: below the floor, above the ceiling, or in between. Alternative actions that are below the floor are not likely to carry significant risk. Those alternative actions that exceed the ceiling will need to be reviewed carefully to determine the risk and probability of these actions undermining the PFES model. Alternatives within the ceiling and floor should be considered when establishing the final price.

Vietnam experience

In Vietnam, two scenarios were analyzed: preserving existing forest cover versus converting 45,000 hectares of pine forest to agriculture. The project estimated water runoff and sediment levels entering the Da Nhim Reservoir. The varying water inflows generated by the analysis were entered into a Power Generation Production model of the Da Nhim Hydropower Plant to estimate the daily power production outputs. The production value and net benefit under the two scenarios were estimated, as well as the Net Present Value (NPV) of the forest in dollars per hectare per year.

The total power generation forgone due to the shift between the two scenarios was estimated, followed by the cash-flow from the power generation during the lifetime of the reservoir. The change in the NPVs between the two scenarios was estimated, as well as the NPV of the losses. Finally, the value of the environmental service that forests provide in reducing sedimentation in the reservoir was estimated.

Results indicated that one hectare of forest was valued at US$69 per year to the Da Nhim hydropower project, of which US$14.60 was attributed to the benefits accrued from water regulation and US$54.40 for reduction of sediment into the reservoir. Translated into production cost, water regulation and soil conservation were priced at 64.55 VND per kilowatt-hour of electricity produced—14.90 VND for cost of water regulation and 49.60 VND for reduction of sediment into the reservoir. These initial estimates formed the basis for policymakers to consider and ultimately decide upon the payment levels: 20 VND per kilowatt-hour for power generation and 40 VND per cubic meter for water provision.

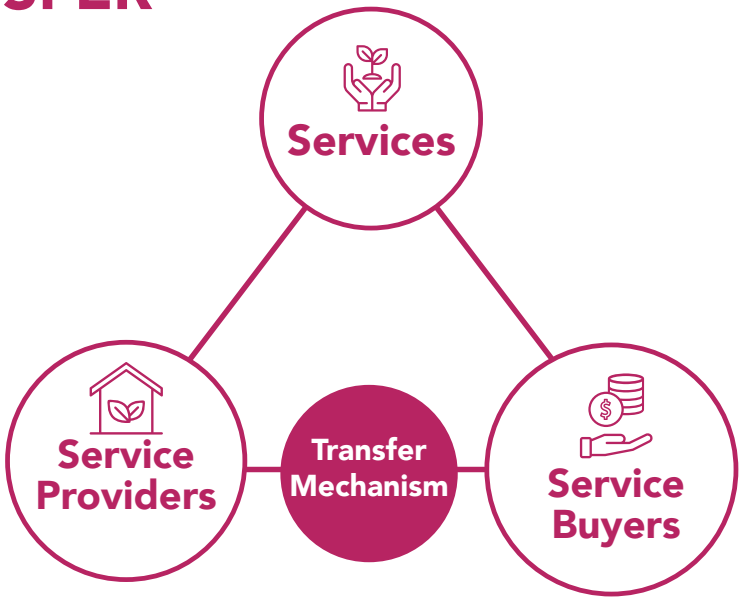
Since the initial price was set in 2010, there have been a number of adjustments. In 2016, the price for hydropower increased from 20 VND to 36 VND per kilowatt-hour. This price increase was based on a combination of factors, including recognition that the initial price was set much lower than appropriate to cover service and transaction costs; an increased confidence all around that PFES was working and therefore increased confidence of service buyers; and, additional follow-up economic analysis that confirmed a higher price was appropriate.

2 ⇔ DEFINE TRANSFER

Launching a PFES framework requires trust between service buyers and service providers. A well-designed transfer mechanism can serve as a bridge between the two groups and help to develop trust. A transfer mechanism can take on many forms. In Vietnam, the transfer mechanism was an independent organization with a governing board. Essentially, a transfer mechanism can be any third-party intermediary that performs transactional services to expedite the relationship between service buyers and service providers.

A transfer mechanism is not required, but strongly encouraged. At a minimum, an agreement can be made to determine how service buyers will transfer funds to service providers. As the complexity of the services and relationship increases, additional actions such as monitoring service and assessing impact may become difficult to complete, leading to a loss of trust and a potential breakdown of PFES activities.

A transfer mechanism can provide three general supportive actions: collect and pay, monitor services, and assess impacts. Each supportive action is important for the long-term sustainability of a PFES program, but each requires financial resources and should be factored into the rates. Accordingly, the timing for establishing each service should be determined carefully so as not to overburden the implementation of the PFES program.



Vietnam experience

The project helped establish Vietnam's first provincial Forest Protection and Development Fund (FPDF) in Lam Dong Province. Lam Dong's FPDF served as a key financial component of Vietnam's first decentralized budget-transfer mechanism. The fund was designed to be overseen by an independent governing board consisting of representatives from Department of Agriculture and Rural Development, Department of Finance, Department of Natural Resources and Environment, Department of Planning and Investment, Department of Taxation, Department of Industry and Trade, and the State Treasury, who together appointed the fund's manager. The fund is monitored by independent auditors to ensure transparent and proper use of the monies received and paid out for the forest protection services.

The FPDF is also responsible for monitoring contracting procedures; advancing quarterly payments to the forest owners; reporting on the status of forest management and protection in the pilot area; and delivering a quarterly progress report on PFES implementation to the Governing Board of FPDF.

Increases sustainability, involvement and cost →

Collect and Pay

The first and most important supportive action that a transfer mechanism can provide is the facilitation of payments from service buyers to service providers. The transfer mechanism can remind service buyers of pending payments, collect monies paid, and disburse the funds to the appropriate service providers.

Beyond financial transactions, the transfer mechanism can ensure that basic elements of the PFES agreement are enforced, notify the appropriate authorities when obligations are not fulfilled, and serve as an independent actor to support the resolution of disagreements.

Monitor Services

A transfer mechanism can monitor the completion of services by service providers. Monitoring can range from simple collection of self-reported information from service providers to more advanced activities of collecting information firsthand.

The frequency and depth of monitoring services should be stipulated upfront between service buyers and service providers in the creation of PFES. Also, a budget of costs should be determined and factored into the rate structure. Service buyers may prefer extensive reporting, but they will need to determine if they want to incur the additional costs.

Assess Impacts

A successful PFES program will provide ecological benefits to the forestlands, livelihood benefits to the service providers, and economic benefits to the service buyers. To the extent that stakeholders and participants need or want to know the depth of impact, the transfer mechanism can be ideally suited to provide this service.

Assessments such as these require advanced planning to sufficiently capture baseline information and to collect appropriate information during the implementation of PFES. Costs and timing need to be considered and built into the rate structure of the PFES framework.

3 DOCUMENT AGREEMENT

All of the components of the PFES framework need to be documented into a policy. The policy may only be an agreement between a service provider and a service buyer. Or, the policy may be an official measure passed and enforced by the government. The policy needs to define the geographic regions, specific services, service providers, service buyers, rate structure, transfer mechanism, and any monitoring or assessment activities. It is also important to consider inclusion of a dispute resolution process or scheduled discussion forum to allow all parties to share challenges. In this way, there will be an opportunity to seek resolutions before any of the parties disengage from the PFES program.

Additional requirements for the policy or working agreement will vary according to the country context. Strike a balance between providing extensive details but maintaining flexibility to respond to changing situations. And, of course, any policy can be amended. If the process for amending the policy is not already articulated, be sure to explain how the parties can revisit the policy at a later date.

After piloting a PFES program in two regions, the government of Vietnam passed Decree 99 on September 24, 2010 to establish the first national PFES policy in Southeast Asia. The described services - with procedures and rate - include watershed protection, natural landscape beauty protection for tourism, forest carbon sequestration, and forest hydrological services for spawning in coastal fisheries and aquaculture. Service buyers were identified as water supply companies, hydropower plants and tourism companies. The service providers are forest owners – individuals, households, communities or organizations – who hold forested land titles.

The policy also dictates the frequency in which the governing board of the transfer mechanism, the Forest Protection and Development Fund (FPDF), meets to review the progress of the PFES program. In addition to reviewing the performance of the PFES program, the governing board also reviews any issues collected from local stakeholder consultations, providing guidance and taking action when necessary.

4 PREPARE ACTORS

Service Providers. The service providers will require the most support when establishing a PFES program as they are taking on new practices and adopting new norms. Consider three areas of support: skills and procedures; livelihood linkages; and fund disbursement.

Skills and Procedures. Individuals will need to be trained and procedures documented for performing their roles. Work through existing local structures and community systems to build the capacity of local leaders. In this way, local leaders can provide training, monitor performance, and train new people.

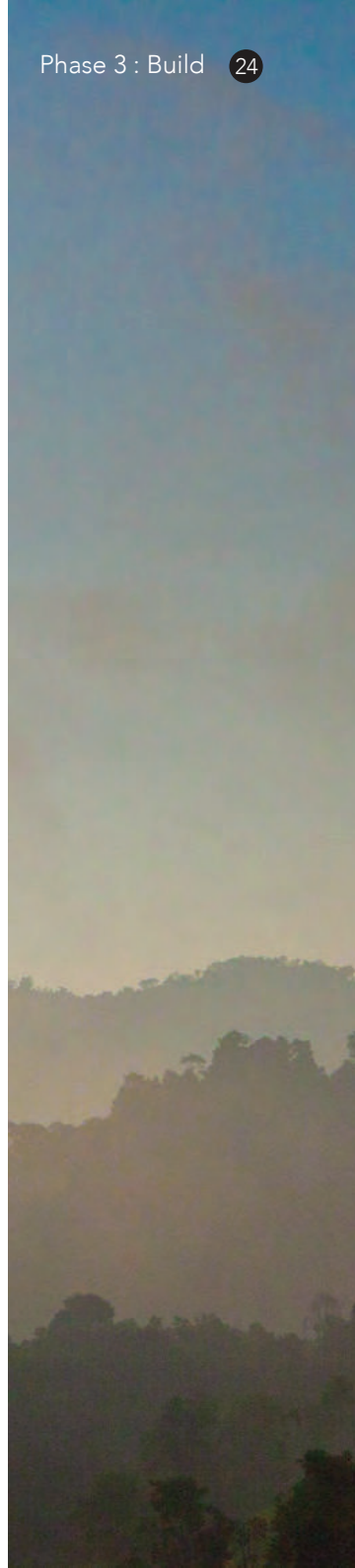
Livelihood Linkages. Service providers ensure preservation of forestlands. The temptations of harmful short-term actions will still exist. Identify or expand sustainable agroforestry activities and facilitate commercial linkages. Bolster enterprise development of non-timber forest products and support long-term access to technology and financing.

Fund Disbursement. Define the timing and method of disbursing funds. Identify a safe and transparent process to build trust within the community. Ensure fair distribution to those performing services and equitable access for women and minority groups, working to ensure that the fund itself does not create or exacerbate conflicts.

Service Buyers. Although the majority of the preparation attention is focused on the service providers, it is critical to continue the engagement of service buyers. First, ensure that the calculations used for determining payment are clear. Confirm the payment schedule and transfer process. Next, support the buyers in their capacity to measure the impact of the services on their operations. In any system, there can be a tendency to over-rely on ad hoc stories. These stories could be perceptions that service providers are not providing the actual services or that the services are not improving operations. Work with service buyers to establish simple methods for assessing their operations so that they can identify changes attributed to the services. Help the service buyers establish a routine schedule for reviewing the performance and to have a clear channel for addressing any issues.

After contracting households to patrol 4,795 hectares of forest in and around the Da Nhim commune, the project worked with forest management boards (FMBs) to establish services. The FMBs established a forest and soil patrol schedule, defined detection response actions, installed signage for demarcating boundaries, and constructed fire sentry towers. The FMBs also led an outreach campaign to inform all community members on how to protect the forest in alignment with the PFES program.

For livelihoods, the project supported bamboo handicraft production and planting and processing of cacao and essential oils. Within these sectors, the project linked forest-dependent communities with "downstream" firms and markets in Ho Chi Minh City, leveraging project support to communities and enterprises to develop profitable commercial-based relationships. The project facilitated the signing of ten commercial contracts between private enterprises and farmers who supply raw materials and end products.

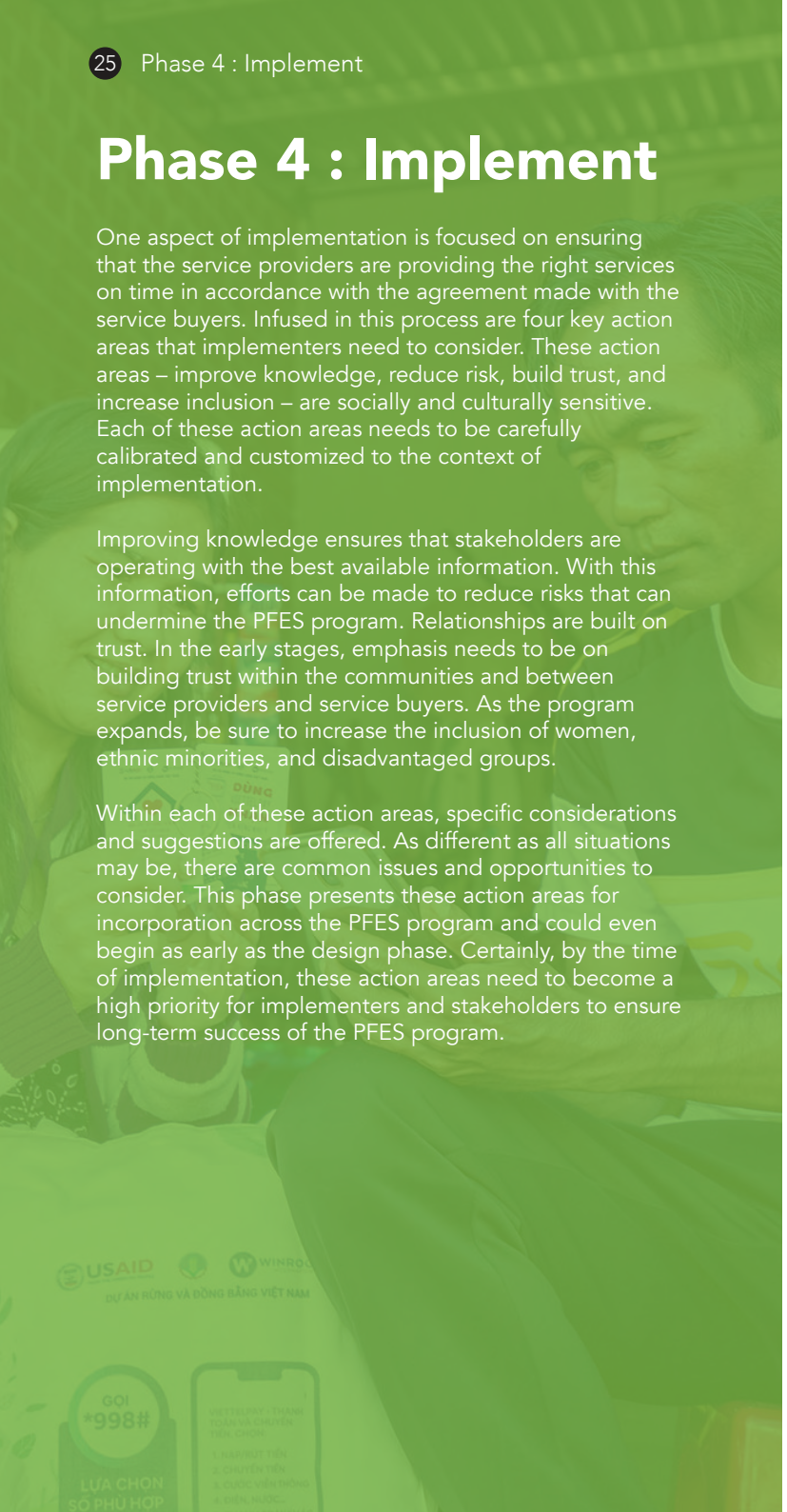


Phase 4 : Implement

One aspect of implementation is focused on ensuring that the service providers are providing the right services on time in accordance with the agreement made with the service buyers. Infused in this process are four key action areas that implementers need to consider. These action areas – improve knowledge, reduce risk, build trust, and increase inclusion – are socially and culturally sensitive. Each of these action areas needs to be carefully calibrated and customized to the context of implementation.

Improving knowledge ensures that stakeholders are operating with the best available information. With this information, efforts can be made to reduce risks that can undermine the PFES program. Relationships are built on trust. In the early stages, emphasis needs to be on building trust within the communities and between service providers and service buyers. As the program expands, be sure to increase the inclusion of women, ethnic minorities, and disadvantaged groups.

Within each of these action areas, specific considerations and suggestions are offered. As different as all situations may be, there are common issues and opportunities to consider. This phase presents these action areas for incorporation across the PFES program and could even begin as early as the design phase. Certainly, by the time of implementation, these action areas need to become a high priority for implementers and stakeholders to ensure long-term success of the PFES program.



BUILD TRUST

Even with a well-designed PFES framework and clear agreement in place, trust can erode. Miscommunications, bad information, and rumors can undermine the confidence of participants. People are especially alert when money is involved. Further, even on a good day, not everything is going to be implemented perfectly and according to plan. There will be challenges and issues that arise. It is important to have ongoing engagement activities to continue informing communities and stakeholders. Also, establishing formal and informal exchange sessions where people can ask questions and share ideas will continue to build confidence in the PFES program.

REDUCE RISK

Equal to the challenge of executing an implementation plan is the effort required to continually scan for and respond to risks. The types and severity of risks will vary from country to country. One common risk that can quickly undermine a PFES program is the transfer of payments. As communities are located next to the forests being protected, the households and individuals providing the services live in rural locations often lacking access to the formal financial sector. This requires payments to be carried by individuals over long distances and through several intermediaries, causing potential errors and fraud. Electronic payments can address this problem but bring their own challenges of financial literacy, digital access, and transaction costs. Addressing this primary risk upfront can build trust and encourage more people to participate in the PFES program.

IMPROVE KNOWLEDGE

Any intervention into an existing system is going to create expected changes and unintended consequences. Ensure that there is a sufficient reporting system to collect, check, and compile information. This information will form the basis of knowledge for examining the overall success of the PFES program. This examination should look at two levels: efficiency and effectiveness. Efficiency determines how well the activities of PFES are being completed according to defined quality standards and their timeliness according to a defined schedule. Effectiveness looks towards the outcomes of the PFES program, as defined by the country leaders and stakeholders, towards achieving the goals of preservation of forest landscapes, profits for service buyers, and prosperity for service providers and their communities.

INCREASE INCLUSION

The high amount of time and investment into a PFES program will pressure implementers and stakeholders to identify the best positioned and most resourced participants, particularly when selecting service providers in rural communities. This unintended selection bias can exclude women, ethnic minorities, and other disadvantaged groups from participating in the program. This could keep benefits from reaching the poorest households or even worsen social conflicts. Selection of service providers must be done carefully, particularly if this process is outsourced to local community groups or existing social infrastructures which tend to favor those with more social and economic means. Ensure that the project identifies, encourages, and supports the enrollment and ongoing participation of targeted disadvantaged groups.

BUILD TRUST

All business and social agreements are built on a foundation of trust. There may be various mechanisms for enforcement of agreements that increase trust — such as the legal system and the mediation of community leader — but participants initially decide if there is sufficient trust in the other party to perform as committed. Within a PFES program, service providers need to trust in this new concept of payment from service buyers for providing conservation services. And, service buyers need to trust that service providers will have both the capacity and willingness to deliver high-quality services on a long-term basis. Consider conducting two ongoing series of events: Community Sessions and Exchange Groups.

Community Sessions. Organize local community sessions with service providers and members of the community to explain and reinforce the goals of the program. Even after payments are disbursed, many recipients often do not understand what the source of the funds is, why the funds are paid, and what to use the payment for. Contracted households may not completely know their rights and responsibilities for forest protection. Community sessions can be a fun and interactive method for delivering these messages and for surfacing issues.

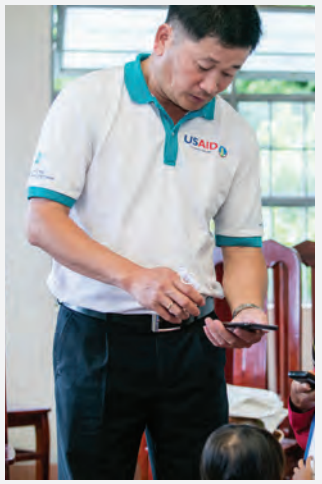
Traditional meeting styles may need to be set aside. Design for interaction. To build trust, the needs of participants need to be heard and addressed. For example, rangers from Cat Tien National Park in Vietnam conducted exciting sessions with thematic games, situational analysis, and small group Q&A discussions. This was a dramatic change from the traditional lecture-based communications that primarily focused on giving instructions. Design formats that ask open-ended questions, probe for concerns, reinforce program goals, confirm knowledge, and check for commitment.

Exchange Groups. Schedule routine meetings with representatives from service buyers, service providers, government officials, community leaders, and any other stakeholders. Establish a standard agenda such as beginning with a report on the progress and performance of the PFES program. Consider following this with two rounds of dialogue to discuss what has been working well and what could be working better.

In the first round, ask participants to share what has been working well. This can be the completion of activities within the PFES program, the benefits of participating in the PFES program, or any other positive consequences of PFES in their business, community, or household. In the second round, participants share ideas for what could help make PFES function better. Guide participants to determine the priority of topics, potential actions, and consensus on the next steps.

Try to facilitate an open and honest discussion without allowing participants to place blame on others. If a transfer mechanism exists, a representative from this institution may be best situated to serve as facilitator for these discussions. Be sure that the facilitator follows up on actions between meetings. Include the status of these action steps in future meetings and, of course, celebrate successful completion of new actions.

Community Session in Dang Ha community



This was the first time that Nguyen Tu Phiet, a ranger at Dang Ha's ranger station for many years, facilitated a community meeting. In his first facilitation role, Phiet conducted three community meetings for 200 people. At first, he was nervous about how the community members would react, especially those from different ethnic groups. However, his initial nerves disappeared when the participants started playing games and answering questions. "It's really a creative and effective way to do communication," Phiet said.

"This has been a great way to help us find new ways to work with local people to build awareness of PFES and improve forest protection. We would like to express our sincere thanks to VFD for helping us with these new approaches to make our work more effective and meaningful. It makes us love the work we have been doing even more!"

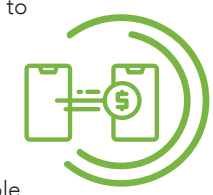
Equipped with the basic knowledge and skills from VFD, Phiet and his colleagues will continue to expand their efforts to deliver effective communication meetings and improve the awareness and understanding of local communities about their roles and responsibilities with PFES.

REDUCE RISK

Doing no harm is a foundational principle in development. Reducing risks to participants, particularly to members of the most vulnerable groups, needs to be an ongoing process for a PFES program. One of the most critical risks is cash transfer. Communities and households acting as service providers are by necessity located in or near the forestlands that they are protecting, locations that are often distant from towns and formal financial systems.

A service buyer may make payments to a central or provincial fund which then distributes payments to forest management boards or other community organizations. Exact payment arrangements will differ by province and location, adding a layer of variability that increases difficulty of management. Payments from the community organizations to households and individuals are likely to be made in cash. This requires an individual to travel with cash in hand for long distances to rural areas, increasing transactional costs and exposure to loss and theft. As cash is exchanged through multiple transactions before reaching the final individual, there is additional risk of kickbacks or undocumented fees.

Electronic payment systems increase transparency, reduce transaction costs, and improve recordkeeping. There are challenges to implementing these systems. Many rural households operate outside of formal financial systems, often lack basic financial literacy skills, and may even prefer to only operate in cash. Any changes to the payment system must be designed to ensure that transactions are acceptable and functional for all users who are living in remote areas, including at-risk population groups such as ethnic minority households.



Beyond the manual exchange of cash, there are other options to consider:

> Bank account transfers are the most straightforward. However, banks are not available in every village and using an account requires travel. Not all populations can meet the requirements to open or keep an account
>
> SMS-based payments provide for wider adoption as this technology is accessible in rural areas. This still requires minimal financial literacy, however, and vendors willing to accept SMS credits or convert to cash
>
> Prepaid cards can provide seamless transfer of funds to individuals, but may be difficult to adopt if few vendors accept cards for payment. Also, lack of balance transparency may limit trust by individuals.
>
> Post office transfers or other cash transfer services can provide a flexible option outside of the formal financial system. However, limited locations and high costs could deter individuals.

As with any solution, consider piloting a cash transfer mechanism in a couple locations before scaling. In addition to monitoring the success of transfers, continue to scan for the occurrence of loss, thefts, mistakes, or informal fees. Even a small number of these errors can deter people from participating in a PFES program.

IMPROVE KNOWLEDGE

Monitoring the performance of PFES and making informed decisions requires information. Reliable and trusted information that leaders and stakeholders use to understand the system and identify improvements becomes actionable knowledge. This knowledge begins with ensuring that information is collected regularly, checked for quality, and compiled systematically. It may be helpful to think of collecting and presenting information at two levels: efficiency and effectiveness.

Efficiency

The initial focus of information collection will be on the immediate outputs of activities. This would include indicators such as the amount of money collected, the number of service providers paid, and the number of acres of forestlands protected. In looking at the efficiency, analysis might also include the time taken to collect funds from service buyers and to disburse funds to service providers. Information collection can also include the specific services such as, for example, the number and frequency of forest patrols completed.

Essentially, for measuring efficiency, focus is on measuring all of the elements of the policy or agreement to ensure that the activities are being completed as stated in a reasonable time frame. If service buyers are paying months late or if service providers are not receiving funds in a timely manner, then this becomes an area of investigation for improvement. If services are not delivered as expected, then inquiries can be made to understand the causes.

As the program grows, so will the number of information sources and volume of overall information increase. The process of collecting information itself will become another process to assess for efficiency. If the time to collect, check, and compile information takes too long, it risks being too dated for accurate actions to be taken. Or, worse, service buyers and service providers will have already become dissatisfied with the PFES program.

Effectiveness

If the PFES program is being implemented efficiently, the next series of questions revolve around the topic of effectiveness. Information needs to be collected to assess the core assumptions of the PFES model. Are the forest landscapes being protected? Are the livelihoods of service providers improving? Are the businesses of service buyers operating more profitably? These are not easy questions to answer as there are many other variables outside of the PFES program that continue to impact forests, service buyers, and service providers. However, efforts need to be made to confirm the effectiveness of the PFES program to ensure that the ultimate goals are being met.

If the program is implemented in multiple locations or political jurisdictions, it will be a challenge to collect information in a unified manner. The volume and sensitivity of data needed will increase. Questions about household income and business profitability attributed specifically to the PFES program are not easy to ask for nor always easy to collect. It is highly recommended to include types of information, frequency of collection, and means of gathering information into the overall policy or agreement with service providers and service buyers. Be sure to also ensure, where possible, the confidentiality of information. This will be far easier to maintain with service providers, due to the sheer volume, than it will be for service buyers.

Attribution is always a challenge in assessing effectiveness. If the livelihoods of service providers go up or go down, how much of this can be attributed to the PFES program? Consider the methods for answering these types of questions as early as possible in the design and build of the PFES program. Control groups — households and businesses not operating within PFES — can be a helpful comparison for demonstrating effectiveness. For the forest landscapes, be sure to define the features and aspects of the forest landscapes that are to be preserved. While collecting information, be open to unexpected consequences and changes that are occurring in the landscapes as well as in the lives of service providers and operations of service buyers.

INCREASE INCLUSION

In establishing a PFES program, the selection of service providers is one of the most important decisions that can determine overall success. Whereas there are typically a limited number of service buyers affiliated with a specific landscape, there can be hundreds or thousands of households and individuals to consider as service providers. Leaders and stakeholders of the PFES program may wish to identify the most resourced and skilled individuals to perform as service providers, potentially excluding poorer households, ethnic minorities, and women.

Selection of service providers may be indirectly given to local community organizations and be conducted outside the view of PFES program implementers. Lack of process or clarity around the selection of service providers can result in elite capture where benefits of the program are paid to a fewer number of participants who are already functioning in a higher economic or social status. This can become a missed opportunity to help those most in need or, even worse, inadvertently exacerbate social tensions.

While it is advised to work within existing social and community structures for engaging potential service providers, be sure to clearly identify, encourage, and support targeted categories of households and individuals to participate.

> Identify. After gaining an understanding of the social, economic, ethnic, and political conditions of the targeted geographic zones, consider the approximate proportions of representation for each of the groups, as they have been defined for the program. Consider which existing community structures would be the best means for reaching these groups.
>
> Encourage. For groups that are routinely overlooked, additional efforts will need to be made to welcome their participation. Conduct specific outreach activities for these groups and, where appropriate, with materials in their language and photos representing their group. Empower individuals of these groups to become peer leaders to share their experiences within their communities.
>
> Support. Consider the extra needs of these groups as they enroll, train, and participate in the PFES program. Be mindful that self-confidence may be especially low. Look for opportunities to celebrate activities and to keep these groups in the program.

Disbursement of funds is another area of control that can exclude disadvantaged groups. Where possible, ensure that funds are paid directly to these groups and not through local intermediaries. Also, consider culturally sensitive ways to ensure equitable distribution of funds within the household, looking out for the welfare of women and children. Always be mindful not to place any disadvantaged groups or individuals into unsafe situations. Continue working with the leaders and representatives of the majority and authority groups to ensure consensus and ongoing support for the inclusion of disadvantaged groups into the PFES program. Consider special monitoring and information collection on the participation and well-being of individuals from these groups.

Phase 5 : Innovate

As PFES expanded, VFD continued facilitating Community of Practice sessions with key stakeholders such as government officials, forest owners, and hydropower companies to gather feedback and suggestions for improvements. The project also worked with government agencies and key stakeholders to identify risks and challenges. The community feedback and stakeholder risks became new opportunities for innovation. From the Community of Practice sessions, project staff consistently heard and collected feedback related to cash payments. Participants identified safety risks of carrying cash and frustrations with delayed payments to their remote locations. The project immediately began to design an e-payment solution.

Government agencies and stakeholders raised concerns about not being able to "see" far enough into the PFES program to better assess the impact on the forest landscapes and the livelihoods of the communities. Discussions began to focus on building a national platform by which all data could be collected, verified, and reported to improve implementation to expand the PFES program into other areas, such as carbon sequestration. The government had committed to reducing overall greenhouse gas emissions for the country. The success of the PFES program led to discussions about piloting a carbon-based PFES program in four provinces to help Vietnam reach the nationally determined contribution to the Paris agreement.

CARBON

The project worked with the Government of Vietnam to expand PFES into a carbon payment mechanism, called carbon PFES. Four provinces were identified to pilot carbon PFES to address emissions from cement producers and coal-fired power plants, two of the largest emitters of carbon. The Government of Vietnam looked to use carbon PFES to help reach the national goals for reducing greenhouse gas emissions.

E-PAYMENTS

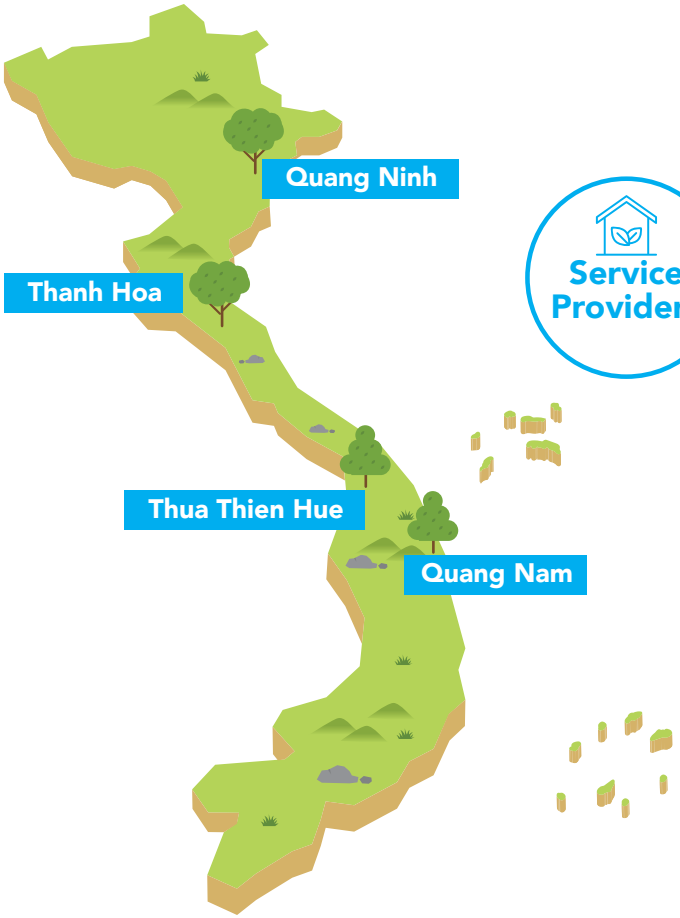
The very success of PFES program in providing payments to communities for the conservation of forest landscapes became a security risk voiced by communities. All payments in each village were made in cash at a central location on a predetermined day, leaving individuals reliant on being available on payment day and exposed to security risks of carrying money back to remote households. The project worked with stakeholders to pilot and then scale an e-payment system to quickly — and safely — transfer money to households.

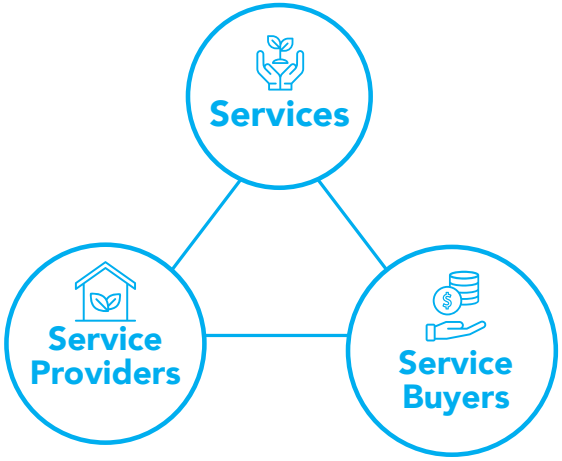
M&E

The project and agencies implementing PFES could collect basic information such as total payments made, number of households participating, and total forestland protected. However, stakeholders lacked key information to assess the impact of the PFES program towards protecting the forest landscapes and improving the livelihoods of participating communities. The project worked with the Government of Vietnam to establish a national monitoring and evaluation (M&E) system for collecting accurate information in a timely manner.

Carbon

Activities such as generating coal-based energy and producing cement contribute to high concentrations of carbon dioxide (CO_2) in the atmosphere. CO_2 is one type of greenhouse gas (GHG) that is causing climate change, and having negative impacts on the economy, health, and environment of Vietnam. In 2015, the Government of Vietnam committed to reduce the country's GHG emissions by at least 8%. More recently, the 2017 Forestry Law stated that large GHG emitters should pay to protect forests that sequester these GHGs. Carbon PFES provides a useful policy mechanism to help Vietnam reach its GHG reduction target and meet the requirements of the new Forestry Law. Through carbon PFES, local companies that emit large amounts of CO_2 pay forest owners to plant or maintain healthy forests which absorb and store CO_2. This system is currently under design, and once approved will offer a way to mitigate climate change and increase the benefits of PFES to Vietnam.





Who would be the service providers?

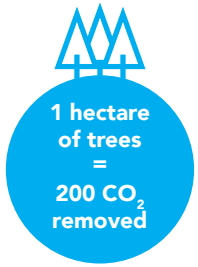
For forest communities, a carbon PFES program has the potential to further expand sustainable financing for forest protection and development. The four provinces of Quang Ninh, Thanh Hoa, Thua Thien Hue, and Quang Nam have been actively preparing to pilot carbon PFES once the new policy is approved. The current target of carbon PFES is to focus on key forest types including mangroves, natural forest, and certified plantation forests.

Benefit to Vietnam

A successful carbon PFES program can contribute to the success of Vietnam's proactive climate change policies and its nationally determined contribution to the Paris Agreement on climate change. For Vietnam, the carbon PFES pilots in four provinces will provide a basis for determining the feasibility of a national carbon PFES policy, which would be a valuable new tool for Vietnam to achieve its nationally determined contribution to the United Nations Framework Convention on Climate Change (UNFCCC).

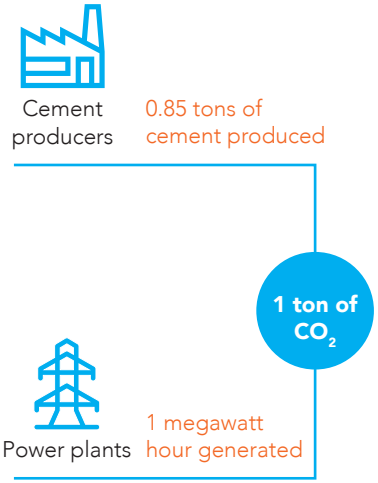
What would be the service?

CO_2 accounts for 76% of global GHG emissions (65% coming from the combustion of fossil fuels and industrial processes, and 11% from the forestry and other land use sectors). Forests provide a unique GHG "sink" that can capture CO_2 from the atmosphere as trees grow. For example, planting trees on one hectare of bare land can remove 200 tons of carbon per year.



Who would be the service buyers?

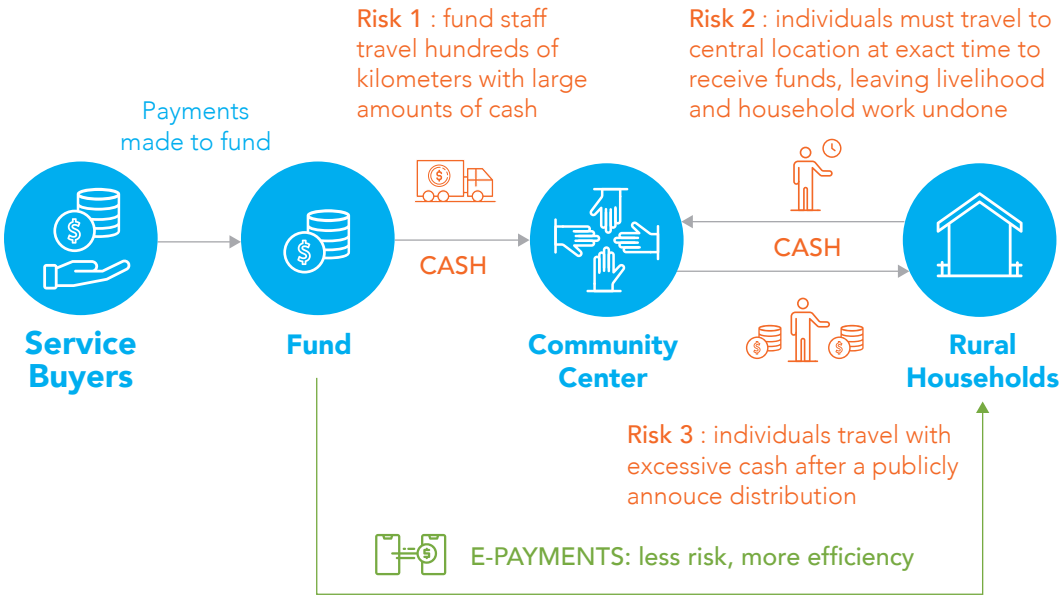
Vietnam has prioritized two sectors to pilot carbon PFES: coal-fired power plants and cement producers. VFD worked with these companies to collect data and assess carbon emissions. Facilities from these two sectors are estimated to produce approximately 46 million tons of CO_2 annually in the four carbon PFES pilot provinces. Carbon PFES would help these companies reduce emissions by the government target of 8%, or about 3.7 million tons of CO_2. This would be the equivalent of reducing emissions by taking more than 700,000 cars off the road for one year. In addition to helping offset their GHG emissions, companies participating in the pilots will be recognized as pioneers in joining climate change reduction and green growth efforts.



E-PAYMENTS

Stakeholders quickly identified cash transfers as a significant risk within the PFES program in Vietnam. Three key risk points were identified. First, staff from the fund had to travel hundreds of kilometers on rural roads with large amounts of cash. This put the staff in a dangerous situation and required many days of labor costs. Second, individuals had to meet at a central location at an exact time to receive payments. This took individuals, often members of vulnerable groups with little leisure time, away from livelihoods and household work. Missing the meeting also delayed payments and potentially caused confusion with future disbursements. A third risk was having individuals travel back home with cash when everyone knew the exact time and place of the distribution. This put individuals at risk of theft and injury.

The Government of Vietnam committed to working with PFES managers to pilot and scale an e-payment system. With VFD's support, the pilots of e-payment successfully reached over 8,000 households in Vietnam. This accomplishment informed the national e-payment guidelines to expand the system into all 45 provinces currently implementing PFES. Below is the path Vietnam took in establishing e-payment by building organizational capacity to empower households and chart a path forward for national adoption.



Building organizational capacity...

Annual payments for Lam Dong service providers exceed $8 million USD for 16,000 households, of which 80% are ethnic minority people. Cash payments were inefficient and risky. VFD and PFES managers piloted e-payment through ViettelPay, a mobile phone-based payment system, in two provinces, including 748 households in a Lam Dong community. After setting up the system, the project trained a core team of provincial fund staff, Viettel employees, and national park officers. The distribution of funds to this community was reduced from over a week to a few minutes.

Nguyen Thanh Long, Deputy Head of Cat Tien National Park Sub-FPD, is one of the pioneers of the e-payment system for PFES. "Cash payment is very complicated, time-consuming and not transparent," Long said. "That makes it difficult for both payers and receivers. Knowing that VFD is supporting PFES e-payment, we reached out to the project for support in applying this model in our work."

"Local people were very happy when receiving the payment through ViettelPay before Tet holiday because they received the money much more quickly and were ready for Tet," Long continued. "As FPDF officers, we were also happy as we were no longer worried about losing money or taking months to complete the payment process."

...to empower households...

Dieu Toi Trang lives in Lam Dong and was a participant in the e-payment pilot program. Her family receives $1,100 USD per year to protect and care for the forest. After years of cash payments, she decided to try the new method of receiving funds through her phone. She was nervous and wondered if she had the necessary skills. But with just one day of training Trang found the process to be simple and quick, even with her traditional phone. She now receives her payments quickly, no longer at risk with carrying large amounts of cash or missing a distribution

Trang was so enthusiastic about e-payment that she volunteered to train other members of her community, immediately training 12 nearby households.
She continues to train members of her community and provide technical support whenever questions arise. She is not only confident in her abilities but also extremely proud to be helping her neighbors and other service providers.

...and chart a path for national adoption!

The Government of Vietnam moved to address the risks of cash transfer by requiring all provinces with a PFES program to seek electronic payments through bank accounts or other electronic methods. Two additional provinces joined the initial ViettelPay e-payment pilot program, followed by ten more provinces after they saw the benefits of ViettelPay.
The national Vietnam Forest Protection and Development Fund asked the project to provide specific guidance on how provinces should implement e-payment successfully. This information was published as "E-payment Guidelines on PFES payment" and was approved as a key reference guide to all 45 provinces now implementing the PFES program.

"These new guidelines are aimed to help provinces comply with the ministry's policies, and guide the local funds in each step of implementing e-payment. New e-payments will help provincial funds save money, time and human resources, and will help create more transparency in PFES payments."

Le Van Thanh
Deputy Director of VNFF

M&E

As PFES has expanded, it has become more important to be able to assess the impact of the program. Initially, PFES managers could only monitor a small number of indicators, such as the amount of revenue generated, number of households receiving payments, number of payments made, and the area forest cover under PFES. These indicators did not provide the type of information needed to assess the true effectiveness and impact of the PFES system in meeting its goals of improving forest quality and socio-economic outcomes. Thus, VFD began working with Vietnam Forest Protection & Development Fund (VNFF) and provinces to establish a more robust monitoring and evaluation (M&E) system to gather data on a more comprehensive range of success measures, efficiently report that data back to planners and decision-makers, and ultimately use this data to inform future policy measures and guidance.

1. Understanding

Before even embarking on the process of developing a new PFES M&E system, VFD conducted a series of stakeholder meetings to build a foundational understanding of "what is M&E," and how it can be helpful for PFES managers. Traditionally, monitoring was seen as just a one-time financial audit function, so the project worked to build an appreciation of M&E as a management tool.

2. Indicators

VFD worked with stakeholders to reach consensus on the desired outcomes for forest conservation, community well-being, and company benefits. Following this, the project facilitated discussions to determine how best to measure for these desired outcomes through a list of indicators that would be used to determine the impact of PFES for all stakeholders and towards the overall objectives of Vietnam.

Capital and Commerce

1. Capital mobilized from companies
2. Capital used for forest protection
3. Capital from sponsors
4. Ratio of private/public funding
5. Ratio of actual/budget funding
6. Number of companies
7. Number of legal issued documented

Benefits and Impact

1. Number of households benefitting
2. Ratio of ethnic households
3. Number of poor households
4. Number of households leaving poverty
5. Value of new assets and activities
6. Number of funded activities
7. Ratio of PFES to rural development budget

Conservation and Engagement

1. Total forest area
2. Lost forest area
3. Number of forest violation cases
4. Number of patrols
5. Number of contracted households
6. Average payment for patrols
7. Number of people trained
8. Number of communication activities
9. Ratio of people understanding
10. Ratio of payments to area
11. Ratio of electronic payments
12. Ratio of households paid timely
13. Ratio of complaints resolved
14. Number of monitoring activities
15. Ratio of paid forests with monitoring
16. Ratio of organizations to households

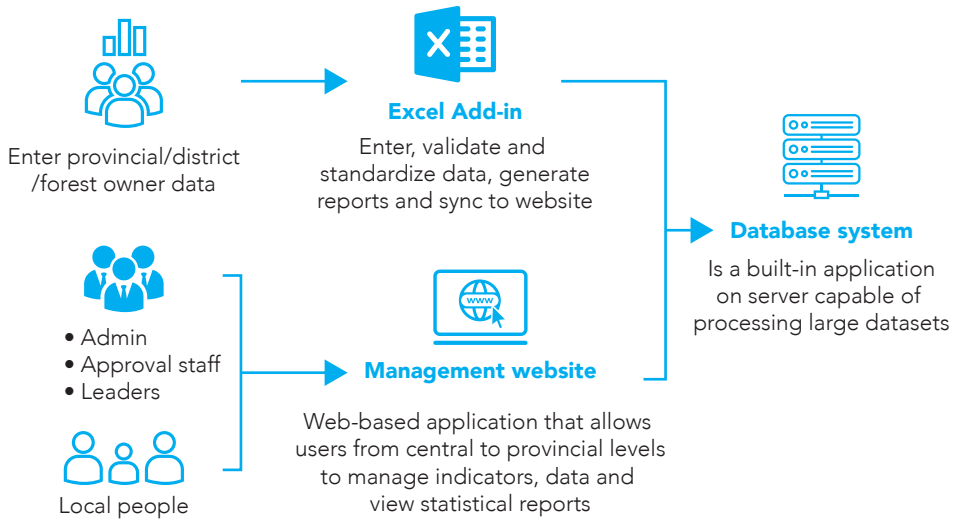
3. Method

For each indicator identified, the project worked to identify the definition, method of data collection, and identified responsible parties to ensure accurate and consistent monitoring and reporting. Indicator definitions included:

1. Data sources
2. Frequency of data collection
3. Means of analysis
4. Audience for reporting
5. Process

4. Platform

VFD collaborated with Microsoft to develop a national data management platform that was accessible for both provincial- and central-level stakeholders.



5. Train

VFD deployed the platform in the three provinces of Lam Dong, Thanh Hoa, and Son La. During the roll-out, the project provided intensive trainings to nearly 50 technical staff to enable them to proficiently use the platform.


Ms. Hang

Lo Thi Thu Hang is an M&E officer in the Son La Forest Protection and Development Fund. Previously, she encountered many difficulties when reviewing the province's PFES data. It was very time-consuming to check and filter separate huge datasets for more than 40,000 forest owners and their associated payment data. When the new M&E platform was launched in her province, Hang was very excited to see how it could simplify her work. Through the training, she learned how the platform can help aggregate data and generate reports with a few keystrokes. She and her team see the quality of their reports improving with more accurate data on forest owners, forest cover, and payment rates. "The new M&E platform developed by VFD has many advantages," says Hang. "It's automatic, quick, and effective. It's the first time we have an M&E system that can help us in filtering data and reducing errors."

6. Collect

The project worked with the provincial and central agencies to collect data necessary to further populate the platform. The methods and means for several of the indicators were adjusted as feedback was collected to further streamline the collection process.

Ngo Thi Trung Thanh is the leader in Moc Chau-Van Ho district working team. Her team is in charge of 29 towns and communes with more than 3,000 forest owners. Each year, she only has two weeks to review report templates and the summary list of 3,000 payments. She always feels stressed and anxious ahead of these tight deadlines. Thanh has always wished that she had a tool or a method that can help manage the huge PFES database. Thanks to the support from VFD, the new data editing tool helps users to manage, edit and export data automatically. There is no more manual work to split and merge data such as commune boundaries and then calculate payment. Instead of taking months to update and correct data, now it only takes her one day to review and generate the report. Now all the difficulties are gone, replaced by the smiles and confidence from Thanh's team of local officers.


Ms. Thanh

"With our old large workload, we would be asked to synthesize a payment list from thousands of data records…usually this would take a whole month, but sometimes we would be asked to complete it in one week. We could not complete our tasks. It was really hopeless before the new tool," Thanh said.

7. Verify

A successful PFES program must be able to confirm the accuracy of the data to maintain trust with all stakeholders from the highest government officials to each community participant. The project ensured that a data verification and correction process was included within the M&E system to ensure the integrity of all information.

Working in the Thuan Chau-Quynh Nhai District, Luong Thi Phieng's daily work is to visit each forest plot and meet with forest owners to identify the forest area eligible for receiving PFES payments. Even with many years of experience, she still often struggles to explain to local people how their PFES forest area is calculated. Some forest owners do not know the basic information of where their forest is located or how it has changed over time. Since the introduction of the new data editing tool for PFES, Phieng has applied the tool to identify and calculate the forest area. She found that it is easier, quicker and more accurate than the old way of manually checking and summarizing forest owners' information from thousands of records. The data editing tool also helps to identify the precise forest area eligible for receiving PFES, which increases the efficiency and accuracy of the payment process to local people.


Ms. Phieng

8. Inform

A key feature of the M&E system was to ensure rapid reporting of data into useable information for all stakeholders. With the quick and accurate reporting, the project worked with PFES stakeholders and participants to address implementation challenges and concerns. For example, when payment delays were identified in specific villages, the project team worked with staff from the provincial fund to address the issues and ensure communities received timely payments.

Based on the work by VFD, the Government of Vietnam finalized and institutionalized National PFES M&E Guidelines to establish consistent monitoring and evaluation processes and procedures across all 45 provinces that participate in PFES. Using the new guidelines, VNFF and VFD trained national and provincial-level staff on their roles and responsibilities in the new system.


Mr. Thu

"Thanks to the M&E system developed by VFD, Son La province can quantify PFES results and evaluate the effectiveness of the PFES policy. The new guidelines are essential to help other provinces navigate and institute their own M&E systems," says Phung Huu Thu, who heads Son La Provincial Forest Protection and Development Fund's M&E Department.

VFD Highlights

2015

Improved enforcement of the PFES payment policy through development of Decree 40/2015, which for the first time imposed a fine on late-paying service buyers. This both increased the stability of payment streams, and increased PFES revenues for provinces.

2016

Updated Decree 147/2016 to increase the payment rate for hydropower PFES from 20 VND/kwh to 36 VND/kwh. This increase nearly doubled annual PFES revenues.

2017

Developed pilot PFES mechanisms for industrial water users, such as beverage companies and textile processors, in three provinces. This further recognized the beneficial role that forests play in supporting diverse enterprises in Vietnam. Based on the success of these pilots, industrial water use PFES has now expanded to 25 provinces around Vietnam.

2018

Provided technical inputs into Decree 156/2018, which updated payment rates and provided new guidance for different PFES sectors, including industrial water use and eco-tourism.

2019

Collaborated with Microsoft to develop a web-based platform for collecting, analyzing and reporting on PFES monitoring data. The platform was rolled out for use in November 2019.

Developed a policy framework for the first carbon PFES mechanism in Vietnam, in which cement manufacturers and coal-fired power plants would make PFES payments to protect forests that sequester and store carbon emissions.

2020

Developed the first national PFES e-payment guidelines for payment via mobile phone and by post office. These national guidelines, approved in August 2020, provide clear guidance for provinces who are now starting to make PFES payments by electronic means.

Worked with PFES managers to develop national PFES monitoring and evaluation (M&E) guidelines, including a set of standard indicators for provinces to regularly monitor in order to analyze the impacts of PFES on the environment and communities. These M&E guidelines were approved in August 2020 for use in all 45 PFES provinces.

Looking ahead

Vietnam's PFES system has proven to be an effective tool for generating revenue for forest protection and to support households and communities living in and around forest areas. The scale of the program is impressive companies are paying more than $120 million each year, which benefits more than 500,000 households in 45 provinces around Vietnam.

Why has this been possible? There are a number of important reasons. First, strong political leadership that prioritized PFES as a new innovative policy and encouraged stakeholders to participate. Second, thoughtful planning and detailed analysis to provide a clear foundation for policy development. Finally, close consultation with all stakeholders to identify win-win-win scenarios for managers, communities, and companies. These principles can be applied by anyone developing similar schemes at any level.

What now for PFES in Vietnam? One of the biggest challenges for Vietnam's PFES system continues to be how to ensure that the money is used effectively to achieve positive impact. The system has been successful at generating revenue and distributing it to forest owners, but the payment processes are at times still inefficient and PFES managers do not yet have the systems in place to examine the progress PFES is making towards its goals of forest protection and local livelihoods development.

The USAID-funded Vietnam Forests and Deltas Program has taken important first steps to help PFES managers apply new electronic payment methods and build systems to monitor and evaluate the impact of PFES. However, there is more work to be done to institutionalize these new practices throughout the 45 provinces implementing PFES, and also be able to use the improved monitoring systems to identify areas for strategic improvements in policy.

PFES-related systems continue to grow in popularity around the world. Systems based on "results-based payments," in which payments are only made if specific goals are met, are becoming more and more popular. This concept is now increasingly important in Vietnam, and can be considered to strengthen any other new PFES system. PFES systems are greatly strengthened when partners work together to set goals, and ensure those goals are met.

Voices of PFES

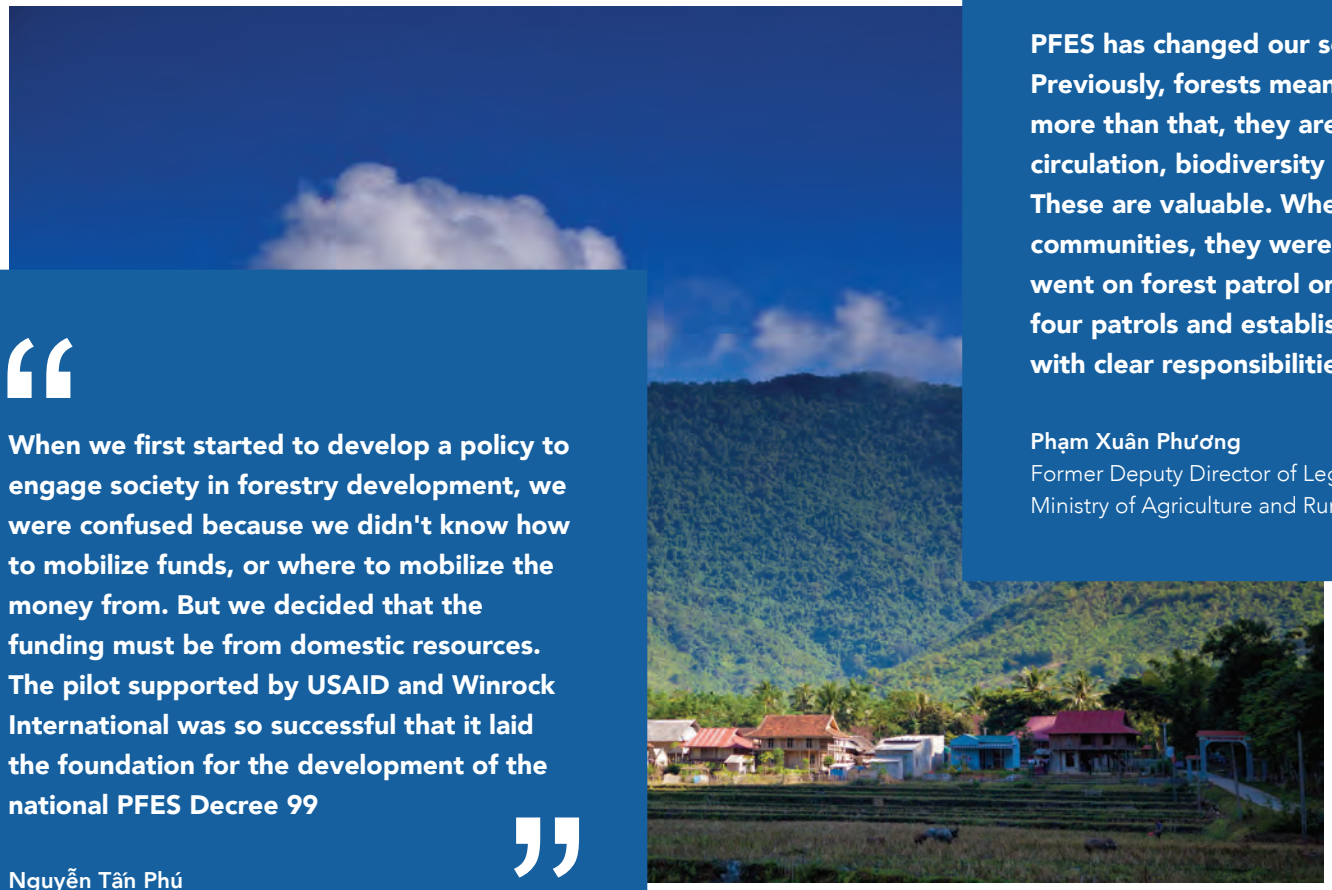
“Since 2011, we have been implementing PFES. Each year we generate about VND 2,800 to 3,200 billion [approximately USD125 million]. Overall, this has been a huge social investment in the forestry sector. This policy has had a great impact on more than two million households and helps protect over six million hectares of forest.”

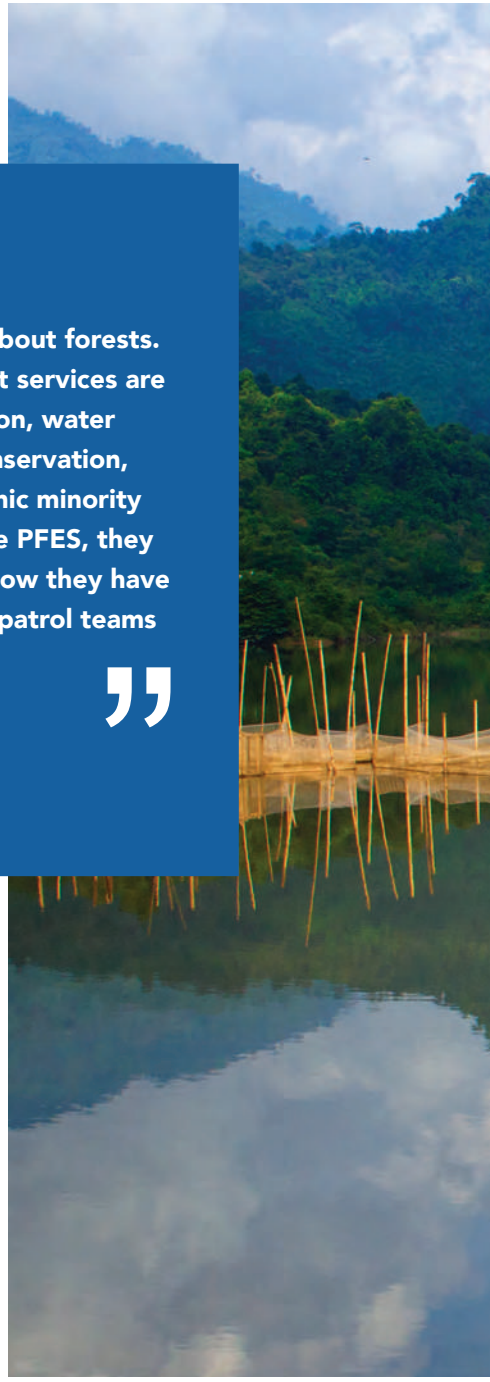
Hà Công Tuấn
Vice Minister of Vietnam’s Ministry of Agriculture and Rural Development

“Many countries around the world can learn from PFES, and how it started in 2011 with small payments and now generates about USD125 million per year. It’s remarkable! Now we can keep improving PFES and monitoring and evaluation systems to improve the impact of the investment on the forest.”

Christopher Abrams
Former USAID/Vietnam Environment Office Director

Voices of PFES





When we first started to develop a policy to engage society in forestry development, we were confused because we didn't know how to mobilize funds, or where to mobilize the money from. But we decided that the funding must be from domestic resources. The pilot supported by USAID and Winrock International was so successful that it laid the foundation for the development of the national PFES Decree 99

Nguyễn Tấn Phú
Former official in the
Vietnam Prime Minister's Office

PFES has changed our society's mindset about forests. Previously, forests meant wood. But forest services are more than that, they are sediment retention, water circulation, biodiversity and landscape conservation, These are valuable. When we went to ethnic minority communities, they were so excited. Before PFES, they went on forest patrol once a month, but now they have four patrols and establish well-structured patrol teams with clear responsibilities.

Phạm Xuân Phương
Former Deputy Director of Legal Department of
Ministry of Agriculture and Rural Development

PFES improves people's awareness of the forest, and is an incentive for people to protect the forest. I have welcomed foreign delegations to Vietnam, and they learned from Vietnam how to use forest services to pay for forest protection. Certainly, once we identify the value of the forest, all the individuals and organizations benefiting from the forest must pay something to those who protect the forest."

Võ Đình Thọ
Former Director of Lâm Đồng Province Forest Protection and Development Fund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