ADB CDTA 8592 VIE:
Improving Payment for Forest Ecosystem Service Implementation in Vietnam

Best practices & lessons learned
from September 2014 till December 2016
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Best practices and lessons learned
Introduction

This booklet titled “ADB CDTA 8592 VIE: Improving Payment for Forest Ecosystem Service Implementation—Best practices and lessons learned” has 18 articles prepared by the experts in the Consultant Team and the independent consultants who worked for the TA during September 2014 and December 2016.

The articles focus key activities which give us insights to consider further improvements of PFES implementation and describe best practices which can be good examples as pioneering trials of implementing PFES pilots. The articles also summarize setbacks, shortcomings in institutional and technical aspects, which should be the basis of proposing to improve current PFES mechanisms.

Although compiled in one booklet, the articles are relatively independent in their nature. Therefore, the readers of this booklet might find that considerations and ideas presented in some articles are not consistent with the contents of other articles if they try to understand them in existing frame of PFES scheme. However, the Consultant Team did not synthesize them in the frame, rather left them as they are so that the readers can come up with more creative perspectives to address issues/problems at the same time and improve PFES mechanism in the future.

Relating to the articles in this booklet, there are independent reports, handbooks and audio materials produced by the TA. They are also available for the readers' further review as follows.

1. Two study reports (economic valuation of ecosystem services) on PFES in aquaculture, tourism and industrial water in Lao Cai, T.T.Hue and Ca Mau provinces,
2. Four technical handbooks on (1) 5 years’ plan and road map, (2) accounting and financial management, (3) village fund management combined with livelihood assistances and gender consideration, and (4) WebGIS system,
3. One assessment report on 5 years' PFES achievements and 8 years' VNFF performances,
4. Two audio materials such as (1) video clip on biodiversity conservation in Viet Nam supported by ADB, and (2) audio materials to disseminate PFES in ethnic minority languages (Hmong, Dao) in Lao Cai province and in Vietnamese.

I hope this booklet will be a useful learning module for the policy makers, experts/consultants and stakeholders of PFES at all levels in the country to understand what should be done as a next step to improve the mechanisms of PFES in short, mid and long term in its implementation process.

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Outline of activity

ADB/CDTA-8592: Improving PFES Implementation (iPFES) supported the government scheme of PFES. It was conducted by the Consultant’s services under the supervision of Vietnam Forest Protection and Development Fund (VNFF) in the Ministry of Agriculture and Rural Development and ADB Vietnam Resident Mission.

The Design and Monitoring Framework (DMF) developed by ADB has four areas of Project outputs as follows:

<Output 1> Economic evaluation of environmental services standards at provincial level:
To develop methodology of ecosystem service assessment (ESA), forest monitoring system using satellite image and GIS.

<Output 2> Mechanisms for PFES valuation, management and distribution piloted and institutionalized:
To develop the guidelines of key technical areas and obtain approval of provincial government for its piloting and of national level for policy guideline.

<Output 3> National and provincial policy makers have the capacity to value ecosystem services and integrate them in economic development planning:
To provide the technical training at the national and provincial level to support policy makers so that they can develop their capacity to evaluate ecosystem services and integrate them into planning process.
Best practices and lessons captured, and shared:
To provide training modules produced for the <Output 3>.
To summarize all TA outputs including Final Report and upload them on the VNFF ADB/VRM Website for sharing them with the PFES stakeholders in/outside of the country.

**Best practices**

1. **Identification of key technical areas in PFES implementation:** In order to approach several issues/challenges of PFES implementation strategically, the Consultant Team identified three key technical areas: (1) Environmental economics study on ecosystem service assessment to propose the rate of payment in new sectors, (2) WebGIS system for PFES through integration into FORMIS II system and DPFES to monitor forest areas protected by PFES, and (3) Financial Management and Accounting. These three areas form the foundations of transparency, equality and efficiency in PFES implementation. Therefore, sufficient resources were allocated to produce the outputs of these areas including outsourcing some key works to the independent researchers or companies.

2. **PFES pilots using the products of key technical areas:** Pilot activities as the first trial in Viet Nam were conducted or are being prepared using the outputs developed in the key technical areas.
   1) Environmental economics study proposed PFES pilots in cold water fish farming and in industrial water sector which were started in January 2016 in Lao Cai province based on the PPC Decision. Pilot in tourism is being discussed with the local stakeholders in Lao Cai. Following the experiences in Lao Cai, VNFF started dialogues with the Provincial Fund in Thanh Hoa, Nghe An and Ha Tinh province to expand ESA and PFES pilots in those provinces outside of the TA.
   2) WebGIS system for monitoring forest areas protected by PFES was introduced in October 2016 by the VNFOREST Circular No. 1719/TCLN-KHTC dated 20 October 2017 and is scheduled to be piloted in Kon Tum province in 2017. Following the case in Kon Tom, VNFF plans to conduct the same pilot project in more provinces in 2017.
   3) Handbook to provide basic/applied knowledge and procedures of PFES financial management and accounting were approved by MARD Decision No. 5307/QD-BNN-TCLN dated 22 December 2015. After two national level consultations in September 2015 and April 2016, the handbook is currently used as an official guideline in all 41 PFES provinces in the country.

3. **Outsourcing to produce some TA outputs:** Several independent tasks which were difficult to be covered by the experts in the Consultant Team were outsourced to professional individual consultants or companies. Outsourcing in the TA could produce and provide the required outputs timely and effectively, such as (1) VNFF/Website upgrading and updating, (2) Audio material making on PFES in ethnic minority languages, (3) Video clip making on biodiversity conservation by ADB in Viet Nam, (4) Assessment study of performances and achievements of PFES & VNFF, and (5) Environmental economics study on ecosystem service assessment to propose PFES payment rate.

4. **Equipment to facilitate communication between central and provincial stakeholders:** TA introduced tools for efficient communication among the stakeholders such as Video conference systems equipped in the mid of 2015 in CPMU/VNFF and PPMUs’ office in three target provinces such as Lao Cai, T.T.Hue and Kon Tum. The system successfully connected the leaders and staff of the TA at central and provincial levels and facilitated them to have ad hoc discussion, internal consultation of the TA or brainstorming on new ideas to plan and conduct the activities.

Meanwhile, some tasks included in the TOR of the Consultant and request of CPMU/VNFF were not achieved as follows.

1. **Mainstreaming gender issues in PFES implementation:**
   TOR of the consultant’s services requests to mainstream gender issues into the framework of PFES implementation. However, the initial survey of the Consultant Team in the Inception stage in 4th quarter of 2014 revealed that gender was not the key issue to be mainstreamed in the overall framework of PFES. Rather it was identified as one of the aspects to be considered in the process of planning, disbursement and utilization of PFES money at local level.
1. Sufficient time and resources should be spared to conduct the study of ecosystem services and consult the pilot activities with the stakeholders.

In the original schedule of the TA, only three months were allocated to conduct the ecosystem service assessment. It required to propose the rate of payment and implementation mechanisms by reviewing the existing reports and papers of PFES mechanisms in private sectors in other countries such as China, Costa Rica, Australia, etc.

However, production systems and business models in the PFES target sectors such as aquaculture or tourism are largely diversified in their locality, which requires to conduct the field-based study to assess the ecosystem services and design the pilot of PFES mechanism in the proposed sector. In the TA experiences, it took around one year at the shortest from the start of the field survey until the issuance of PPC Decision on piloting. In particular, the time to be spent for the consultation with PFES stakeholder on the pilot design

Following are the major lessons from TA implementation during two years and four months from September 2014 till December 2016.

2) Developing the monitoring and evaluation system of PFES:

CPMU/VNFF requested the TA Consultants to develop the monitoring and evaluation system of PFES implementation. However, the Consultants understood that precise and suitable system of monitoring and evaluation for PFES should be developed based on the completion of tools and methodologies which would be developed in Output 1 and Output 2 of the TA.

Therefore, the TA focused to allocate its resources to the activities related to Output 1 and 2 developing the PFES mechanisms in new sectors, PFES planning at provincial level, WebGIS system, transparent financial/accounting, fund management, etc. These products are supposed to contribute developing and improving the monitoring and evaluation system of PFES in the future.

3) Collaboration with other government agencies:

The Design and Monitoring Framework (DMF) of the TA requests that some of the TA activities should be performed in close collaboration with Institute of Science and Policy of Natural Resource Management (ISPONRE) and Biodiversity Conservation Agency (BCA) in Ministry of Natural Resources and Environments (MONRE), General Statistics Office (GSO), and Ministry of Planning and Investment (MPI).

However, collaboration with these government agencies were not done during the TA period because no mechanisms were set up in advance between MARD and these agencies to collaborate in achieving the goal of the TA.

## Lessons learned

While the TA conducted several good practices, some of the tasks required in the DFM and the TOR faced unanticipated difficulties or challenges for the Consultants, which took longer time or need more resources to overcome. Other tasks were done with getting some achievements but required further supports and actions of the Consultants and VNFF to mainstream or utilize them in the planning and piloting process of PFES during the time of the TA. These experiences provided good lessons and practical knowledge to improve design and frame of the PFES related technical assistance project in the future.
cannot be predicted precisely in advance because it includes critical discussion between the Provincial Fund and PFES service users to decide the rate of payment.

Therefore, enough time should be allocated in the design of technical assistance project for PFES implementation in the future to conduct the study of ecosystem service and consult the pilot activities.

2 Continuous supports are necessary from the central level to the Provincial FPDF in preparing and continuing the PFES pilot activities.

As mentioned, unexpectedly long time was spent in consulting the PFES stakeholders on the proposed pilot activities before issuing the PPC decision to implement it. Proposed rate of payment was a focus to be discussed between the Provincial Fund and the service users (PFES payers). In case of private sector where small scale service users are dominant, the Fund had to hold consultation meetings several times before getting agreement on the rate with the payer and making sure the enough number of PFES payers. The process was unexpectedly long.

In such a situation, continuous advisory service, technical and financial supports by the central level are critical for the Provincial Fund in completing the consultation and the preparation of draft PPC on pilot regulation smoothly.

3 Provincial leadership should be further strengthened to conduct the PFES pilot activities.

PFES implementation in Vietnam is taking a “sector-province wise” approach to expand its target sectors covered by the scheme. In this approach, strong leadership of the Provincial Fund is required to implement the PFES pilot activities. The legal basis of the pilot is the Decision issued by the Provincial People’s Committee (PPC) on the regulation of collecting, managing and distributing the PFES money which requests the Fund and the related departments to collaborate closely. In this sense, the leaders of the Fund should be also a capable coordinator among the PFES stakeholders in the provincial government.

Proposed PFES mechanisms in new sectors as a pilot sometimes face with negative responses of the PFES payer (service users) against the proposed rate of payment. To overcome it and reach agreement, the Provincial Fund have to make maximum efforts to build consensus among the PFES payers on the design of the pilot and lead them to the expected conclusion, and make the contract agreement with the Provincial Fund or VNFF.

4 Potentials and limitations of expanding PFES should be assessed at national level.

As mentioned above, VNFF is taking a “sector-province wise” approach to expand PFES implementation in the country. It targets highly potential sectors and provinces while low potential sectors or provinces are not the target for the current approach of VNFF because of its small scale, low value of environmental services and PFES revenue, etc.

However, it has not been identified yet which sectors in which provinces have high potential in the whole country for expanding PFES implementation.

To continue with the current approach in more effectively manner, a country-wide assessment should be conducted to identify the potential sector/provinces for PFES piloting so that VNFF can clarify the process and steps to expand PFES mechanism in the future and estimate its coverage to be feasible for natural forest protection in the country.
Overview of the study

Study on provision, use and economic value of forest environmental services (FES) in cold-water fish farming in Lao Cai province was conducted in order to provide scientific and practical basis for implementation of PFES mechanism in accordance with Decree No.99/2010/ND-CP of the Government of Vietnam.

In Lao Cai, cold-water fish is raised by the intensive farming practice in ponds which has the area ranging from 150 to 1,500 m² and the depth from 1.1 to 1.4 m along streams of the province. Water used for fish farming is from forest with high quality and stable temperature from 15 to 20°C, meets strict requirements about habitat for cold-water species (salmons and sturgeons).

Study activities was carried out at 16 cold-water fish farms in Sa Pa and Bat Xat districts where the cold-water fish farming area accounts for nearly 90% of total area of the province. They focus on following contents: (i) features of farming models (e.g: farming ponds, farming techniques, inputs, yields and risks); (ii) the importance of water source in farming activities; (iii) awareness and perspective of farms on the importance of water source; (iv) the Willingness to Pay (WTP) of cold-water fish farms on protection and maintenance of water source for production activities.

The study results show that 100% of farm representatives admitted the necessary of water from forest for farming activities. 75% of farms is willing to pay for forest owners to encourage them in better forest protection for maintaining the water source with high quality.

Based on the study results, the proposed payment rate for FES (in particular, service on maintaining and regulating water source) in cold water fish farming is VND 44,500/m³/year. In the consultation workshop organized in January 2016 in Lao Cai city, the payment rate got the high consensus of stakeholders including management agencies, FES providers (forest owners) and FES beneficiaries (cold-water fish farmers). Then, the Lao Cai PPC issued the Decision No.4273/QD-UBND on 25 November 2015, regulating the payment rate, management and use of PFES money in pilot scale for cold-water fish farms in the province. Accordingly, the payment rate for the farms is 44,500 VND/m³/year. The pilot came into effect from 01 January 2016.
After that, the Lao Cai PPC issued the Decision No.1248 on revising some contents of Decision No.4373 on approving the list of cold-water fish farms paying PFES money in the province for the period from 2016 to 2017. Up to 1 October 2016, the Provincial Fund signed the trust contracts with 17 facilities. As projection, the collection would increase by 10 to 15 % when the number of farms raises as the Master plan. To 2020, the projected collection is 1 billion VND per year.

**Best practices**

Up to now, Lao Cai is the first province as well as the only one which implements pilot activities for PFES in aquaculture sector in the country. It can be considered as a success of the study in particular and of Lao Cai province in general in promoting PFES implementation in new areas that has not been regulated specifically in Decree 99.

The success is achieved thanks to:

1. The strong political determination reflects on the active participation and direction of VNFF, Lao Cai PPC and related agencies from the beginning until the study finished.
2. The close collaboration between the Consultant and management agencies of the province. Because of it, the research activities were implemented smoothly, identified and selected the right study subjects and indicated accurately the features in production of the province as well as saved much time for intermediate steps.
3. Communication activities: The propaganda to stakeholders, especially for payers, about contents of Decree 99 on PFES policy plays a significant role. When the subjects fully understand the nature of PFES policy as well as their rights/obligations, they cooperate more closely in providing information. It gives favourable conditions for identifying the economic value of FES and the appropriate payment rate under the current situation of the province.
4. Participatory study: The participation of VNFF, Lao Cai FPDF and farms in study activities resulted in that all parties could freely share the information and easily reach the consensus in pilot activities.

**Lesson learned**

Although there are some impressive achievements, the pilot activities in aquaculture sector in Lao Cai province still faces the following limitations:

1. The application of payment based on the farming volume of ponds is sensitive because the more water the facilities use, the more they have to pay. However, due to different reasons, many farms are running their operation under the maximum capacity of farming pond (for example, the pond with large area but the actual amount of fish is small). If so, the PFES amount is beyond the ability to pay of the farms. Therefore, management agencies needs to review and adjust the more appropriate rate for the implementation.
2. Applying the same payment rate for all the farms has not illustrated the difference in benefit between farms in upstream (with highest-quality water) and down-stream (with lower quality of water). Thus, deeper studies are required to revise the more suitable payment rate based on the location of cold water fish farms.
Overview of the study

This study was carried out from July 2015 to April 2016 in Lao Cai province in order to develop Payment for Forest Environment Service (PFES) mechanism in industrial production sector.

In the study, a survey was conducted at 11 industrial production companies to identify: (i) needs and current situation of water use in industrial production, (ii) economic value of FES for provision and maintenance of water source in manufacturing; (iii) the Willingness to Pay (WTP) of industrial production companies in providing and maintaining water source for manufacturing.

The survey indicated that the amount of water used varies greatly depending on product types and utilization of technology. Specially, the common thing of industrial production companies is that the actual volume of water exploitation is much lower than the registered volume of exploitation approved by the Department of Natural Resources & Environment Lao Cai Province. The main reason is that most companies do not operate with full designed capacity. Moreover, some invests by themselves in building circulation lakes to reuse water for operations which do not require high-quality water source.

Based on the study results, the forest value in regulating and maintaining water resource for industrial production sector varies from 52.88 to 1,831 VND/m$^3$ (average: 637.19 VND/m$^3$). Meanwhile, the WTP of industrial production companies is from 10 to 50 VND/m$^3$ (averagely 29.57 VND/m$^3$).

Balancing the economic value of FES and WTP of industrial production companies, the study proposed to apply the payment rate at 50 VND/m$^3$ of exploited water amount.

At the consultation workshop organized in Lao Cai on 31 March and 1 April 2016, most of participants (including representatives of Departments and industrial production companies in the province) agreed with the proposed payment rate. In particular: The PFES payment of a company (=) Payment level Permitted volumes of water exploitation (approved by Department of Nature Resource and Environment) Production utilization of capacity of the company (%) (defined by Department of Industry and Trade). Moreover, participants also recommended that the PFES implementation in industrial production sector should be carried out in phases. Accordingly, the initially propose payment level at 35 VND/m$^3$ of exploited water, lower than the payment level for clean water for domestic use (currently 40 VND/m$^3$).
When the payment level for clean water is adjusted to 52 VND/m³ as Decision on revision of Decree 99, the payment rate of water for industrial production would increase correspondingly as 88.5% of the rise in clean water (equivalent to 45 VND/m³ exploited water) in order to ensure the equality for those also exploit and use water from forest in Lao Cai province.

The study result and comments of consultation workshop provided basis for Lao Cai PPC to issue the Decision No.1551/QD-UBND dated 27 May 2016 on regulating the pilot for payment rate, management and use of PFES money for industrial production companies using directly water from forest in the province. Accordingly, the applied payment rate is 35 VND/m³ and the pilot period starts from 1 July 2016.

As of 1 October 2016, there were 9 out of 11 establishments signing the trust contracts with the estimated annual collection at 831 million VND

Best practices

Lao Cai is the pioneering province in Vietnam for piloting PFES in industrial production sector. In fact, since 2013, some drafts for the implementation has been discussed in the province, but not yet got approval of PPC. The initial success of the study was that results on scientific basis and consultation for the policy were accepted and agreed by many stakeholders, making a breakthrough in policy implementation. The study results are quickly utilized and the pilot started from July 2016. Some important points for the success of this study include:

1. The strong political determination in implementation reflects on the active participation and direction of VNFF, Lao Cai PPC and related agencies.

2. Participation of stakeholders since the beginning is the determining factor for success of the study. That active involvement of VNFF, Lao Cai FPDF, related Departments, Management Boards of forest and industrial production companies in all activities of the study delivered information among stakeholders, giving favourable conditions to get necessary consensus to implement the policy.

3. Communication and propaganda for stakeholders, especially for payers about contents of Decree 99/2010 on PFES policy is very important. Thus, industrial production companies in Lao Cai have the awareness on their responsibilities and rights in the implementation to cooperate with the research team in providing information to identify the economic value of FES as well as the appropriate payment rate for the current situation of the province.

4. The payment rate is defined by a consistent unit for all products. Being different from hydropower and clean water sector, products of industrial production sector are more diversified such as steel, copper, tin, paper, beer, cassava powder. Also, water consume and dependence on FES are various. So, in Lao Cai, the payment rate is calculated by VND/m³ exploited water. As such, despite of products, the establishments exploiting water for their production are payers and the payment is corresponding to the amount of exploited water. This is suitable for feature of this sector and gains the high consensus from the companies.

Lesson learned

1. With the above calculation of payment for establishments, management task requires the participation of Department of Nature Resources and Environment, Department of Industry and Trade, Taxation Department and Lao Cai FPDF. If stakeholders do not cooperate closely in the implementation, the feasibility of this calculation is not high.

2. In this study, application of the policy is just for industrial production companies which exploit water on the surface, but has not taken underground water into account. This is because identifying the payment basins for underground water is very difficult, requiring more in-depth studies on geology and water resource. It needs to be considered in further studies.
Studying forest environmental service and proposing the pilot of PFES mechanism in tourism sector in Lao Cai province

Lao Cai is a province of the mountainous Northwest region of Vietnam, with 203.5 km border with Yunnan province of China and Hekou international border gate with huge volume of traffic. Tourism has become an important economic sector of Lao Cai province, usually contributes from 10 to 11.5% of GDP of the province. The average growth rate of the total number of visitors is usually 12% per year. In 2015, there was over 2 million visitors, increase of more than 3.5 times compared to 2006.

Tourism is oriented toward territorial planning. In particular, the tourism activities is organized for regions, developing the featured images according to different types of tourism. According to the Master plan for tourism development in Lao Cai province for period from 2015 to 2020 with vision to 2030, forest-based tourism such as eco-tourism and mountain resort would be one of the focused developments of the province. Accordingly, planning areas for this development include Sapa district (Sapa town San Sa Ho, Lao Chai, Su Pan, Hau Thao, Thanh Phu, Ban Ho, Nam Sai, Nam Cang and Ta Phin communes, Hoang Lien National Park), Bat Xat district (Phin Ho highland, Bat Xat Nature Reserve), Bac Ha district (Ta Van Chu and Trung Do communes), Muong Khuong district (Cao Son, Vang Leng, Ta Thang and Ta Ngai Cho communes), Si Ma Cai district (Quan Than San and Me village).

Under the framework of Technical Assistance CDTA, the study on developing PFES mechanism in tourism sector is conducted to: (i) identify the role of FES for tourism activities in Lao Cai; (ii) determine the payers in PFES mechanism for tourism sector in Lao Cai province; (iii) identify and propose the payment rate and payment method for PFES in tourism business activities on the current conditions of Lao Cai province; (iv) propose the implementation plan for PFES scheme in tourism for the province.

Survey was carried out for 20 tourism companies doing business for accommodation, 4 companies selling sightseeing tickets, 90 tourists (60 domestic ones and 30 foreigners) and FES providers such as Management Board of Protection Forest, Director Board of Hoang Lien National Park as well as households contracted for forest protection in Sapa district. The results showed that sale of entrance tickets for tourist attractions in the forest and accommodation services near or inside forest are two business types which most the benefit of FES. Beside, using Contingent Valuation Method (CVM) and Choice Experiments (CE) methods, the study estimated the acceptable increase of tourists for entrance ticket price at 2 to 7.35% and accommodation price at 2.5 to 5%. Those reflect the increase in benefit which tourist ticket offices and accommodation providers can have in PFES mechanism by rising the price of entrance tickets and room rate. Meanwhile, the WTP for FES is 1 to 1.5% of revenue from ticket price and from 0.8 to 1% of revenue from accommodation service. Based on the result, the study proposes PFES mechanism for Sapa that payment level for tourist ticket offices is 1.5% of revenue from ticket sale and 1% of revenue from room service.

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This proposal got the high consensus from participants of consultation workshop on 9 August 2016 in Lao Cai including representatives of the Provincial’s People Committee, Department of Agriculture and Rural Development, Department of Industry and Trade, Taxation Sub-department, Department of Legislation, Association of Tourism in Sapa as well as owners of tourism companies in Sapa district. The collection from PFES in tourism would be estimated as 7.72 billion VND in 2017 and expected to increase continuously to 18.57 billion in 2020.

Best practices

Lao Cai is one of the pioneering provinces in Vietnam for piloting PFES in tourism sector. The study was carried out when the current PFES implementation in this sector shows some difficulties due to lack of consensus and participation of tourism companies. The initial success of the study was that results on scientific basis and consultation for the policy were accepted and agreed by many stakeholders including management agencies and tourism companies. Then, these results would be in the proposal on revising the policy of the province since January 2017. Some significant achievements includes:

1. Active participation and close collaboration of many stakeholders since the study starts. This is an important factor for the success of PFES study. That participation of VNFF, Lao Cai FPDF and related Provincial Departments, Management Boards of forest, Association of Tourism and tourism companies in all activities of the study helps all stakeholder to get and share information, giving favourable conditions for getting consensus to implement the policy in reality.

2. Experiences on policy implementation in the province: PFES scheme in tourism sector has been implemented in Lao Cai from 2012. The experiences of Lao Cai FPDF officers and feedbacks from tourism companies are very important information for this study.

3. Propaganda activity: Since the policy has been implemented, most of stakeholders understands their roles and responsibilities. The research team also had many advantages in collecting data to identify the economic value of FES as well as the appropriate payment rate for actual conditions of the province.

4. PFES payers are identified at tourist-ticket offices and accommodation providers in the areas planned for forest-based tourism (e.g. ecotourism and mountain tourism) according to the Master plan for tourism development of Lao Cai province for period from 2015 to 2020 with vision to 2030. Given that tourism involves many stakeholders with mutual and difficult-to-clarified benefits, this identification helps to avoid overlapping and wrong PFES collection. As a result, tourism companies had higher consensus on policy implementation compared to previous time.

Lesson learned

1. The implementation and pilot of PFES mechanism in tourism has only been conducted in Sapa, not yet scaled up in the whole province. Thus, many potential difficulties has not revealed in this study. Beside, the identification of PFES payers entirely depends on the Master plan for tourism development of Lao Cai province for period from 2015 to 2020 with vision to 2030. So, to apply the model, other provinces need the Master plan for tourism development, in which clearly defines planning areas for ecotourism and resort. In fact, not all provinces in the country has this Master plan.

2. As values of forest benefiting for tourism activities (landscape and entertainment values) are difficult to define, communication and propaganda to raise the awareness and responsibilities of tourism companies are necessary. In the provinces where propaganda activities has not been done well, policy implementation might meet many difficulties.

3. One of benefits for the companies when complying the PFES policy is enhancement of their corporate images with “green label”. For instance, printing a description on the entrance tickets like “This company participates in Payment for Forest Environmental Service and contributes to improve the environment quality”.

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Best practices and lessons learned
Study on developing PFES mechanism for aquaculture on sand in T.T. Hue province

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Overview of the study

According to the approved Master plan on aquaculture development in T.T. Hue province to 2015 with vision to 2020 in Decision No.621/QD-UBND of T.T. Hue PPC dated 18/03/2011, whiteleg shrimp farming is the major aquaculture farming activity of the province. The projected aquaculture production is 24,116 tonnes, in which whiteleg shrimp output is expected at 12,116 tonnes by 2020. To achieve the objective, the province will invest in constructing 1,064 ha of intensive whiteleg shrimp farming on coastal area, increased by 570 ha (averagely rise by 7.95%/year).

Study on developing PFES mechanism in aquaculture on sand is conducted to: (i) identify the forest-based aquaculture activity that has potential for PFES in T.T. Hue province; (ii) determine the role of forest on aquaculture on sand with the current situation of the province; (iii) make the agreement among stakeholders, and (iv) propose the plan to implement PFES in aquaculture on sand in the province.

To attain the goal, the research team collected and analyzed the secondary documents on farming and forest types in T.T. Hue province as well as conducted the field survey in order to collect information on stakeholders including management agencies such as DARD, CPCs in coastal area of Phong Dien district and 40 shrimp farms in the district. It was to estimate the economic value of protection forests as the barriers preventing waves and flying sands in on-sand shrimp farming.

According to the survey, 97% of farm representatives claimed that protection forest in the coastal area has positive role for on-sand shrimp farming. From their experiences, they realize that forest helps to prevent wind and sand. Using avoidable cost method and information from on-sand shrimp farms, the economic value of forest for farming activities was estimated at 2.3 million VND/ha/year (230 VND/m²/year). Beside, 84% of interviewees are willing to pay to protect the protection forest with the average payment at 1.3 million VND/ha (130 VND/ m²/year).
Based on the field survey result, the research team proposed 3 options on payment rate as follow: (i) payment rate based on the contribution of forest on sand for shrimp farming could be applied at 230 VND/m² farming area in a year (equivalent to 2.3 million VND/ha/year); (ii) payment rate based on the willingness to pay (WTP) of shrimp farms could be applied at 130 VND/m² farming area in a year (equivalent to 1.3 million VND/ha/year); and (iii) payment rate based on the average of forest’s contribution and WTP of the farms at 180 VND/m² farming area in a year (equivalent to 1.8 million VND/ha/year). For each farm, the amount of money corresponding with the above payment rate only makes up for a small part of revenue and profit from farming activities. With data collected from this study, the estimated payment of each farm averagely accounts for 0.04 to 0.06 % of revenue and 0.16 to 0.28 % of profit.

The consultation workshop with local management agencies and on-sand shrimp farms was organized on 1 April 2016 in Hue city. The workshop result showed that option (iii) is the most feasible one which gained the largest consensus from participants. If the option is applied for pilot, the projected revenue from PFES would be 877 million VND in 2015 and reach to 1.1 billion VND in 2020.

Best practices

Although on-sand shrimp farms are not defined clearly as a payer in PFES according to Decree 99/2010/ND-CP, they all have conscious awareness on role of protection forest on sand for their business activities. They also have high consensus and voluntary perspective on payment in order to protect the forest on sand and maintain FES provided by the forest. This reveals a new potential area in PFES policy, especially for central provinces where on-sand aquaculture is very popular.

Lesson learned

The study results and pilot of on-sand aquaculture into PFES policy has not been applied in the coming time because of following reasons:

1. Lack of legal basis: In particular, Decree 99/2010 did not mention about this sector though the shrimp farming on sand heavily depends on the quality of protection forest for wind and sand prevention.

2. Lack of quantitative studies on relationship between FES quality provided by protection forest and effectiveness of on-sand shrimp farming in order to set up the appropriate payment rate for this activity.

3. Most on-sand aquaculture facilities is in small scale while locating in the large area. As such, implementation of PFES will cause very high transaction costs.
Studying PFES mechanism and proposing the pilot of PFES for tourism sector in T.T. Hue province

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Overview of the study

T.T. Hue (T.T. Hue) is a very familiar destination for both national and international tourists. According to the Department of Culture, Sport and Tourism of T.T. Hue province, total visitors in 2014 was 1,850,293 in which 1,072,045 from domestic tourists (accounting for 58% of total tourists) and 778,248 from foreign tourists (42%).

Recently, ecotourism in T.T Hue has been getting more attention. As the forest area makes up for more than 50% of natural area, the province has a great potential to develop ecotourism. The ecotourism activities at National Parks and Nature Reserves are those have a direct relation with forest environmental service. However, only Bach Ma National Park currently have both services on selling sightseeing tickets and accommodation. According to the Master plan on tourism development of T.T. Hue province to 2030, the National Park is expected to become the most significant ecotourism destination of the province. Thus, Bach Ma National Park was selected to be a case for study on piloting PFES mechanism for tourism sector of the province.

As such, the Consultant collected and analyzed the secondary documents on types of forest-based tourism in T.T. Hue as well as carried out the survey in the field. It was aimed to get the information from stakeholders including management agencies such as Department of Culture, Sport and Tourism, Bach Ma National Park, 94 tourists in Bach Ma National Park and 7 tourist companies doing business at the National Park. Then, identify the subjects involving with PFES policy, the economic value of FES for tourism activities, the Willingness to Pay (WTP) to protect and preserve forest ecosystem and basis to develop options for PFES.
The survey result showed that PFES policy gained a high consensus from stakeholders. In particular, tourists are willing to pay a higher price from 25 to 47% compared with the current ticket price of Bach Ma National Park and from 6.7 to 13.4% as to the accommodation price of hotels in the National Park.

Therefore, the Consultant proposed to apply the payment level at 2% of revenue from sightseeing tickets and accommodation service. This is the ceiling rate regulated in Decree 99/2010 ND-CP.

However, the annual number of tourists in Bach Ma National Park is quite limited, implementing PFES can cause the situation that transaction cost over the collection amount. So, the T.T. Hue Provincial People’s Committee (PPC) needs to consider the pilot decision for PFES in the coming time.

**Best practices**

1. Business activities in National Parks and Nature Reserves should be selected as study objects to develop PFES policy in tourism sector since the ecotourism activities heavily depends on the quality of forest environment.

2. Survey at Bach Ma National Park showed that tourists are very satisfied with the climate and nature beauty there. They are willing to pay an amount of money through ticket price to conserve the landscape for the next visit or their next generations if the payment is used effectively and transparently. Increasing the entrance ticket price in order to preserve and develop forest environmental services is a good approach for PFES and can be applied for forest-based tourist sites in the country.

**Lesson learned**

Implementation of PFES in tourism at places where the tourism scale is small like Bach Ma National Park in the coming time is quite challenging due to the limited number of tourists there. The estimated collection amount here is roughly 10 million VND per year. Meanwhile, arising transaction costs could be much higher than the collection unless the service providers and users negotiate by themselves and do the direct payment. However, the direct payment method has not been popular or demonstrated the efficiency.

Applying the PFES mechanism in National Parks and Nature Reserves shall become more complicated if the organizations operate their tourism business by themselves. In this case, the service provider is also the user.

Therefore, PFES mechanism should only be applied in the places where the tourism scale is large enough and there is no overlap between service providers and users.
Research on a mechanism of payment for forest environmental services for the aquaculture in mangrove forests in Ca Mau

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Summary of research activity

Bordered by the sea on three sides and abundant natural conditions, Ca Mau is one of the Viet Nam's largest aquaculture centers. By the end of 2014, aquaculture area of the whole province is approximately 300,000 ha, accounting for 28% of the country's aquaculture area. In many aquaculture models using environmental services provided by mangrove forests in Ca Mau, the model of organic shrimp with international certification (called organic shrimp model) has been considered the most feasible in applying the policy on payment for forest environmental services.

Organic shrimp model has starting point of forest-shrimp model but it has been improved to satisfy some European regulations on organic shrimp farming (such as regulations no. 834/2007 and 889/2008), of which there have been some noticeable regulations as follow: (i) the mangrove forest area should account for 50% or more of total farming pond area; (ii) farmers should not use artificial foods; chemicals should not be used for water treatment; biological product should not be used to stimulate the growth of aquatic species that have been raised in the pond; (iii) farmers should not make livestock pens on the pond or discharge wastewater from livestock pens into the pond; (iv) no poultry breeding in the pond; (v) do not make toilet in the shrimp farming area; (vi) garbage must be gathered for treatment, do not throw garbage indiscriminately; (vii) no use of chemical fertilizers for fruit trees and vegetables within the pond area; (viii) no forest exploitation without the permission of the forestry agencies; (ix) do not make coal-pits in the shrimp farming area. The shrimp farming areas that satisfy the above principles can be certified by prestigious organizations such as Naturland, Bio Suisse, EU, etc. The shrimp raised in the certified areas can join in the high competitive markets like the USA, Japan, Australia, Switzerland, etc. with the higher price from 20-50% in comparison with the industrial shrimp products at the same category and size in Vietnam.

The research on developing a mechanism of payment for forest environmental services for the organic shrimp model was conducted from June to December 2015. The biggest challenge of the research was to develop a model of benefit sharing among the fisheries processing, domestic fisheries import and export companies and households who involving in the international certification program. At present, there are 4 enterprises in Ca Mau including Camimex, Seanmico, Minh Phu Seafood Corporation and Quoc Viet Co., Ltd are involving in the organic shrimp model. However, the benefit sharing mechanism that applied by these 4 companies is very different. Enterprises and shrimp farmers have not found a common voice in benefit sharing which is causing instability in the farming regions.

Through analyzing the available documents, data and figures collected by interviewing relevant stakeholders including representatives of Ca Mau DARD, Nam Can DPC, Ngoc Hien DPC, Nhung Mien Management board of protection forest (MBPF),...
Kien Vang MBPF and conducting surveys with 141 households in shrimp farming areas of 4 companies as mentioned above (located in Ngoc Hien and Nam Can districts), the research identified relevant stakeholders in the PFES mechanism through the organic shrimp model, including: (i) payers: the customers who purchase organic shrimp with high awareness of their health and environment protection; (ii) payees: individuals, households contracting to protect mangrove forests and maintain the percentage of mangrove forests not less than 50% in the shrimp farming ponds; (iii) intermediaries: the seafood processing companies, who have responsibilities of receiving extra-payment from customers to transfer individuals, households protecting mangrove forests. In addition, the research also defined that when participating the program on organic shrimp with international certification, these companies must spend an equivalent amount of 3.91% of the raw shrimp price and the households must incur a fee equivalent to 10% of raw shrimp price.

On the view of balancing the costs and benefits among relevant stakeholders, the research developed 2 options of benefit sharing between the processing companies and the shrimp farming households, i.e. 1) a fixed payment level (equivalent to 5,760,000 million dong/ha/year) or 2) a relative payment (increase more 10% compared with the trading price of shrimp in free market). Of which, the option 2 was considered more flexible and suitable in the actual conditions of Ca Mau. If this option was selected for pilot, the amount of PFES might be 10 billion dong/year.

**Best practices**

The transparency of information about the costs and benefits of stakeholders involving in organic shrimp model is very important in connecting the fishery processing, import and export companies with the shrimp farmers in the organic shrimp model, then the two parties can easily achieve the consensus on the benefit sharing mechanism, which is the key issue in maintaining the stability of this model.

**Lesson learned**

Using the research results to pilot the PFES policy implementation for the model of organic shrimp with international certification in Ca Mau will face many foreseen difficulties because of below causes:

1. **The provincial forest protection and development fund has not been established:** The presence of the provincial forest protection and development fund plays a very important role to ensure the stable operation of the PFES mechanism. No provincial FPDF means that there is no mandatory mechanism for stakeholders to comply with commitments or fully implement their responsibilities when participating in this mechanism.

2. **The domestic market for the products of organic shrimp with international certification has not been developed:** The payment depends entirely on the business strategies of fishery processing, import and export companies as well as the consumption demand of customers at the developed countries. These are the issues out of the State’s regulation and hiding the risks for the organic shrimp model in general and for the shrimp farmers involved in the organic shrimp program in particular.

Besides, because the model of organic shrimp with international certification is very special, is only available in Ca Mau, therefore the methods and results of this research could not apply for the other mangrove forests based aquaculture models, therefore, it cannot be replicated in order to implement the policy on payment for forest environmental services in the field of aquaculture in a synchronous way nationwide.
Action Plan and the roadmap of implementing PFES policy in Lao Cai, Thua Thien Hue and Kon Tum

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Introduction

After five years of implementing the policy on payments for forest environmental services (PFES), Vietnam has achieved remarkable results, mobilized thousands billion dong each year, contributed to protecting and managing millions of hectares of forests and improving livelihoods for millions of forest-dependent people. However, the policy implementation is still remaining some limitations, including the medium-term planning and the integration of PFES into the Forest Protection and Development Plan (FPDP). The technical assistance project “ADB-CDTA 8592 VIE: Improving Payment for Forest Ecosystem Service Implementation in Vietnam” (IPFES project) financed by Japan Fund for Poverty Reduction (JFPR) via Asian Development Bank cooperated with the Vietnam Forest protection and development fund (VNFF) and provincial FPDF to develop the 5-year action plan and the roadmap of PFES policy implementation in the period 2016 – 2020 for 3 provinces Lao Cai, Thua Thien Hue and Kon Tum.

5-year action plan on implementing the PFES policy in the period 2016 – 2020 of each province has been developed according to the relevant documents of the State at central and provincial level such as: Decree 99 of the Government on the PFES policy, Decision of the Prime Minister and PPC’s decision on the development planning for the fields of Hydropower, Fisheries, Tourism, Industry, Water resources and PPC’s document on the implementation of PFES policy in the provincial area.

The purpose of developing the 5-year action plan is to identify the objectives, operation contents and major solutions to conduct the PFES policy in the provincial area; to help provincial FPDF develop annual PFES plan in association with the medium-term and long-term objectives.

Contents of the Action plan include: (1) Evaluation of the results on the policy implementation in the provincial area, including the development of the organizational and institutional system, the results of mobilizing revenue and disbursement, beside the two types of FES namely hydropower and clean water that had the guiding regulations, it is necessary to evaluate the policy implementation in the other potential services (tourism, aquaculture, industrial water,...) and evaluate the policy impacts on economic, social and environmental aspects in the provincial area; (2) The objectives of the policy implementation with the specific criteria on the possibility of mobilizing revenues from all FES types in prov-
ince, the disbursement rate according to the regulations of Decree 99, total forest area providing FES, and the criteria of forest protection associated with livelihood improvement and poverty reduction are expected to achieve in the plan period; (3) Tasks and measures of policy implementation, including the valuation of potential FES types and the development of a mechanism on policy implementation for these services in the provincial area; (4) Implementation arrangement of the plan on monitoring and evaluation for the provincial FPDF and departments, sectors and agencies in the province, DPC, cities according to their functions and duties.

The roadmap of PFES policy implementation is the summary of 5-year action plan on PFES policy implementation. Contents of the roadmap include 4 parts: (1) Basic conditions of the policy implementation, (2) Objectives of the policy, (3) Supporting activities, (4) Policy impacts on economic, social and environmental aspects with some measurable indicators and the targets to be achieved each year, and (5) Main tasks should be prioritized to implement, implementation progress and the responsible agencies in order to achieve the expected objectives. This document helps to guide the development of annual PFES plan of the province and helps relevant stakeholders to monitor and supervise the implementation process for the effective and transparent policy enforcement.

Key results

The 5-year action plan and the roadmap of PFES policy implementation has been developed for 3 provinces in Lao Cai, Thua Thien Hue and Kon Tum.

On 15 June 2016 Thua Thien Hue PPC issued Decision no. 94/KH-UBND on “the plan of implementing the PFES policy in the period 2016 - 2020 in Thua Thien Hue”. In this decision, the plan of collecting from two types of FES (hydropower and clean water) in Thua Thien Hue in 2016 is 20,730 million dong and until 2020 will be 26,863 million dong as the option 1 (calculated under the unit price of 20 dong/kwh for hydropower and 40 dong/m³ for clean water) and 47,156 million dong as option 2 (according to the new unit price adjusted under the Decree 147/2016/ND-CP dated 02 November 2016). FES revenue will support the forest protection and development, maintain the percentage of sustainable forest coverage of 57 – 58% and contribute to livelihood improvement, poverty reduction for the ethnic minorities, particularly difficult areas, reduce the average percentage of poor households of 1.5 – 2.0% /year.

On 10 October 2016 Kon Tum PPC issued Decision No. 2441/QD-UBND on the implementation of the policy on payments for forest environmental services in Kon Tum in the period 2016 - 2020. In this decision, the collection plan from two types of FES (hydropower and clean water) in Kon Tum in 2016 is 148,258.1 million dong and until 2020 will be 175,372.5 million dong (new unit price as the Decree 147/2016/ND-CP dated 02/11/2016 has not been calculated), total forest area providing FES in 2020 will be 460,103 ha, target of disbursement is 85% excluding 5% of contingency and 10% of administration cost. FES revenue will significantly contribute to the forest management, protection and development, until 2020 the forest coverage will achieve 63.75% and reduce the percentage of poor households in the period 2016-2020 from 3-4%.

On 21 December 2016 Lao Cai Provincial Fund issued the Plan No. 308/KH-HDQLBVR in the implementation of the policy on payments for forest environmental services in Lao Cai in the period 2016 - 2020. In this plan, total PFES collection in Lao Cai in 2016 is 44,509 million dong and until 2020 will be 101,737 million dong, of which collection from hydropower will be 229,107 million, accounting 89.06%, clean water 3,290 million, accounting 1.02%, industrial production is 4,652 million, accounting 0.79%, cold water aquaculture 0.48%, tourism is 28,000 million, accounting 8.65% (new unit price as the Decree 147/2016/ND-CP dated 02 November 2016 has not been calculated). FES revenue will contribute to conduct the objective of forest protection and development until 2020 including the percentage of forest coverage of 56% of the whole province.

The plan of three provinces as mentioned above identified the key tasks, main solutions and the responsibilities assignment for related stakeholders. On 02 December 2016, Kon Tum PPC organized the meeting on implementing the plan for the relevant agencies in provincial area with the support of IPFES project.

Through the experiences to develop the 5-year action plan and the roadmap of PFES policy implementation for the three target provinces, IPFES project has drafted “the Handbook on developing the PFES plan” together with VNFF and 3 provincial FPDFs in order to guide the planning of the PFES policy and the integration of PFES plan into the FPDP at provincial level.

Main contents of the Handbook include: (1) Overview of the PFES policy; (2) Guidelines on planning of 5-year plan of PFES policy implementation; (3) Guidelines on developing the roadmap of PFES policy implementation; (4) Guidelines on developing annual PFES plan and integrating the FPDP of the province. There’s also annexes, including: (1) Methods of calculating FES values and results of pilot study on developing a mechanism of PFES of IPFES project; (2) The 5-year action plan and the roadmap of PFES policy implementation of 3 targeted provinces; (3) Some forms for PFES plan and relevant documents. Handbook on developing the PFES plan is the guiding document so that the FPDFs of the whole country can use as reference document to develop 5-year action plan and the
roadmap of PFES policy implementation as well as the annual plan and integration of PFES plan with the provincial FPDP.

Under the support of TA-iPFES, PPC Kon Tum organized meeting to discuss 5 years plan 2016-2020.

Lessons learned

1. The implementation of PFES policy under Decree no. 99 has brought positive results, created sustainable finance resources for the forest management, protection and development, contributed to improve the lives of the forest-dependent people, especially people living in particularly difficult areas. However, the policy implementation in current provinces is still passive and depends on the instructions from central level. Therefore, the development of plan in the medium-term and long-term as well as the implementation roadmap in province is very necessary and feasible in order to actively and effectively conduct the policy.

2. The potentials of PFES of provinces are still huge, so it is necessary to study the valuation of FES values and develop PFES mechanism for the new services such as tourism, aquaculture, industrial production, etc., to promote these potentials and to implement the Decree 99. In order to study and pilot these new mechanisms, it should have the proactive advice of provincial FPDFs, determination and close guidance of the PPC, the active participation of the local departments, sectors and agencies and the technical supports, administrative procedures and state budget as well as financial support of the programs, international cooperation projects.

3. Provincial FPDFs and agencies still lack of technical and expertise officers to conduct independently studies to overcome difficulties occurring in the process of implementing the PFES policy as well as developing payment mechanisms for some potential FES regulated in the Decree 99 of the Government.

4. In order to study and have successful pilot of PFES policy for the potential services, it is necessary to develop a payment mechanism that has a solid scientific basis, clear legal basis and a practical basis that is suitable to the provinces; in addition, the high consensus of relevant stakeholders is a crucial element to the effectiveness and feasibility of the policy.

5. IPFES project actively supported Lao Cai FPDF in the process of developing and piloting the PFES mechanism for new services. However, due to the short time of the project implementation thus the project will be finished before the pilot is reviewed and summarized. This will cause certain difficulties for Lao Cai while the resources spent for this activity are still limited.

6. The sanctions for the policy violations are still limited and not strong enough that led to the delays of signing contract and lacks of implementing the obligations. This affected the progress of policy implementation. On the other hand, it should have a clear, transparent and timely information disclosure of the policy implementation to facilitate FES users to involve in monitoring and evaluating the results of forest protection, quality of service supply and the policy implementation in general.

7. The PFES plan should be integrated into the PFDP and it should have the cooperation with the resources of other programs and projects at the same area so that the PFES policy will be conducted effectively and contribute to implement the objectives of forest protection and development as of the socio-economic development in general of the whole province.
In two days 20-21 October 2016, the project “Improving Payment for Forest Ecosystem Service Implementation in Vietnam” (IPFES project) cooperated with Kon Tum FPDF to organize a training course on piloting the use of online database - WebGIS in the acceptance exercise of PFES.

Previously, one similar training course were organized in Sofitel hotel in Ha Noi in 4 days (27-30 September 2016) to introduce and train nearly 50 trainees and guests from departments under MARD, ADB, VNFF, consultants of IPFES project, FORMIS II project, DPFES project, FPDFs of Lao Cai, Thua Thien Hue, Kon Tum and some international organizations like GIZ, Winrock, Pannature, etc.

So far, the acceptance of PFES has been conducted according to the Circular No. 20/2012/TT-BNNPT-NT signed by Minister of MARD for issuance on 7 May 2012 on guiding the steps, procedures of ac-
ceptance and payments for forest environmental services. According to this Circular, information of forest lots providing FES will be declared by the households then aggregated at the levels from village => commune => district => province. This circular has been very suitable at the initial phase when the policy on PFES has just established, help to develop a database with the high consensus of the people so that the policy on PFES can come into life. However, at present the forest data that collected as this guideline is not consistent with the data on updating the annual forest changes of the forest rangers.

At present, the project on National forest investigation and inventory in the period 2013 - 2016 has provided a set of data that is consistent and most accurate for some provinces and the national data will be available in the coming time. At the same time, the project “Development of Management Information System for the Forestry Sector in Viet Nam – Phase II” (FORMIS II) has developed a software system to update the forest changes based on the maps as the results of the National forest investigation and inventory. This software has been extensively trained by FORMIS II. This is the official data and the data’s structure is agreed at national scale. It should be used as an unique data source that are legal and consistently throughout the forestry sector in the country, including PFES.

In June 2015, project “development of informative database on PFES in Vietnam” (DPFES) has completed an online database to serve the PFES. The website of this project is a big step in forestry sector, the national data was managed consistently, openly on the Internet. However, the results of forest inventory and the update of forest changes have not been used in this database. The annual data on forests and forest owners is updated by provinces under Circular 20. It means that the system developed by DPFES only includes tables of statistics, and not attached with map so that it is difficult to be consistent with the data on updating forest changes on FORMIS II that managed by forest rangers. Therefore, forestry sector will have two sets of data on forest that are inconsistent and existing in parallel on two online systems, namely FORMIS II and DPFES.

The software of sharing online data on GIS (shortly called WebGIS) is one of the main results of IPFES project. This WebGIS is running on the server of FORMIS II, uses directly the data on forest changes
on FORMIS II, combines with the watershed map to develop the PFES map. The data structure of PFES map has been developed following the design of DPFES project. The WebGIS is linked into one menu of the DPFES’s website, uses the same login account with the DPFES and adds more information for the DPFES’s website, including: support to display payment map, the watershed map; function of searching information; Automatically creates data tables on forests and forest owners, etc.

This WebGIS is essentially a bridge between FORMIS II and DPFES, ensures data consistency and synchronization on forests between the two important online data sources in forestry sector. WebGIS could help provincial FPDFs to develop PFES map and data without specialized and expensive GIS software like ArcGIS, MapInfo.

IPFES project conducted on three provinces Thua Thien Hue, Lao Cai and Kon Tum. Until now, in three pilot provinces, only Kon Tum has the data on forest changes and inventory on the server of FORMIS II. Thus, Kon Tum has been selected as pilot province. The online GIS database on PFES for Kon Tum has been completed, detail information can be seen on the website: http://dvmtr.siteam.vn/ => Menu: Map - IPFES.

Beside the WebGIS manual, the two training courses also introduced and trained the application of tablets in forest monitoring. The tablet can be used instead of Navigation equipment; computer to see information of forest map; GPS cameras to take photos in the fields with the attached coordinates; survey lines can be painted and opened on Google Earth; and especially it can be used offline (without internet and telephone waves). This application is evaluated very practically in forest monitoring and supervision.

Using database from WebGIS in FES acceptance and payment will help to reduce time, efforts compared with the acceptance process as the Circular 20, ensuring the consistency with the forest changes data updated on FORMIS II. Through the two training courses on using WebGIS, it can be confirmed that there are no problems on the technical aspects and database. However, the legal basis to implement the forest acceptance according to this new method has not been ensured because it does not follow the acceptance process of the Circular 20.
The implementation of the PFES policy in Vietnam has faced some difficulties that are not only about technical issues, but also accounting and financial fields, especially the obstacles when applying the accounting regime, transaction records for the mobilization, management and utilization of PFES money by FPDFs, forest owners who are organizations and organizations which are not forest owners but assigned by the State to protect and manage forests.

In order to remove above difficulties, iPFES project developed the “Handbook on accounting and financial management of payments for forest environmental services” (hereinafter called the Handbook). The Handbook was compiled on the basis of the current related regulations of the State such as: Circular 80 of MARD on guiding the methods of defining PFES money; Circular 20 of MARD on guiding the order, procedures of acceptance and liquidation of PFES money; Circular 85 on guiding the financial management regime for the Forest protection and development fund; Joint circular 62 of MARD – MOF on guiding the mechanism of PFES management and utilization, etc.

In order to consult experts in the field of finance and accounting as well as the relevant subjects in the implementation of the PFES policy, IPFES project in association with VNFF organized a workshop in Hanoi on 29 September 2015 to get the feedbacks on the draft Handbook. Participants of the workshop were 74 accountants and financial officers from 3 targeted provinces including Lao Cai, Thua Thien Hue and Kon Tum and 11 FPDFs of different provinces that have over 30 billion dong/year as PFES revenue. Besides, the final draft of the Handbook was sent by VNFF to collect comments in writing of all FPDFs across the country.

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Handbook on accounting and financial management of payments for forest environmental service

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Major results

The Handbook has been issued officially at the Decision No. 5307/QD-BNN-TCLN dated 22 December 2015 of MARD with the Introduction of Vice Minister Ha Cong Tuan.

The Handbook includes 3 major contents: (1) Overview of PFES policy, (2) The financial issues in the implementation of PFES policy, (3) Guidelines on accounting in PFES. It is a practical tool to help all levels of accounting and financial officers to clearly understand the PFES financial mechanism for more transparent and effective management and utilization of PFES.

IPFES project cooperated with VNFF to organize a training course on using the Handbook in Ha Noi on 14 April 2016 with the participation of 80 people who are accountants of 40 provincial FPDFs across the country and some representatives of relevant agencies. The training course and the Handbook has been highly appreciated by all participants.

Lessons learned

1. The lack of clear guideline on accounting and financial management is one of the causes affecting the progress and effectiveness of implementing the PFES policy, especially this is a new issue so its influence is greater. The Handbook is expected to contribute the consistent financial scheme for PFES implementation at nationwide.

2. The training on applying the Handbook was conducted in a participatory method through exchanges, discussions and cases study in practice of the provincial participants, and this approach helped the trainees better understand and use in their work later.

3. Discussions to share participants’ experiences in the training revealed some shortcomings and limitations in current PFES legal documents such as: Decree 05 on the organization and operation of the FPDF, Decree 99 on the unit price or the PFES management and utilization in association with the forest protection and livelihood development in the villages, etc. These issues have been studied by MARD, VNFOREST and VNFF to supplement and amend the legal documents, and also have been studied by IPFES project to develop another guideline; “Handbook on PFES management and utilization in association with the forest protection and livelihood development in villages”.

4. Training on the accounting and financial exercises is very necessary, especially with the new policy like PFES policy, including the PFES management and utilization in villages; VNFF should pay attention to regularly organize these activities to introduce new legal documents, new mechanism or new professional guidelines.

5. The PFES for the forest owners at present in some provinces is still slow, provincial FPDFs should speed up the progress of acceptance and procedures in order to receive payment early. On the other hand, provincial funds should also organize trainings for communities to manage and use PFES money associated with the forest protection and livelihood development in villages in an effective manner.
PFES Village Fund Management and Utilization combined with Livelihood Development and Gender Consideration

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Outline of the titled activity

1. 62.5% of total PFES targeted area has been protected by PFES money with a unit price of 200,000 dong/ha/year (equivalent to 9 USD/ha/year). This rate cannot provide enough incentive for the participation of PFES. In such a situation establishment of the village fund is one option for keeping people’s motivation and the effective utilization of the fund.

2. However, the method of payment for the individuals, households/household groups still includes many financial procedures of documents, has not promoted the motivation, awareness and the involvement of the communities in the process of PFES management and utilization.

3. Therefore, Consultants of iPFES project supported to develop handbook on the PFES management and utilization at village level, including i) Guideline on PFES management of the villages; ii) Guideline on PFES management and utilization with integration of gender and livelihood development in the villages, and iii) Sample regulations on the PFES money management and its utilization of village.

4. The activity is conducted as below; 1) Study on current management and utilization of PFES money in the communities, 2) Workshop to collect comments on the draft handbook, 3) Pilot activities in Thua Thien Hue (T.T. Hue) and Kon Tum provinces, 4) Support and monitor communities in PFES management and utilization in 2016, and 5) Based on the results of the pilot activities, FPDFs of T.T. Hue and Kon Tum organized trainings for the communities.
Best practices

1. Training courses on the management and utilization of PFES money have been conducted in 4 communes of T.T. Hue and Kon Tum with the contents: i) Government’s regulations and problems on management and utilization of PFES money at commune level at present; ii) Developing regulations on management and utilization of PFES money of the communities; iii) Developing annual plan of the PFES money utilization; iv) Recording PFES money management of the villages; v) Use of PFES money to invest livelihood development; vi) Gender equality in management and utilization of PFES money.

2. At the pilot communes, regulations on management and utilization of PFES money and the PFES management unit of villages have been agreed at the community meetings. The communities selected 3 groups of activities using PFES, including: i) Forest protection and development; ii) General activities of the villages; iii) Establishing revolving loan fund in the village/groups. CPC issued Decision on Regulations on management and utilization of PFES money, and Decision on the establishment of PFES management unit in villages.

3. Some activities have been conducted continuously by communities even after the training courses termination: i) Established the PFES management unit of village; ii) Opened bank account at the Agribank to receive and manage the PFES money; iii) Organized forest patrolling to protect forests and pay wages; iv) Established loan fund for the livelihood development from PFES money; v) Organized community meetings to make plan and report the results of using PFES money. Thus, the PFES management and utilization of the communities has been public, transparent and more effective in forest protection, development and livelihood development.

4. Communities have changed the awareness of gender, namely: i) added more female members to join in the village management unit; ii) regulated the minimum rate of female participation in planning the use of PFES money; iii) encouraged the involvement of women, especially the poor women in PFES planning, management and utilization.

5. At 10 villages of Hong Thai and Phong My communes of T.T. Hue, after receiving more than 300 million dong as the advance payment of 2016, this amount was paid for the wage of forest patrol and protection according to the timesheet, some equipment for patrolling team, general activities of the village, and deducted 73 million dong (corresponding to 25% of the advance payment) to establish revolving loan funds for livelihood development. The average loan is 2 million dong/household in 12 months with an interest rate from 0.5% to 1%/month.

6. 14 officers of provincial FPDFs of Kon Tum and T.T. Hue have been built their capacity after joining the TOT training, practiced to facilitate trainings for the communities with the support from iPFES project. According to the plan of 2017, Kon Tum will conduct 30 training courses for the communities, T.T. Hue will conduct trainings for all communities on PFES management and utilization.

Lessons learned

1. Model of PFES management and utilization in communities is suitable to the capacity of the communities, the fact in the local and appropriate with the orientation of community forest management. This management method contributes to increase the effectiveness and sustainability of the forest protection and management with the participation of communities, capacity build-
ing, livelihood development in the region. In addition, the community PFES management model also aimed at minimizing administration procedures, creating transparency and providing the financial service access to communities through the establishment of funds.

2 The guiding document should be developed in line with the capacity of the communities, including the full range of instructions on processes, procedures and management books and vouchers. The training courses have been organized according to the participatory method with the support of conducting village meetings on the development of regulations and finalizing financial management books. The models of PFES management and utilization in communities should be disseminated during the implementation process.

3 The supports after the training are also important, including i) Instructions on selecting the livelihood model and the implementation management; ii) Strengthening the gender equality in the PFES management and utilization; iii) Supporting the finalization of the Handbook on PFES management in villages.

4 It is necessary to have the support of PF-PDFs through i) encouraging the form of community forest management and protection; ii) Advance payment for communities through bank account system; iii) Advance payment right after trainings on the model for the communities; iv) Replication through trainings and communication for the communities; v) Working closely with the local government authorities and the ranger units in the implementation process.

5 Hand over the model of management and utilization of PFES money of the communities for provincial FPFD with the activities, including: 1. Support pilot implementation in two communes, 2. Monitoring evaluation and finalizing the guiding document for the communities, 3. TOT training for the relevant officers of the Fund, 4. Developing and handing over the training modules for the officers of the Fund, 5. Supporting the officers of FPFD to conduct sample training in the communities, 6. Drawing lessons learnt and preparing training plan for the communities for the following years.
iPFES project conducted gender impact assessment and prepared the gender action plan in PFES implementation for 3 targeted provinces of Kon Tum, Thua Thien Hue, and Lao Cai. Main objectives are 1) to understand the socio-economic impacts of PFES policy for men and women, and 2) to identify issues to be improved in order to ensure gender equity through the development of gender-sensitive action plan.

I. Gender Impact Assessment:
Gender impact assessment was conducted in total seven communes in Kon Tum, T.T. Hue and Lao Cai and the reports includes description and evaluation on the all issues with consideration of gender analysis related to a) Supports for PFES implementation (e.g. role of the organizations, leadership capacity in the PFES implementation), b) Gender in socio-economic activities (e.g. education, health, income-generating activities, income management, etc.), and c) Gender awareness and capacity building (e.g. information access by gender, awareness of PFES policy between men and women, the role, capacity, and the participation level of men and women in community activities or trainings, discussion to comment on policy adjustment, etc.).

II. Gender action plan:
Based on the above reports, gender action plans were prepared with the consistence of legal framework on gender equity in the country, international level and ADB. The plans are composed of 1) Strategy on gender equity campaign (policy, direction, environment of facilitating, gender mainstreaming in each stage), and 2) Action plan and expected outcomes.

Benefits of PFES policy

1. 100% represented households having forest-dependent livelihood recognized the importance of production forests for households lives. As their view, forests both provide water, timber, firewood, meat, vegetables and can be transferred into money, housing, health, knowledge and social position.

2. On the economic side, PFES policy has a little impact on the households who have small contracted forest area or households who have contracted forest area out of basins of hydropower plants. However, according to the assessment from most of surveyed participants, even they do not separate the money received from the PES provided as a separated source of income, this amount contributed to households income and helped raise the living standards of the members of the households.
Many representatives of households in Kon Tum used PFES money to buy necessities, breeding animals, seeds, clothing, foods, education investments for children, pay for medical expenses and electricity fees. In Thua Thien Hue and Lao Cai, households who received more money shared that this amount of money has benefit in repairing or building new houses, buying motorcycles, investing in plantations of rubber, melaleuca, cinnamon or furnishing in their houses.

Local people in Phuoc Tho village (Phong My, Thua Thien Hue) discussed the use of community’s PFES money in buying a boat to facilitate both men and women to go patrolling and full use of by-products of forests. A playground was built in the village of Ban Lung (Nam Det, Lao Cai), where men play football and women join in folk games during the festive seasons.

**Lessons, challenges and solutions**

1. PFES implementation has potential to bring the positive impacts on both men and women if there is a mechanism that takes into account the gender perspectives such as gender awareness, involvement on natural resource management or evaluation on PFES implementation process.

2. However, Decree 99 has not mentioned on putting gender issues into the fields closely related to the forest protection and development. The lack of gender mainstreaming mechanism has led to the lack of gender sensitive plan in the operation of the relevant authorities. Officers in charge of local forest management are still lacking skills on gender analysis.

3. Through the survey, it is clear that multi-dimensional poverty is a common fact in the surveyed communes of 3 provinces. For example, results of regression and correlation showed the close relationship among the variable of the low education subjects (literacy, primary education) and the variables of women, ethnic minorities (Xo Dang, Koh Pa Ray, Dao, Hmong), and also multi-dimensional relationship among low income, lack of access to information, lack of participatory and decision making capacity during the policy adjustment process.

4. Although there are few alternatives, any poor household would have to choose one option to reduce vulnerability. Local people would be more inclined to forest protection than forest exploitation if their living standards have been improved. Thus, the technical assistance should focus on trainings to help people analyse that there are not only potential abilities, available assets of both men and women but also risks when they select wrong livelihood solutions.

5. Gender roles in households reflect the traditional labour assignment and an unbalanced gender relation that inherently formed from the social and economic structure. Re-manufacturing activities confined women in house, did not give them opportunities to express themselves and reach out to society to be able to participate in activities for awareness raising, capacity building and to develop management or leadership skills.

6. It is necessary to develop a gender action plan or a prioritized plan on capacity building of women in management activities and benefits from forests, considering its socio-economic status as mentioned above.
In December 2015, iPFES project carried out a survey to evaluate the situation and identify the need for training for building the capacity on enhancing the implementation of PFES in 3 target provinces and some agencies under Ministry of Agriculture and Rural Development (MARD). The total number of collected questionnaires was 285, in which 106 of Lao Cai province, 82 of Thua Thien Hue, 75 of Kon Tum and 22 of MARD.

The survey showed that more than 70% of interviewees needed more training to implement the PFES policy effectively. Regarding the training method, 77.5% of interviewees answer that theory and practice should be together in the coherent way.

Based on the Training Needs Assessment, a training plan was developed with the specific objectives, contents, subjects and suitable methods. The top priorities were identified as follows; financial management and accounting, livelihood, community development and gender issue, PFES database and GIS, and communication and knowledge management.

In the period from 2015 to 2016, iPFES project has cooperated with VNFF and 3 targeted FPDFs to organize 18 trainings for 874 participants in total. In which, 9 courses on “management and use of PFES...”
money in the village level with livelihood development and gender issue for 418 participants including 25 trainers, 4 courses on communication and knowledge management for 154 participants, 2 courses on Web GIS for 112 participants including 50 trainers; 1 course on Financial Management and Accounting Handbook for 83 participants, 2 courses on DPFES database for 107 participants. In addition, the project hosted 13 workshops/seminars with total 874 participants, contributing in raising the awareness on PFES policy for stakeholders in 3 provinces.

Training activities of the project are very diverse in contents as well as flexible in methods, closely related to the actual needs of the provinces, fully follow the plans and requirements in the Design and Monitoring Framework (DMF).

After the trainings, participants had chance to evaluate the courses, most of the trainings were given positive assessment for criteria such as provided knowledge, practice skill, tools used in the courses, quality of materials, duration, etc.

In October 2016, the Consultant held a survey to assess the capacity of stakeholders as well as results of training activities under IPFES project. Total number of collected questionnaires is 340, in which, 101 of Lao Cai, 112 of Thua Thien Hue, 111 of Kon Tum and 6 of VNFF. Dividing into types of subjects, there are 114 questionnaires of management agencies, 162 of service providers and 65 of service users.

The final capacity assessment illustrates that training activities of IPFES project greatly contributes for improving the capacity on implementing PFES policy for stakeholders, especially for officers in the Provincial FPDs and forest owners being households, individuals and communities in 3 target provinces.

As such, some lesson learnt can be documented as follow:

1. PFES is new policy, therefore awareness and attention of stakeholders are still different among levels and target provinces. So, communication, advocacy, propaganda, dissemination of the policy as well as workshops/trainings for the capacity building are very necessary in order to effectively improve the policy, especially for provincial level.

2. Trainings on management and use of PFES money at the village level combined with livelihood development and gender issue have greatly practical impacts on improving capacity of communities, especially for ethnic minorities. This contributes to enhance the effectiveness of forest protection and development as well as the transparency of the utilization of PFES money through village fund. In which, impact for households, individuals and communities is greater than that of forest owners being organizations. Also, the indicators on gender has given more attention and been integrated into the implementation plan.
3. Trainings on communication including both basic and advanced knowledge and skills with variety of methods for different subjects has a significant meaning for raising awareness and responsibilities on policy implementation. The results of IPFES project on developing communication plans, materials and organizing trainings have improved significantly the communication tasks in 3 target provinces. These experiences need to be scale up, especially for propaganda for ethnic groups and minorities with diverse methods. Nevertheless, advocacy for PFES users has not given enough attention, especially for new sectors such as aquaculture, or tourism. So, awareness of these subjects as well as their responsibilities on policy implementation are still limited. This is also a reason for delay in PFES payment.

4. IPFES project developed Web GIS database integration with FORMIS and DPFES systems, completed the Manual and hold the training for target provinces. This is a new tool that needs to be supported to pilot in Kon Tum and other provinces for finalization and institutionalization. The application has great potential to help the implementation of PFES payment to be consistent, effective and transparent, especially for validation, monitoring and evaluation tasks.

5. Several new completed contents under IPFES project, including the Handbook on management and use of PFES money at the village level, the Handbook on planning the roadmap and integration of PFES into provincial plans on forest protection and development. These results should be finalized, institutionalized and trained for applying widely because of the great need of provinces. They are also important tasks to improve PFES implementation.

6. Some new mechanisms is piloting in the provincial level (cold water fish farming, tourism and industrial water in Lao Cai). These activities needs to be monitored, supported to evaluate, summarized for lesson learnt in order to be finalized and officially applied for other provinces with the same conditions. This requires the great support of VNFF and the Provincial Fund.

7. To study the valuation and development of PFES mechanism in new and potential sectors, the provinces needs the assistance of the Central level and international programs or projects. To implement the policy effectively, especially for new mechanisms, participation of many agencies, organizations and determination of leaders who are always willing to solve arising situations and appreciate contribution as well as agreement of all stakeholders are requirement for the great success.
Support on upgrading

VNFF’S WEBSITE

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One of the very effective supports of the iPFES project is upgrading, maintaining and operating the VNFF’s website. Until now, the VNFF’s website is operating stably, helping VNFF and relevant stakeholders introduce, upload and disclosing information and communicate effectively and securely. And it gradually creates database on the relevant fields of VNFF.

On average, there are more than 3,000 visits to the website each day*. The Website has basically met the requirements such as: (i) New and modern interface; (ii) full range of modules and functions; (iii) Good security; (iv) fast access speed; (v) The data is updated rapidly from a variety of sources; (vi) website is maintained and operated stably; (vii) convenient system management. The development of the VNFF’s website also ensured: (i) Website of VNFF has been developed on content management system (CMS) with the most modern technology of the Microsoft. The system has been developed in an open way, the administrator can customize; (ii) Technology to develop Website: The server operating system of VNFF’s website is Windows Server 2012; The tool used to develop the Website is Microsoft.NET; and the management system of database for the Website is MS SQL Server.

The consultant unit of developing the Website directly guided the operation for the VNFF’s staff and finalized and handed over document on “Guiding the Website administration”, iPFES project supported the operation cost for the Website till the end of December 2016. This support activity of iPFES project did and has contributed actively to the implementation of the PFES policy. In order to ensure VNFF’s Website continue to be effective, VNFF will continue to managing, maintaining and updating information to share with agencies and partners relating to the implementation of PFES policy.

More details can be accessed in the website http://vnff.vn/

*There are 1,538,616 visits to the website from beginning of November 2015 to 28/11/2016.
iPFES project developed a 16-minute video clip which introduces the contributions of ADB in the field of biodiversity conservation.

The film was conducted in Thua Thien Hue, Lao Cai and Binh Phuoc provinces where are the areas of the GMS Biodiversity Conservation Corridors Project (BCC project), iPFES project and some other development projects by VTV2 of Vietnam Television.

The video clip recording is focusing on the project contributions to forest restoration, emission reduction, development of native plants, livelihood and tourism development in order to decrease the pressure on natural resources. There are also a series of interviews with local people and officers on effectiveness of the projects as well as the importance of forest for local residents’ lives. Besides, in the film, policy makers reflected the government strategies with practical contributions of Decree 99 for forest dwellers through interviews with Deputy General Director of Vietnam Administration of Forestry – Mr. Nguyen Ba Ngai and Country Director of Vietnam Resident Mission of ADB – Mr. Eric Sidgwick.

The vivid and stunning images of species in the forests of Vietnam, unique scenarios recorded by fly-cam as well as visual scenes combination with the tunable background music make the film worth-watching. VTV2 broadcasted the film at 9.30 pm on 29 December 2016. The video clip is also linked to VNFF website (www.vnff.vn) and uploaded on YouTube (https://youtu.be/EuJeHSTcEIM).
Propagating PFES by the languages of ethnic minority

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In order to support the people, especially the forest owners who are ethnic minorities understand PFES policy, within the framework of the IPFES project, consultants / communication experts of the project together with Lao Cai provincial FPDF collaborated with the Lao Cai television’s ethnic language channel to conduct pilot production and distribution 360 communication discs in the languages of Mong, Dao and Vietnamese and delivered to districts and communes in the region of implementing PFES so that test to play on the radio system of the commune and village.

Ta Ngai commune - Muong Khuong District has 7 loudspeaker clusters to serve 12 villages, this is one of the poorest communes of the country with nearly 100% Hmong are living, the income of the people is mainly from upland rice cultivation. Mr. Hau Chau Lao – person in charge of culture at Ta Ngai Cho said that: the commune has just received the propaganda disk and is planning to play as the instruction of Lao Cai FPDF. It is rarely to broadcast programs in Mong language to the commune here, if yes the villagers will listen to because the time of broadcasting is in the morning from 5.30 to 6.30 am and in the afternoon from 5.30 to 6.30 pm every day.

Mr. Do Ngoc Minh – Head of Muong Khuong forest ranger unit also said that this propaganda disk will be firstly listened to all contents carefully by officers then they will make plan for the mobile propaganda by car, especially at the time of upcoming dry season, this disk also can be used to integrate in other meetings on forest protection and development in the local community.

Den Sang commune – Bat Xat district has just received the propaganda disk in Dao and Vietnamese language and started to play on the system of loudspeaker clusters of the commune. Mr. Ly Lao San Dao people – Vice Chairman of commune listened to the disk player and confirmed that the contents are easy to understand, however, the villagers should listen to many times to remember.

In order to contribute to the process of raising awareness to the people, especially ethnic minorities, remote areas of their rights and obligations stipulated in the Decree 99/2010/ND-CP on PFES policy, the broadcasting by ethnic language is one of the methods that the mountainous and poor people are able to access to information with relatively low implementation costs.
iPFES project supported MARD to develop a synthesis report on reviewing 8 years of organizing and operating FPDF (2008-2015) and 5 years of implementing the policy on PFES (2011-2015). Purposes of the review are evaluating the achievements, shortcomings, limitations, challenges and to draw lessons learnt and propose solutions so that FPDF’s activities and the implementation of PFES policy can have better effectiveness in the coming time.
**About 8 years of FPDF’s organization and operation**

**Achievements:**

FPDF was established according to the Decree no. 05/2008/ND-CP dated 14/01/2008 of Government. As of June 2016, 41 provinces have established their FPDF, of which 37 provinces have established Management unit of the Fund to implement PFES activities. The payment system has been set up from the central level to provinces and districts. FPDFs have well conducted the entrusted duties of PFES. FPDF is an indispensable and important link of payment for FES money from FES users (subjects entitled to pay money) to FES suppliers (subjects entitled to receive money) according to the direct payment. Over the past 5 years, total amount paid by FES users was more than 5,700 billion dong, equivalent to about 260 million USD, FPDFs have completed their duties of entrusted payment for FES suppliers.

**Shortcomings and solutions:**

There are some obstacles on the fund’s organization and management during its operation such as: Legal position of FPDF relating to the management and utilization of the amount deducted for the administration cost of the Fund has not been specified; the decentralization of FPDFs is not consistent among provinces, some FPDFs are managed by PPC, some others are managed by DARD; components of management council of provincial FPDFs are not consistent in representatives of departments; organizational structure of the provincial FPDF management unit is also different among provinces, some provinces include 2 divisions, some others include 3 or 4 divisions.

However, these problems do not affect the completion of the entrusted tasks of PFES, the State will adjust, supplement legal document to overcome these shortcomings and help the organization and operation of the FPDF more complete.

**About 5 years of implementing PFES policy**

**Achievements:**

1. The most important purpose of the PFES policy achieved after 5 years of implementation was the service payment relationship that the subjects of using results from forest protection pay for the people directly protect forests of providing FES. Enterprises have accounted PFES money in their product prices and all citizens in society using these products have paid money by invoices and become FES users. FES money was paid through the bills and invoices of electricity, water and entrance tickets to the tourist sites.

2. Service payment mechanism between users of the benefits of forest protection and the people directly protect forest has been established, operated and promoted environmental, social and economic effectiveness, has become a socialization activity for forest protection in order to prevent the decline of forest area and degradation of the remaining natural forest quality, to cope with the impacts of climate change.

3. Most of households who received PFES money have clearly recognized that the source of this money is from the enterprises using FES and their efforts of forest protection to maintain water source for the production of enterprises. The FES amount received by households has contributed to improve income and some households used this amount to invest in agriculture, child education, livelihood stability and improving living conditions. Currently PFES money has not met the value of labor and the minimum living demands of the people, but it is really meaningful for the poor.

4. After 5 years of implementing the PFES policy: Total PFES amount paid by the FES users is 5,744,792,000,000 dong (as of 30 June 2016), approximately 260 million USD; 5,299,795.41 ha of forest has been protected by PFES money (accounting 38.4% total area of the whole country); 506,298 households mainly ethnic minorities have received PFES money.

5. Only three of five types of FES stipulated in Decree 99 have been paid, including FES for hydropower, water and tourism business. Most of hydropower, clean water, tourism enterprises have recognized the obligations and benefits of the use and payment for FES and they conducted the payment according to the regulations. Of which, the amount of money paid by hydropower plants accounted for over 95% of the total PFES money, which is a key factor to make a success of the PFES policy.

6. As of June 2016, 41 provinces have established FPDF, of which 37 provinces have established management unit of the fund. FPDFs have well conducted the entrusted tasks of payment from FES users for the FES suppliers.
Basis of Achievements:

1. The government regulated how PFES is, types of FES, subjects of using FES (have to pay), subject of supplying FES (receive money), payment amount for each type of FES, entrusted payment mechanism through FPDF and the mechanism of PFES management and utilization. These regulations have been crucial to the implementation and success of the PFES policy. Without the role of Government to create legal foundation, it is impossible to organize the implementation of this new service policy in forest protection.

2. PFES policy of Vietnam has been developed under the moral foundation of Vietnam “when drinking water, one should remember its source”, so it has been agreed and complied by both FES users (have to pay) and FES suppliers (receive money). The core of the law is moral, when all people in society understand of the moral of legal regulations, these regulations will come into life.

3. MARD, VNFOREST and VNFF actually took lead and is the base for the policy implementation with a range of guiding document, training courses organized across the country, which helped the locality to overcome the initial embarrassment to step in implementing a new policy that is a “landmark” of forestry sector.

4. The support of the international organizations like Winrock International, GIZ, ADB and other organization is very important from the establishment of idea, policy formulation, pilot implementation to the development and enforcement of Decree 99.

5. PPCs have a key role in directing the PFES policy implementation in the province. All specific tasks to implement PFES are happening in the provincial area. PPC must issue a range of Decisions on: the establishment of provincial FPDF; regulations of the charter on the Fund’s structure and operation; regulations on the forest area, scope and status of forests providing FES; subjects of using FES collected directly by province; subjects of receiving PFES money; payment level; payment mechanism for FES in provincial area.

6. The FPDF system from the central to provinces made a great effort and cooperated together very closely and effectively, contributed to establishing a system of PFES from the central to forest owners, district and commune levels.

The main shortcomings need to overcome:

1. Unit price of FES money to pay for the poor to protect forests is still low and not enough to cover the minimum expenditure needs of a household. There is 62.5% of paid area of total more than 5.2 million hecta of forest has been protected by PFES money with a unit price of 200,000 dong/ha/year (equivalent to 9 USD/ha/year). If a household was allocated or contracted an average of 10 ha of forest for protection, their income would be 2,000,000 dong/household/year, it is around 166,000 dong/household/month (equivalent to 7.4 USD). This amount does not make sense of income and thus quality of forest protection will not be ensured.

2. Decree 99 stipulated 5 types of FES, but over the past 5 years, only 3 types of services have been implemented: service for the hydropower production; clean water supply; tourism business. There are 3 types of FES has not been paid, namely: “Forest carbon sequestration and retention, reduction of emissions of green house gases through measures for preventing forest degradation and loss of forest area, and for forest sustainable development”; “Provision of spawning grounds, sources of feeds, and natural seeds, use of water from forest for aquaculture”; “industrial production facilities that use water directly from water sources have to pay for services for regulation and maintenance of water sources for production”.

Types of FES in coastal forest and forms of direct payments have not been conducted.

3. The monitoring PFES activities has not been regulated and conducted while the PFES money is increasing, PFES activities are more developing. This activity should be conducted early.

Conclusion: PFES policy has really brought great effect on society, the environment, the economy, agreed and supported by the people. Hopefully this policy will increasingly contribute to better forest protection and bring more happiness for those who keep forests. The success and finalization is a process.

The government has just issued Decree No. 147/2016/ND-CP dated 02 November 2016, of which the PFES level for hydropower increased from 20 dong/KWh to 36 dong/KWh, for clean water increased from 40 dong/m³ to 52 dong/m³. Those are good signals for a new phase.
Lao Cai is a mountainous province bordering Yunnan province of China. The convenient transport system including Noi Bai-Lao Cai highway, Hanoi – Lao Cai rail line and Red River waterway transport and Hekou international border gate with huge volume of traffic contribute to promote the development of economy and society of the province. And the forest coverage rate in 2015 was 52% and projected to be 56% in 2020 and the economic development such as the hydropower plant constructions would provide favorable conditions to implement PFES policy.

Thanks to the strong leadership of the provincial authorities and cooperation with VNFF, Lao Cai becomes the pioneer province in the country to implement PFES for 5 sectors, in which 3 new sectors namely tourism, aquaculture and industrial production using water from forest with support from iPFES project. This article briefly introduces the achievement in this 3 new sectors.

In the tourism sector, Lao Cai has diverse natural conditions, with Hoang Lien Son Mountain Range and Fansipan Mount called “the roof of the Indochina”, the cool weather and various high-valued flora and fauna system to develop the ecotourism. The province has 25 ethnic minority groups with diverse culture, customs, crafts and traditional festivals. The intangible culture heritage also attracts many tourists to Lao Cai. The average growth rate of the total number of visitors is 15% per year. In 2016, it is projected to welcome 2.4 million visitors with estimated revenue of 5,100 billion VND. Tourism becomes a significant economic field, contributes from 12 to 14% of GDP of the province. The average growth of tourism sector is nearly 35% per year, and this rate is much higher than the increase of GDP of the whole province at 14%. Since 2012, Lao Cai FPDF has advised the Provincial People’s Committee (PPC) to issue the Decision No.1938/QĐ-UBND on temporary regulating the PFES payment rate for tourism companies in the province. During implementation, some issues arose and timely revised at Decision No. 15/2014/QĐ-UBND in 2014 và Decision No. 11/2015/QĐ-UBND in 2015. Based on the study result of iPFES project and comments given from stakeholders, a new Decision for revision has been drafted and expected to issue since 2017. Up to October 2016, total collected PFES amount from tourism is 2,652 billion VND.

In terms of aquaculture, Lao Cai has advantage in cold-water fish farming. Since 2005, the Plan on trial farming cold-water fish has been carried out by the Research Institute for Aquaculture at Silver Waterfall of Sapa district. Then, the farming has expanded and becomes the priority of fisheries sector of...
the province with the growth of both scale and yield. There are 46 farms in the province with total farming area of 34,141 m² and volume of 34,446 m³. In 2016, the production is nearly 362 tonnes, with the average price at 190,000 VND/kg, the average yield at 10.5 kg/m³ and the estimated revenue of 68 billion VND. Total amount of used water for cold-water fish farming in the province is estimated around 103 million m³/year.

On the basis of the study result of IPFES project and comments of provincial departments, Lao Cai FPDF advised the PPC to issue the Decision No.4273/QĐ-UBND dated 25 November 2015 on payment rate, management and use of PFES money for cold-water fish farms in the province. Accordingly, the pilot started from 1 January 2016 with the payment rate at 44,500 VND/m³/year and calculation based on the volume of farming pond. On 15 November 2016, Lao Cai FPDF cooperated with VNFF and IPFES project to organize the workshop on preliminary assessment of 1 year of piloting PFES in cold-water fish farming. Because many factors change like shortage of water, decrease in yield and market price, now 18 out of 46 farms signed the PFES contract (39%). To solve the current situation as well as increase the feasibility, the PPC agreed to reduce the payment rate for PFES in cold-water fish farming service to 20,000 VND/m³/year.

In terms of industrial production, Lao Cai has various mineral resources with around 130 mines and over 30 different type of minerals. Some of them is in large scale with high industry value such as apatit, iron, copper, graphite as basis of the development of industrial production in the province. Lao Cai planned around 1,360 ha of industrial land, attracted 185 investment projects with total registered capital at 23,650 billion VND. There are 176 industrial enterprises in the province, in which the number of enterprises in exploitation, mineral processing and chemicals/fertilizers accounts for over 60%. The province currently has 29 establishments exploiting surface water for industrial production with total capacity of 74.31 m³/year. As the master plan, total water amount for needs of industrial production in the entire province in 2020 is 563.58 million m³, in 2030 is 1,273.7 million m³, increasing fivefold. Based on the study result of IPFES project and comments of provincial departments, agencies, Lao Cai FPDF advised the PPC to issue the Decision No.1551/QĐ-UBND dated 27 May 2016 on payment rate, management and use of PFES money for industrial production companies and Decision No.1736/QĐ-UBND dated 09 June 2016 on approval of the list of industrial companies using water from forest and being PFES payers in the province. Accordingly, the payment rate is 35 VND/m³ and the pilot has been conducted from 1 July 2016.

Up to now, there are 61 establishments which signed contracts and pay PFES money for FPDGs, including 34 tourism companies, 18 cold-water farms and 9 industrial production companies.

In addition to actively implement the pilot, Lao Cai FPDF conducts many activities to improve the policy implementation such as advocacy, dissemination the policy with a lot of methods including communication in ethnic minority languages. The Fund advised the PPC to issue the Decision No. 2154/QĐ-UBND dated 06 July 2016 on regulation on the way of collaboration to implement PFES policy, in which, specifically identifies responsibilities of related provincial agencies on implementation of the policy.

The Fund also cooperated with IPFES project to develop the 5-year Action Plan for PFES implementation from 2016 to 2020 in Lao Cai which was approved by the PPC on Decision No. 308/KH- HDQLQBVR dated 21 December 2016. Accordingly, to 2020, total annual PFES collected amount would be 101.737 billion VND, in which 90.606 billion from hydropower, 1.04 billion from clean water, 805 million VND from industrial production, 8.8 billion VND from tourism and 846 million VND from cold-water fish farming. PFES will contribute greatly for forest protection and development, increase the forest coverage in 2020 to over 56% and stabilize the lives of forest dwellers.

Although there are some difficulties and challenges in PFES implementation in the province, especially for pilot sectors, achievements of Lao Cai is very significant and meaningful for not only the province but also the country in improving the policy. To preliminary evaluate the pilots, share the information as well as exchange experiences, Lao Cai FPDF cooperated with VNFF and IPFES project to organize a workshop in Sapa from 13 to 14 December 2016 with participation of many FPDGs in the country.

From actual results of Lao Cai province, some lesson learnt for improving the PFES implementation in the province are collected as follow: (1) Leadership of provincial authorities: the success is from the participation and direction of the PPC and VNFF for studying, piloting new PFES mechanisms and timely problem solving during the implementation. In particular, it’s the matter of direction of PPC for related departments, DPC in collaborating with the FPDF. (2) Technical support to conduct study: there are the practical and effective supports of IPFES project as well as the close cooperation with the FPDF in studying the valuation and developing the PFES mechanisms to submit the PPC for pilot (3) The comprehensible application of advocacy and dissemination activities: application of the various channels to make stakeholders understand more about the PFES policy is very important. For example, delivering leaflets, video clips on the mass media, organizing workshops, conferences, dialogues, etc. for the relevant PFES subjects such as PFES users, especially for the ones in new sectors (Association of Cold-water fish farming, Association of Tourism) to reach the consensus among stakeholders plays determining factors for success of the policy.
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