

The Project for Sustainable Natural Resource Management

Project Completion Report

January 2021

**Japan International Cooperation Agency (JICA)
Kokusai Kogyo Co., Ltd.
Nippon Koei Co., Ltd.
Japan Forest Technology Association**

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Annex and Separate Volume

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Annex 2: Lists of Products (Report, Manuals, Handbooks, etc.) Produced by the Project
Annex 3: PDM (All versions of PDM)
Annex 4: Monitoring Sheet (copy)
Separate Volume: Deliverables of the Project (soft copy only)

Abbreviations

BNBNPMB	Bidoup Nui Ba National Park Management Board
BR	Biosphere Reserve
BSM	Benefit Sharing Mechanism
CBD	Convention on Biological Diversity
CBET	Community Based Ecotourism
CEEE	Center for Ecotourism and Environment Education
CM	Collaborative Management
CMA	Collaborative Management Agreement
CMP	Collaborative Management Platform
C/P	Counterpart
CPC	Commune People's Committee
DARD	Department of Agriculture and Rural Development
DID	Department of Information and Data
DNWPFMB	Da Nhim Watershed Protection Forest Management Board
DOCST	Department of Culture, Sports and Tourism
DOST	Department of Science and Technology
DPC	District People's Committee
EE	Environment Education Program
EFLO	Environmentally Friendly Livelihood Options
ET	Eco Tourism
FCPF	The Forest Carbon Partnership Facility
FFS	Farmers Field School
FIPI	Forest Inventory and Planning Institute
FMB	Forest Management Board
FMP	Forest Management Plan
FORMIS	Forest Management Information System
FPD	Forest Protection Department
FRMS	Forest Resource Monitoring System
FSSP	Forest Sector Support Program
GA	Green Annamites Project
HCMC	Ho Chi Minh City
JICA	Japan International Cooperation Agency
LB-BR	Lang Biang Biosphere Reserve
LCCS	Land Cover Classification System
LDP	Livelihoods Development Plan
MAB	Man and the Biosphere
MARD	Ministry of Agriculture and Rural Development
MBFPs	Management Board for Forestry Projects
MF	Micro Finance
MONRE	Ministry of Natural Resources and Environment
NBDS	National Biodiversity Database System
NFI	National Forest Inventory
NFI&S	National Forest Inventory and Statistics
NRAP	National REDD+ Action Program
NTFP	Non-timber forest products
PFES	Payment for Forest Environmental Services
PFMS	Provincial Forest Monitoring System
PPC	Provincial People's Committee
PPMU	Provincial Project Management Unit
PRAP	Provincial REDD+ Action Plan

QA/QC	Quality Assurance / Quality Control
REDD+	Reducing Emissions from Deforestation and Forest Degradation and the role of conservation of forests and enhancement of forest carbon stocks
R/D	Record of Discussions
ReT	Refreshment Training
RT	Replication Training
SNRM	Sustainable Natural Resource Management Project
SUSFORM-NOW	Project for Sustainable Forest Management in the Northwest Watershed Area
TF	Task Force
ToT	Training of Trainers
TT-Hue	Thua Thien-Hue
TWG	Technical Working Group
UNCBD	United Nations Convention on Biological Diversity
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations REDD Programme
VFD	Vietnam Forests and Deltas Programme
VFPT	Village Forest Patrolling Team
VNFOREST	The Vietnam Administration of Forestry

Photos of Activities

Component 1: Policy support component



Forest policy and Biodiversity conservation
(April 2016, Japan)



Consultation workshop on the Forestry Law revision
(October 2017, TT Hue)



SNRM annual review meeting
(November 2018, Lam Dong)



Collaboration with Usui Nochikusan Ltd. for
bamboo production and processing under JICA's
PPT scheme (Dien Bien)



Training on biodiversity survey
(March 2019, Da Nang)



Collaboration with Japanese private companies,
Sumitomo Forestry and ASKUL, for forest
conservation (June 2020, Dien Bien)

Component 2: Development of Provincial REDD+ Action Plan (PRAP)



Joint PRAP Kick-off Workshop
(Hanoi)
3 - 5 October 2016



Joint PRAP Kick-off Workshop
(Hanoi)
3 - 5 October 2016



Joint PRAP Kick-off Workshop
(Hanoi)
3 - 5 October 2016



2nd Provincial Consultation Workshop
(Hoa Binh Province)
13 December 2016



2nd district and commune consultations
(Son La Province)
9 - 16 January 2017



Final Provincial Consultation Workshop
(Lai Chau Province)
18 May 2017

Component 2: REDD+ pilot activity



Training for facilitators in villages
(Lai Chau La Province)
September 2016



Planning meeting in villages
(Dien Bien Province)
August 2016



Technical training on planting
(Dien Bien Province)
April 13, 2017



Distribution of Seedlings for forest planting
(Dien Bien Province)
June 15, 2017



The activities of Village Forest Patrolling Team
(Hoa Binh Province)
September 2017



Training on compost making
(Son La Province)
March 2017

Component 2: Provincial Forest Monitoring System: PFMS



Replication Training (Dien Bien)
August 7, 2017



Training of Trainers (Lai Chau)
July 17, 2017



Task Force Meeting (Hoa Binh)
September 18, 2018



Training in Japan:
"Forest Monitoring and Information"
October 17, 2017



Training of Trainers (Hanoi)
October 2, 2019



PFMS Final Workshop (Hanoi)
October 30, 2020

Component 3: Establishment of LB-BR related organizations and institutions



Discussion at the 1st meeting of LB-BR Management Board
(29 July 2016)



Presentation on the design candidates of LB-BR logos at 3rd meeting of LB-BR Management Board
(3 July 2017)



Discussion at the 7th meeting of LB-BR Management Board
(7 June 2019)



Provincial consultation meeting on the formulation of LB-BR 5-year management plan
(22 December 2016)



Consultation meeting to deepen the understanding on MAB program and LB-BR (6 January 2017)



Information sharing workshop targeted for the provincial government related departments, etc. from adjustment provinces (Dak Lac, Ninh Thuan, Khanh Hoa provinces) (1 December 2017)

Component 3: CMA for Sustainable Conservation of LB-BR)



Socio-economic (financial) survey in targeted villages (8 May 2016)



Field activities on the delineation of land use boundary at a CMA trial site (29 May 2017)



Harvesting of cultivated Shiitake mushroom (13 November 2018)



Organic compost training applied coffee pulps (15 March 2019)



Water supply facility supplying natural water from LB-BR (9 June 2020)



Pilot tour of environmental education program targeted for secondary students (9 June 2020)

Component 3: Forest and Biodiversity Monitoring for LB-BR Management)



Training on drone monitoring (1)
(8 December 2017)



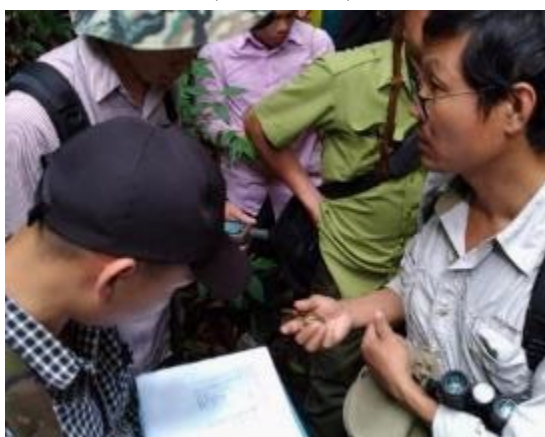
Training on drone monitoring (2)
(16 March 2018)



Biodiversity baseline survey
Field survey on birds
(5 June 2017)



Workshop on biodiversity monitoring system such
as its methodologies and implementation structure
(31 August 2017)



Training on biodiversity monitoring
(22 May 2020)



Biodiversity monitoring activities
Data collection from camera traps
(31 March 2020)

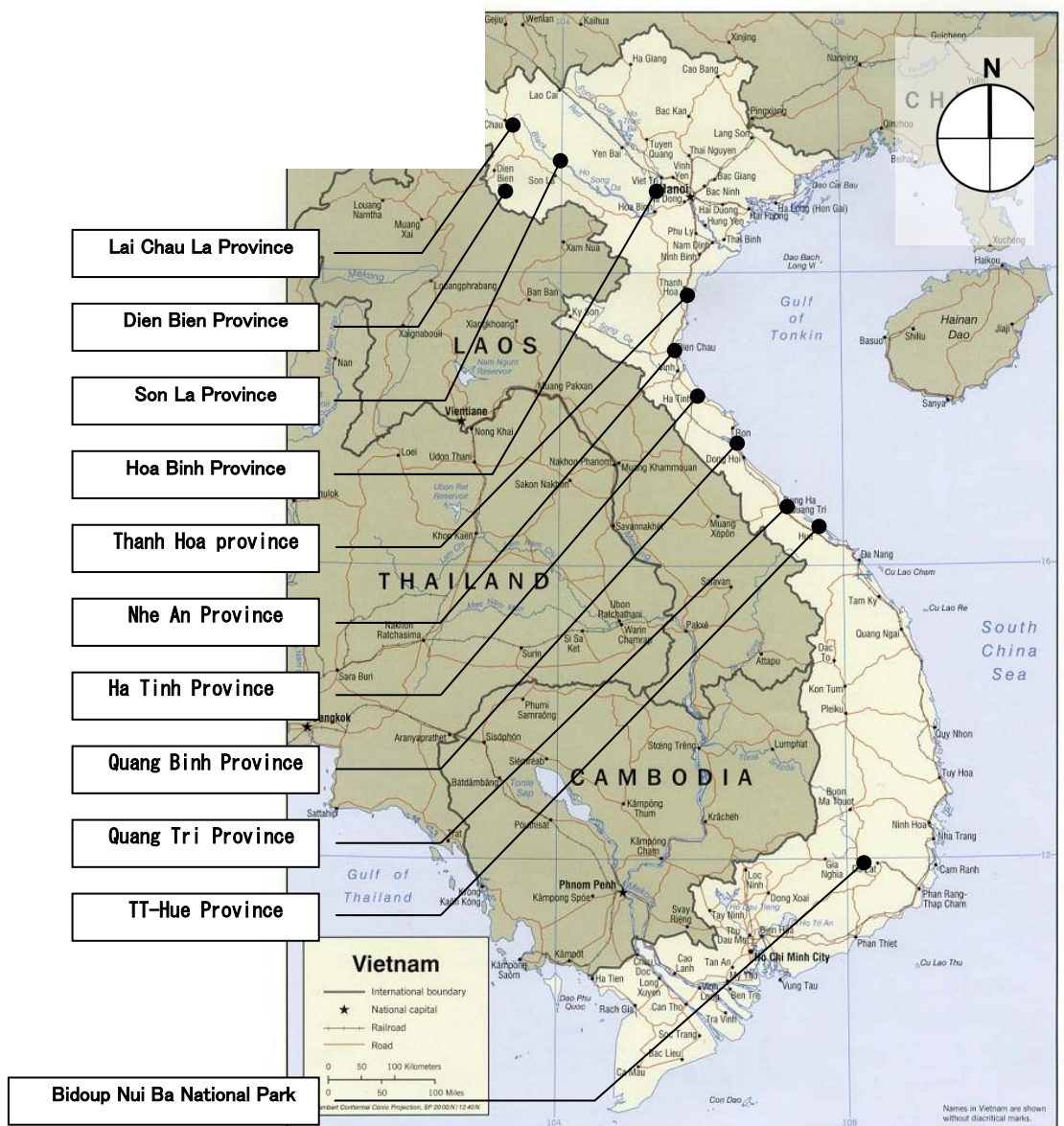
Project Sites



The Socialist Republic of Vietnam



The Socialist Republic of Vietnam



Source: University of Texas Libraries

I Basic Information of the Project

1. Country
Socialist Republic of Vietnam
2. Title of the Project
Sustainable Natural Resource Management Project: SNRM
3. Duration of the Project
August 2015 - January 2021 (5 years and 5 months)
4. Background

The diversity of the ecosystems in Vietnam has been formed by the long and narrow terrain that extends from north to south and the complex climate of the country. The history of over-exploitation and unsustainable management of forests resulted in the forest area declining from 43% in 1943 to 28% in 1995. However, due to national efforts towards afforestation and restoration of forests, the forest area has recovered to nearly 40%. Although the forest area is on the increase, it is necessary to improve the quality of the forest and to realize sustainable forest management. More than 20% of the population in Vietnam (nearly 25 million people) are living in forest areas and depend partly or largely on forest resources for their livelihood. Sustainable natural resource management is important not only to environmental aspects, such as biodiversity conservation, watershed protection, disaster prevention and climate change mitigation and adaptation, but also to green growth, development of rural areas and poverty alleviation.

In particular, the forests in the northwestern region, which are important water source forests for the Hong River Delta, including Hanoi, were originally rich in timber and non-timber forest products and provided advanced functions for recharging water sources. However, forest degradation is a severe problem due to the high poverty rate and the agricultural habits of mountain minorities, such as slash-and-burn cultivation and land conversion from forest to farmland, which needed to be urgently addressed. Thus in the northwestern province of Dien Bien, by means of the development of the Provincial REDD+ Action Plan and implementation of the pilot activities, the Japan International Cooperation Agency (JICA) has provided support for sustainable forest management through Reducing Emissions from Deforestation and Forest Degradation (REDD+) and the role of conservation of forests and enhancement of forest carbon stocks. JICA also implemented the technical cooperation project to expand this initiative to the entire Dien Bien Province and also to the other three provinces in the northwest.

The Bidoup Nui Ba National Park in Lam Dong Province in the Central Highlands has a diverse forest ecosystem with a subtropical alpine climate, and it is home to a wide variety of flora and fauna. However, its precious biodiversity is under threat due to the conversion of forest land to agricultural land by the residents (mostly ethnic minorities) living inside and outside the park. JICA has supported the establishment of a Cooperative Management system between the park's administration and the residents of the surrounding areas. It is also important to establish a Cooperative Management system with the residents living inside the park, and to spread these efforts to the national parks and protected areas in the surrounding provinces, so that the entire region¹ can promote conservation in the future.

On the other hand, there are discrepancies between the central ministries that formulate policies and the local provinces that implement them, resulting in problems where policies are formulated but not implemented, and where the results of implementation are not reflected in the policies. In addition, the Ministry of Agriculture and Rural Development (MARD) and the Ministry of Natural Resources and Environment (MONRE) are involved in the management of natural resources, especially forests. However, there are some issues among the central government ministries, such as insufficient sharing of biodiversity information between these two ministries. In order to sustainably promote forest-based natural resource management in the entire country, it is necessary to build a collaborative relationship between the central and local governments and between the central government ministries.

In order to promote sustainable management of natural resources, especially forests, the Government of Vietnam (GoV) revised the Forest Protection and Development Plan (2011-2020) in 2012 to include the following goals: 1) 45% forest coverage by 2020; 2) Improvement of forest productivity and quality; 3)

¹ Currently, the Lang Biang biosphere, whose core zone is Bidoup Nui Ba National Park in Lam Dong Province, is registered in Man and Biosphere Program (MAB) of UNESCO, and the goal is to expand the biosphere to include adjacent national parks and protected areas in the future.

Contribution to the alleviation of poverty among people living in rural areas; 4) Reform of the national forestry company. In order to achieve these goals, the plan has been implemented through the promotion of forest distribution, the introduction of Payment for Forest Environmental Services (PFES)², and the use of loan programs to promote afforestation. Furthermore, in light of recent domestic and international circumstances (e.g., an active market economy and international initiatives such as REDD+), decisions were made in 2013 to conduct a review as to whether the Forest Protection and Development Law (revised in 2004) needs to be revised, and to implement forest sector reforms. As a side note, the Forest Protection and Development Plan (2011-2020) was replaced by the Target Program on Sustainable Forest Development (2016-2020) in 2017, and the Forestry Law, which was revised from the Forest Protection and Development Law with the support from the Project, was newly enacted and promulgated in 2017.

In order to support the resolution of the above-mentioned issues, JICA has developed cooperation through four technical cooperation projects: Dien Bien REDD+ Pilot Project, Project for Sustainable Forest Management in the Northwest Watershed Area (SUSFORM-NOW), Project for Strengthening Community-based Management Capacity of Bidoup Nui Ba National Park, and Project for Development of the National Biodiversity Database System), as well as one individual expert dispatch (Forest Program Advisor)

GoV hopes that the results of JICA's cooperation to date will be reflected in the process of revising key policies related to natural resource management (the above-mentioned revisions to the Forest Protection and Development Law and forest sector reform) and REDD+-related policies, and that the outcomes of the cooperation will be disseminated to other regions. The Project was adopted as the "Sustainable Natural Resource Management Project" (hereinafter referred to as the "Project") based on a request for technical cooperation to comprehensively implement policy support, practical support in field, and the promotion of cooperation between the Ministry of Agriculture and Rural Development and the Ministry of Natural Resources and Environment. The Project aims to integrate and develop the outcomes of each of the preceding cooperation projects mentioned above, and, as a major part of cooperation under the "Nature Conservation" program in JICA's Country Analysis Paper, it is expected to have synergistic effects with Development Assistance Loans under the same program.

JICA conducted the study for detailed design several times from June 2014 to January 2015, and reached an agreement with the GoV on the framework of cooperation. On July 9, 2015, the R/D (Record of Discussions) was signed and exchanged. Based on this agreement, the Project was implemented for a period of 5 years and 5 months from August 2015 to January 2021, with MARD and MONRE as the counterparts (C/P). The original plan was for a period of 5 years from August 2015 to August 2020, while the Minutes of meetings (M/M) was signed and exchanged in August 2020 to extend the Project to January 2021 due to that the effect of the travel restriction under the globally expanded CORONA-VIRUS Disease-2019 (COVID-19)

The Project was implemented under the mutual collaboration of JICA's Long Term Experts and Short Term Experts dispatched under the implementation contract. The Long Term Experts focused on Component 1 and 4 and overall coordination of the four components, while the Short Term Experts focused on Component 2 and 3. Although this report is prepared by the Short Term Experts, it provides a comprehensive description of the overall activities of the Project, with the collaboration of the Long Term Experts.

5. Overall Goal and Project Purpose

Overall Goal:

Sustainable natural resource management providing multiple benefits to the people is promoted.

Project Purpose:

National capacity for sustainable natural resource management is enhanced.

6. Implementing Agency

The Implementing Agency is the Ministry of Agriculture and Rural Development (MARD), while the Ministry of Natural Resources and Environment, Vietnam Environment Administration, and Biodiversity Conservation Agency (MONRE, VEA, and BCA) participated as cooperative partners.

² Payment for Forest Environmental Services (PFES) : A system under which users of forest environmental services, such as hydropower companies, tourism companies and so on pay forest owners such as communities, organizations, and individuals for forest conservation.

II Results of the Project

1. Inputs of the Project

1-1 Inputs by the Japanese side

1-1-1 Japanese Experts

The Project was implemented under the mutual collaboration between the JICA's Long Term Experts and the Short Term Experts dispatched under the implementation contract. The Long Term Experts focused on Component 1 and 4 and overall coordination of the four components, while the Short Term Experts focused on Component 2 and 3.

In addition to three Long Term Experts, a total of 25 Short Term Experts were dispatched, making a total of 237 business trips across 5,632 days as of the end of October 2020.

Input of Long Term Experts

Chief Advisor: August 2015 - January 2021
 Sub-Chief Advisor/REDD+: September 2015 - January 2021
 Forest Policy/Coordinator: September 2015 - August 2020

Table 1: Input of Short Term Experts in Vietnam as of the end of October 2020

No.	Short Term Experts	Persons	Trips	Days	M/M
1	Team Leader/Sustainable Forest Management 1	1	10	51	1.70
2	Sub-team Leader/Sustainable Forest Management 2	1	19	344	11.47
3	Collaborative Management (CM)	1	22	678	22.60
4	PRAP Development 1 and PRAP Monitoring 1	1	13	192	6.40
5	PRAP Development 2	1	5	78	2.60
6	Satellite Image Analysis	1	9	246	8.20
7	Forest Monitoring System 1/External Funding 1/ Donor Coordination 1	1	21	137	4.57
8	Forest Monitoring System 2/External Funding 2/ Donor Coordination 2	3	16	404	13.47
9	Forest Monitoring System 3/External Funding 3/ Donor Coordination 3	1	7	231	7.70
10	Forest Monitoring System 4	1	1	12	0.40
11	Livelihood Development /Gender and Social Impact Assessment (Agri-economy/Financial service)	1	11	415	13.83
12	Livelihood Development2 /Gender and Social Impact Assessment2	3	16	392	13.07
13	Livelihood Improvement 3/Financial Service	1	9	517	17.23
14	Coordinator/Forest Management 1	3	19	543	18.10
15	Forest Management 2	2	12	321	10.70
16	Monitoring on Forest Management and Livelihoods Development	1	6	120	4.00
17	CM Guideline	1	7	132	4.40
18	Project Coordinator /CM/PFES/Biodiversity Monitoring 2	1	16	479	15.97
19	Eco-tourism	1	12	198	6.60

20	Forest Biodiversity Management/Biodiversity Monitoring	1	5	142	4.73
	Total	27	236	5,632	187.74

*No.4 Expert was in charge of “PRAP Development 1” in Term I and “PRAP Monitoring 1” in Term II.

*No.7 Expert was in charge of “Forest Monitoring System 1” in Term I and “Forest Monitoring System 1/External Funding 1/Donor Coordination 1” in Term II.

*No.8 Expert was in charge of “Forest Monitoring System 2” in Term I and “Forest Monitoring System 1/External Funding 1/Donor Coordination 2” in Term II.

*No.9 Expert was in charge of “Forest Monitoring System 3” in Term I and “Forest Monitoring System 1/External Funding 1/Donor Coordination 3” in Term II.

*No.13 started to reside in Vietnam from June 2017.

Table 2: Input of Short Term Experts in Japan as of the end of October 2020

No.	Short Term Experts	Persons	Days	M/M
1	Team Leader/Sustainable Forest Management 1	1	90	4.50
2	Sub-team Leader/Sustainable Forest Management 2	1	44	2.20
3	Collaborative Management (CM)	1	49	2.45
4	PRAP Development 1 and Monitoring 1	1	30	1.50
5	Satellite Image Analysis	1	4	0.20
6	Forest Monitoring System 1/ External Funding 1/Donor Coordination 1	1	56	2.80
7	Forest Monitoring System 2/ External Funding 2/Donor Coordination 2	1	26	1.30
8	Livelihood Development /Gender and Social Impact Assessment (Agri-economy/Financial service)	1	8	0.40
9	Livelihood Development2 /Gender and Social Impact Assessment2	1	25	1.25
10	Livelihood Improvement 3/Financial Service	1	41	2.05
11	Coordinator/Forest Management 1	1	14	0.70
12	Monitoring on Forest Management and Livelihoods Development	1	18	0.90
13	Project Coordinator / CM/PFES/Biodiversity Monitoring 2	1	23	1.15
14	Eco-tourism	1	2	0.10
15	Coordinator for Training in Japan	2	20	1.00
	Total	16	450	22.50

*No.4 Expert was in charge of “PRAP Development 1” in Term I and “PRAP Monitoring 1” in Term II.

*No.6 Expert was in charge of “Forest Monitoring System 1” in Term I and “Forest Monitoring System 1/External Funding 1/Donor Coordination 1” in Term II.

*No.7 Expert was in charge of “Forest Monitoring System 2” in Term I and “Forest Monitoring System 1/External Funding 1/Donor Coordination 2” in Term II.

1-1-2 Training for Capacity Development

The Project supported the capacity development of the counterparts and the residents in the target villages through a variety of Domestic Training in Vietnam, shown in Table 3 - Table 7, eight sessions of Training in Japan, shown in Table 8, and three sessions of Training in a Third Country, shown in Table 10.

1-1-2-1 Domestic Training in Vietnam

Domestic Training provided technical assistance to the counterparts and residents in the target villages through the following activities.

- 1) Training on the overall forest policy (Table 3)
- 2) Training on the planning and implementation of the REDD+ pilot activities (forest management and livelihood development) (Table 4)
- 3) Training on Provincial Forest Monitoring System (PFMS) (Table 5)
- 4) Lang Biang World Biosphere Reserve (LB-BR) (Table 6)
- 5) National Biodiversity Database System (NBDS) (Table 7)

The Project effectively used local experts as trainers, used local resources in the content of the training as

much as possible, and adjusted the technical level of the training so that participants could apply or conduct them without any difficulties. Table 3, Table 4, Table 5, Table 6 and Table 7 show the summary of each training course. Please see “ANNEX 1: Results of the Project” for detailed information about the participants.

Table 3: Domestic Training in Vietnam (Forest Policy)

No	Training	Participants	Provinces	Duration
1	FRMS tablet use in Dien Bien	60	Dien Bien	2015.11.26-27
2	Facilitation for consultation meetings	10	TT Hue	2015.12.2-3
3	Training on survey, data collection and utilization of the NBDS	70	Da Nang	2019.3.4-6
Total		140		

In the REDD+ pilot activities, at first, the Project provided facilitative training to the facilitators who were selected from local governments, such as the District People’s Committee (DPC) or Commune People’s Committee (CPC) in the next step, the Project implemented a variety of training as REDD+ pilot activities with the facilitators. Although the main target of the training was villagers, the counterpart also joined when appropriate.

**Table 4: Domestic training in Vietnam
(REDD+ pilot activities: Forest management and livelihood development)**

No	Training	Participants (male/female)	Province ^{*1} (Participants)	Duration
1	Training for facilitators	177 (130/47)	DB (51) LC (55) HB (29) SL (42)	2016.8.15 -11.14
2	Village meeting to plan project activity (two/three times in each village)	11172 (6338/4834)	DB (3490) LC (1598) HB (2628) SL (3456)	2016.8.17 -12.2
3	Meeting for Village Management Board	262 (205/57)	DB (102) HB (78) SL (82)	2017.2.15 -6.4
4	Training for village fund management	340 (261/79)	DB (147) HB (131) SL (62)	2017.3.10 -2019.7.31
5	Meeting for village forest management regulation	3723 (2635/1088)	DB (2820) HB (903)	2017.2.22 -2018.1.18
6	Training for afforestation	2455 (1570/885)	DB (1031) LC (364) HB (396) SL (664)	2017.1.3 -2019.5.17

No	Training	Participants (male/female)	Province *1 (Participants)	Duration
7	Training for regeneration	944 (821/123)	LC (297) SL (647)	2017.3.12 -11.27
8	Training for forest patrolling	1214 (1142/72)	DB (439) LC (427) HB (169) SL (179)	2017.2.25 -2019.9.27
9	Training for forest protection	2236 (1316/920)	HB (129) SL (2107)	2017.2.23 -11.14
10	Awareness rising activity for forest protection	355 (202/153)	HB (355)	2018.3.26
11	Training for beekeeping	374 (347/27)	DB (111) HB (263)	2017.1.21 -2019.10.5
12	Training for fish raising	642 (393/249)	DB (605) LC (37)	2017.2.12 -2019.7.2
13	Training for construct biogas plant	38 (28/10)	DB (20) LC (18)	2017.12.4-19
14	Training for construct improved cooking stove	1047 (745/302)	DB (63) LC (490) SL (935)	2017.2.23 -11.17
15	Training for agroforestry	756 (572/184)	SL (756)	2017.1.25 -2018.3.12
16	Training for vegetable cultivation	1846 (1074/772)	DB (771) LC (225) HB (446) SL (404)	2017.3.17 -2018.1.30
17	Training for fruit tree cultivation	1804 (970/834)	DB (1024) LC (319) HB (234) SL (227)	2017.4.22 -2019.9.8
18	Training for composted fertilizer	229 (141/88)	SL (229)	2017.4.19-25
19	Training for watermelon cultivation	214 (141/73)	LC (214)	2017.11.28 -2018.11.27
20	Training for fodder grass cultivation	212 (137/75)	LC (63) SL (149)	2017.1.1 -2018.2.8
21	Training for mushroom cultivation	52 (35/17)	SL (52)	2018.3.27 -4.6
22	Training for pomelo and citrus cultivation	125 (82/43)	HB (125)	2017.4.11-21

No	Training	Participants (male/female)	Province ^{*1} (Participants)	Duration
23	Other training and study tour ^{*2}	1086 (733/353)	DB (691) LC (4) HB (27) SL (364)	2018.4.10 -2020.6.5
Total		31303 (20018/11285)		

*1: This column shows the province in which training was conducted (DB: Dien Bien, LC: Lai Chau, HB: Hoa Binh or SL: Son La) and the participants are shown in brackets.

*2: In the case that training includes participants from several Provinces, the participants were divided by Province.

As shown in Table 5, PFMS provided the following training programs: (1) Training of Trainers (ToT), (2) Replication Training (RT), (3) Refreshment Training (ReT), (4) Administrator Training (AT) and (6) Trainings for FIPI. (1) is for provincial and district level forest rangers in order to train provincial PFMS trainers, (2) is for commune-based forest rangers to replicate PFMS province wide, (3) is for provincial PFMS trainers to refresh their knowledge on PFMS, (4) is for central and regional levels of FPD staff and management level staff of provincial level FPD in charge of provincial forest monitoring, and (5) is to train master trainers to train PFMS trainers at provincial level.

Table 5: Domestic Training in Vietnam (PFMS)

No	Training	Participants	Provinces	Duration
1	Training of Trainers in provinces	1363	Dien Bien (20), Son La (173), Lai Chau (108), Hoa Binh (110), Lao Cai (123), Bac Kan (69), Lam Dong (173), Thanh Hoa (38), Nghe An (32), Ha Tinh (95), Quang Binh (112), Quang Tri (74), TT-Hue (99), Quang Nam (50), Binh Thuan (87)	2016.3. - 2019.11.
2	Replication Training	1850	Dien Bien (545), Son La (160), Lai Chau (241), Hoa Binh (252), Thanh Hoa (103), Nghe An (180), Ha Tinh (66), Quang Binh (105), Quang Tri (90), TT-Hue (60), Ca Mau (48)	2016.11. -2019.10.
3	Refreshment Training	181	Dien Bien (50), Hoa Binh (31), Ha Tinh (25), Quang Binh (28), Quang Tri (25), TT-Hue (22)	2017.6-11.
4	Administrator Training	238	Hanoi	2016.6 -2019.10.
5	Training for FIPI	31	Hanoi	First course: 2016.6.8-10

			Second course: 2016.9.14-16
Total	3,663		

Depending on the content of each activity, appropriate participants such as relevant government agencies, residents, CPC and forest rangers in Lam Dong Province were selected for the various trainings shown below.

Table 6: Domestic Training in Vietnam (LB-BR) *

No.	Training	Participants	Provinces	Duration
1. Collaborative Management Agreement (CMA)				
1-1	Training on effective PFES patrol skills	77	Lam Dong	2017.8.18 2017.9.29 2017.10.10 2017.10.26 2017.11.20 2018.1.18
1-2	Training on first aid for PFES patrol teams	31	Lam Dong	2017.11.7 2017.12.21
2. Environment Friendly Livelihood Option (EFLO)				
2-1	Training on high quality coffee collection	120	Lam Dong	2016.12.14 2017.9.27-28 2016.12.6
2-2	Training on treatment of mushroom embryos for compost	4	Lam Dong	2016.12.20
2-3	Training on organic compost making by coffee pulps	240	Lam Dong	2017.3.4-6 2017.11.2-3 2017.11.15 2017.12.8 2018.2.1 2018.3.23 2018.4.26 2019.3.11 2019.3.15
2-4	Study tour on banana farming and composting models	23	Lam Dong	2017.5.16 2017.7.23
2-5	Training on facilitation skills and methods	97	Lam Dong	2017.5.18 2017.6.14-16
2-6	Technical training on organic and chemical fertilizers for coffee	7	Lam Dong	2017.7.4
2-7	Technical training on banana cultivation	8	Lam Dong	2017.7.11
2-8	Study tour on organic compost by coffee pulps at Xuân Trường, Đà Lạt	11	Lam Dong	2017.7.25
2-9	Study tour on sustainable coffee production models at Bao Loc	27	Lam Dong, Dak Lak	2017.8.18
2-10	Training on certification process for sustainable coffee	119	Lam Dong	2017.8.25-26

No.	Training	Participants	Provinces	Duration
2-11	Training on transplanting of native trees	66	Lam Dong	2017.10.12-14 2017.11.16-17
2-12	Training on using pH tools for sustainable coffee production	17	Lam Dong	2017.10.26
2-13	Study tour on dry persimmon model applied Japanese technology	21	Lam Dong	2017.11.9
2-14	Training on mushroom cultivation techniques	17	Lam Dong	2018.1.12 2018.2.27-28
2-15	Study tour on cattle shed models	41	Lam Dong	2018.1.23 2018.3.14
2-16	Training on microbial fermentation using rice bran and wine yeast for compost making	41	Lam Dong	2017.1.11 2017.1.19 2018.1.26 2018.3.21 2018.4.23
2-17	Study tour on mushroom model	18	Lam Dong	2018.3.13
2-18	Training on shiitake mushroom cultivation	2	Lam Dong	2018.3.19-20
2-19	Study tour on logo utilization to Cù Lao Chàm	12	Lam Dong	2018.3.27-29
2-20	Training on harvesting and selling persimmon	6	Lam Dong	2018.10.3
2-21	Training on cowshed improvement (biobed)	31	Lam Dong	2019.4.9
2-22	On-site training on the hygiene control and harvesting premium Shiitake mushroom	18	Lam Dong	2018.9.19 2018.10.24 2019.1.24
3. Community Based Ecotourism (CBET) including the activities of EE Program				
3-1	CBET interpretation training	29	Lam Dong	2016.11.3-4, 10-12, 16
3-2	Study tour on CBET activities at the North of Vietnam	15	Hoa Binh, Lai Chau (some participants from Lam Dong)	2016.10.4-6
3-3	Field training for core facilitators of pilot tour of EE program	12	Lam Dong	2018.3.6 - 11
3-4	Pilot tour of EE program	40	Lam Dong	2018.4.6 - 8
3-5	EE program - Interpretative technique training in BNNBP	60	Lam Dong	2018.9.10- 12 2018.12.12 2019.2.28
3-6	EE trial tour for secondary schools in Da Lat	75	Lam Dong	2019.5.11- 12 2019.6.6- 7
4. Forest Monitoring				

No.	Training	Participants	Provinces	Duration
4-1	FRMS tablet use: ToT	77	Lam Dong	2016.9.19- 21 2016.10.26- 28 2017.3.20- 22
4-2	Drone training at headquarter level	32	Lam Dong	2017.12.6, 7, 11, 12, 15 2018.3.16- 18 2018.4.11- 13 2018.5.24,29,30
4-3	Drone training at station level (Da Nhim/ Lac Duong/ Da Chais Communes)	74	Lam Dong	2018.1.31-2.2 2018.4.20, 23, 24 2018.11.8-9
4-4	Drone evaluation for staff of BNBPNP and DNWPFMB	10	Lam Dong	2019.5.29
4-5	Training on data logger and Google Drive for forest patrolling activities	84	Lam Dong	2019.4.11-12 2019.7.24 2019.10.9-10
5. Biodiversity Monitoring				
5-1	Training on NBDS data input	40	Lam Dong	2018.4.10
5-2	Training on biodiversity monitoring system	52	Lam Dong	2016.7.19 2018.6.7-13 2018.9.24-30
5-3	Training on database management of biodiversity monitoring	11	Lam Dong	2018.10.4-5
5-4	Training course for BNBPNPMB staffs on database management of biodiversity monitoring	4	Lam Dong	2019.1.22-24
Total		1,669		

The following training was implemented to strengthen the capacity of the stakeholders such as staff of the protection area (i.e. national park) or the persons in charge of the Provincial government who are engaged in the management and operation of the National Biodiversity Database System (NBDS) and in the collection of biodiversity-related data

Table 7: Domestic Training in Vietnam (NBDS)

No	Training	Participants	Venue	Duration
1	Training workshop on NBDS management and biodiversity survey	74	Ba Vi National Park	2016.6.29-6.30.
2	Training workshop on NBDS management and Global Biodiversity Information Facility (GBIF)	66	Hanoi City	2016.8.3-8.4
3	Training workshop on NBDS management and biodiversity survey	60	Ho Chi Minh City	2016.9.5-6
4	Training workshop on NBDS management and biodiversity survey	64	Da Lat City, Bidoup Nui Ba National Park	2018.4.10-11
5	Training workshop on NBDS management and biodiversity survey	150	Da Nang City, Son Tra Protected Area	2019.3.4-6
Total		414		

1-1-2-2 Training in Japan

Table 8: Training in Japan

No	Training	Participants*	Duration
1	Forest management and biodiversity	12	2016.4.11-4.19
2	Global Biodiversity Information Facility (GBIF)	2 (4) ^{*3}	2016.6.13-6.18
3	Forest management and livelihood development	13	2016.10.16-10.28
4	Forest monitoring and forest information training	9	2017.10.10. -10. 19
5	Strengthening the capacity for the management of LB-BR	8	2017.5.14. - 23
6	Japanese study tour regarding the development of Forestry Law	11	2017.7.24-7. 29
7	Training for the enhancement of the capacity for the management of the Lang Biang World Biosphere Reserve through collaborative management	9	2018.3.4. - 15
8	Training in Japan on forest management and livelihood development	12	2019.2.25- 3.3
9	Sustainable forest management and Forest certification	8	2020.3.2 - 3.8 (Canceled) ^{*4}
Total		76 (78)	

*1: Knowledge Co-Creation Program was removed from this table.

*2: The details of the participants of Training in Japan are shown in Table 9.

*3: The figures in brackets show the total number of participants who joined the training with financial support from the National Museum of Nature and Science.

*4: This training was canceled due to the infection spread of COVID-19.

Table 9: Participants Lists of Training in Japan

1. Forest Management and Biodiversity

No.	Name	Title and Affiliation
1	Mr. NGUYEN Quoc Tri	Deputy Director General, Vietnam Administration of Forestry, Ministry of Agriculture and Rural Development (MARD)
2	Mr. VU Xuan Thon	Director General, Management Board for Forestry Projects, MARD
3	Mr. NGUYEN Ha Hue	Division Head, International Cooperation Department, MARD
4	Mr. PHAM Vu Thang	Deputy Director, Forest Sector Development Project, Management Board for Forestry Project, MARD
5	Mr. NGUYEN Thanh Vinh	Vice Director, Biodiversity Conservation Agency, Vietnam Environment Administration, Ministry of Natural Resources and Environment (MONRE)
6	Mr. NGUYEN Xuan Dung	Office Head, Biodiversity Conservation Agency, Vietnam Environment Administration, MONRE

No.	Name	Title and Affiliation
7	Mr. LO Van Tien	Vice Chairman, Dien Bien Provincial People's Committee
8	Mr. DINH Quang Long	Vice Director, Department of Agriculture and Rural Development, Hoa Binh Province
9	Mr. LE Trong Quang	Vice Chairman, Lai Chau Provincial People's Committee
10	Dr. PHAM S	Vice Chairman, Lam Dong Provincial People's Committee
11	Mr. NGUYEN Van Manh	Head of Economic Division, Son La Provincial People's Committee
12	Mr. LE Van Huong	Director, Bidoup Nui Ba National Park Management Board

2. Global Biodiversity Information Facility (GBIF)

No.	Name	Title and Affiliation
1	Dr. BUI Quang Hung	Director of Center for Field Monitoring, University of Engineering and Technology, Vietnam National University
2	Dr. DO Van Tu	Researcher, Department of Aquatic ecology and Water environment, Institute of Ecology and Biological Resources
3	Mr. NGUYEN Xuan Thuy	Environment Information Center, Ministry of Natural Resources and Environment (MONRE)
4	Ms. TRUONG Quynh Trang	Biodiversity Conservation Agency, MONRE

* No. 3 and No. 4 participated in the training with the financial support of the National Museum of Nature and Science.

3. Forest Management and Livelihood Development

No.	Name	Title and Affiliation
1	Mr. MAI Tong Giang	Technical Staff, Management Board of Forestry Projects, MARD
2	Mr. NGUYEN Ba Dan	Head, Agriculture and Natural Resource Management Department under Hoa Binh PPC*
3	Mr. LE Minh Thuy	Vice Head, Forest Protection Division, Hoa Binh DARD
4	Mr. DOAN Manh Hang	Head, Management Board of Agriculture and Forestry Projects, Hoa Binh DARD**
5	Mr. LO Xuan Khanh	Vice Head, Sub Dept. of Forestry Protection, Lai Chau DARD
6	Mr. NGUYEN Huu Ai	Deputy Director, Lai Chau DARD
7	Mr. NGUYEN Thanh Dong	Vice Head, Economics - Settlement Division, Lai Chau PPC Office

No.	Name	Title and Affiliation
8	Mr. TRAN Khoa Phuong	Vice Head, Planning and Technical Division, Sub Dept. of Forestry, Dien Bien DARD
9	Mr. HA Van Quan	Director, Dien Bien DARD
10	Mr. PHAM Van Khien	Vice Head, Sub Dept. of Forestry Protection, Dien Bien DARD
11	Mr. TRAN Dung Tien	Vice Head of Department of Agriculture and Rural Development of Son La province (Son La DARD)
12	Mr. VU Duc Thuan	Head of Sub-Department of Forestry Protection (Son La Sub-FPD)
13	Mr. PHAM Hong Tien	Head of Forest Management & Natural Conservation Unit (Son La sub-FPD)

*: Provincial People's Committee

** : Department of Agriculture and Rural Development

4. Forest Monitoring and Forest Information Training

No.	Name	Title and Affiliation
1	Mr. Doan Hoai Nam	Deputy Director General, Forest Protection Department, VNFOREST
2	Mr. Hoang Phu My	Officer, Management Board of Forestry Projects, MARD
3	Mr. Nguyen Hoang Nam	Officer, Management Board of Forestry Projects, MARD
4	Mr. Lo Xuan Khanh	Deputy Director, Sub Forest Protection Department, Lai Chau province
5	Mr. Nguyen Van Hai	Officer, Sub Forest Protection Department, Dien Bien province
6	Mr. Luong Ngoc Hoan	Director, Sub Forest Protection Department, Son La province
7	Mr. Nguyen Van Minh	Deputy Director, Sub Forest Protection Department, Hoa Binh province
8	Mr. Pham Van Huy	Deputy Director, Sub Forest Protection Department, Lam Dong province
9	Mr. Pham Ngoc Dung	Deputy Director, Sub Forest Protection Department, Thua Thien Hue province

5. Strengthening the Capacity for the Management of the Lang Biang World Biosphere Reserve

No.	Name	Title and Affiliation
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1	Le Van Huong	Vice Chairman, Lang Biang World Biosphere Reserve Management Board
2	Nguyen Thi Minh Hong	Member, Lang Biang World Biosphere Reserve Management Board Secretariat
3	Ho Huynh Dung	Vice Director, Da Nhim Watershed Protection Forest Management Board
4	Nguyen Anh Hung	Vice Director, Department of Culture, Sport and Tourism
5	Pham Trieu	Chairman, Lac Duong District People's Committee
6	Dang The Hai	Board member, Da Lat City People's Committee
7	Vo Van Phuong	Chairman, Duc Trong District People's Committee
8	Bui Van Hoi	Chairman, Dam Rong District People's Committee

6. Japanese Study Tour Regarding the Development of Forestry Law

No.	Name	Title and Affiliation
1	Dr. Ha Cong Tuan	Standing Deputy Minister, Ministry of Agriculture and Rural Development (MARD)
2	Dr. Nguyen Ba Ngai	Deputy Director General, Vietnam Administration of Forestry (VNFOREST), MARD
3	Ms. Tran Thi Hai Yen	Vice Director, Legal Department, MARD
4	Mr. Doan Minh Tuan	Director, Legal Department, VNFOREST, MARD
5	Mr. Nguyen Phu Hung	Director, Department of Science and Technology VNFOREST, MARD
6	Mr. Vo Dinh Tuyen	Senior Expert, Prime Minister's Office
7	Mr. Truong Minh Hoang	Vice Chairman, National Assembly/Science, Technology and Environment Committee
8	Mr. Nguyen Tuan Anh	Permanent member, National Assembly/Science, Technology and Environment Committee
9	Mr. Nguyen Duc Tam	Vice Director, National Assembly Office/Department of Science, Technology and Environment
10	Mr. Kim Quy Canh	Expert, National Assembly Office/Department of Science, Technology and Environment
11	Mr. Le Nhu Quan	Expert, National Assembly Office/Department of Science, Technology and Environment

7. Training for the Enhancement of the Capacity for the Management of the Lang Biang World Biosphere Reserve through Collaborative Management

No.	Name	Title and Affiliation
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1	Nguyen Van Son	Vice Director, Management Board for Forestry Projects, Ministry of Agriculture and Rural Development
2	Ngo Thithu Hien	Vice Head, Administrative Office of Biodiversity Conservation Agency. Ministry of Natural Resources and Environment
3	Le Van Son	Lang Biang World Biosphere Reserve Management Board Secretariat
4	Phan Van Dung	Vice Director, Department of Planning and Investment, Lam Dong Province
5	Vo Danh Tuyen	Vice Director, Department of Agriculture and Rural Development, Lam Dong Province
6	Dang Duc Hiep	Director, Department of Finance, Lam Dong Province
7	Dinh Ngoc Hung	Chairman, Don Duong District People's Committee, Lam Dong Province
8	Nguyen Duc Tai	Chairman, Lam Ha District People's Committee, Lam Dong Province
9	Vu Dinh Cuong	Lam Dong Province People's Committee

8. Training in Japan on Forest Management and Livelihood Development

No.	Name	Title and Affiliation
1	Mr. Vu Xuan Thon	Director General, Management Board for Forestry Projects, Ministry of Agriculture and Rural Development (MARD)
2	Mr. Pham Vu Thang	Deputy Director, SNRM CPMU, Management Board for Forestry Projects, MARD
3	Mr. Vu Van Hung	Vice Director, Management Board for Forestry Projects, MARD
4	Mr. Nguyen Van Chinh	Chief of Office, Office of Vietnam Administration of Forestry, MARD
5	Mr. Nguyen Xuan Truong	Vice Head, Sub Department of Forest Protection, Hoa Binh Department of Agriculture and Rural Development (DARD)
6	Mr. Vuong Dac Hung	Vice Director, Hoa Binh DARD
7	Mr. Lo The Thi	Deputy Head, Sub Department of Forest Protection, Son La DARD
8	Mr. Nguyen Huy Tuan	Deputy Head, Sub Department of Forest Protection, Son La DARD
9	Mr. Ha Van Um	Director General, Lai Chau DARD

10	Mr. Vo Van Ngo	Vice Head, Division of Finance and Planning, Lai Chau DARD
11	Mr. Tran Van Thuong	Deputy Director, Dien Bien DARD
12	Mr. Nguyen Tien Dap	Vice Head, Technique- Planning Division Sub Department of Forestry, Dien Bien DARD

1-1-2-3 Training in a Third Country

Table 10: Training in a Third Country

No	Training	Participants	Duration
1	Transforming forest conflict in the context of climate change	1	2016.1.11-1.15
2	Empowering forest communities - a practical approach to gender equality and women's empowerment (Eco-tourism)	2	2016.8.21-8.27
3	Free, Prior and Informed Consent (FPIC)	1	2016.9.12-9.16
Total		4	

1-1-3 Operational Expenses

The table below shows the operation expenses of the Japanese side.

Table 11: Operational expenses of the Japanese side

Unit: Japanese yen (1000s)

	Category	2015	2016	2017	2018	2019	2020	Sub-total
LTE budget		12,488	34,847	33,710	30,037	22,299	24,508	157,889
General operation costs	Project staff - administrative	0	6,308	10,023	20,401	22,658	16,178	75,568
	Project staff - technical	0	28,371	56,466	42,529	13,613	11,982	152,962
	Vehicles, etc.	78	6,308	8,469	6,860	4,197	2,065	27,978
	Meetings/ workshops	4	3,845	3,289	3,594	2,641	2,032	15,405
	Facilities/equipment maintenance	0	367	1,122	565	0	0	2,054
	Consumables	0	5,991	1,827	3,500	707	660	12,684
	Travel/transport	244	14,739	15,121	13,866	4,794	1,423	50,186
	Communication/ shipping	3	442	599	536	379	200	2,159
	Printing	0	690	1,609	680	453	868	4,300
	Utility fees	0	94	150	87	60	48	439
	Miscellaneous	0	2,716	40,736	22,813	9,540	4,266	80,071
	Sub-total	329	69,870	139,412	115,430	59,043	39,721	423,806

Local Sub-contracting	0	26,575	35,516	30,344	170	0	92,605
Total	12,817	131,293	208,638	175,811	81,512	64,229	674,299

1-1-4 Equipment

The equipment and goods required for the implementation of Project activities were procured as shown in Table 12 and Table 13. Almost of all the equipment procured by the Japanese side were also handovers to the Counterparts.

Table 12: Equipment and goods procured for the Counterparts

Item	Model	Figures
Desktop PC	DELL, VOSTRO3900MT	5
Display (for desktop PC)	DELL, S2340L	5
Laptop PC	DELL, Inspiron N5558	1
Printer	CANON, MF4870dn	1
UPS	Santak, offline 1000VA	6
Wifi router	TP-Link, TL-WR841N	1
Telephone	Panasonic, KX-TG6461	1
Chair	Hoa Phat, plastic color: black	2
Safe box	President, SMD13	1
NAS	Western Digital, My Cloud EX2100	1
Vacuum cleaner	Panasonic, MC-CL305BN46	1
Bookshelf	Tam Mai, custom made	3
Wireless interpretation transmitter and receiver	Okayo, WT-500T, WT-500	6
Chair	Hoa Phat, plastic; Color: black	3
Laptop PC	APPLE, MJVE2ZP/A MacBook Air	2
Laptop PC	APPLE, MF839ZP-A MacBook Pro	1
Tablet	ASUS, Z370CG	140
Digital camera	CANON, EOS 1200D	1
Projector	SONY, VPL-EX290	1
Screen	Vu Gia, 180V	1

Item	Model	Figures
Wireless interpretation receiver	Okayo, WT-500	5
Display (for desktop PC)	DELL, S2316H	1
portable hard disk	TOSHIBA, HDTC820AR3C1	1
Tablet	ASUS, Z370CG	25
Motorbike	Honda, Future 125cc	15
Raincoat	Hoan Chau Long, custom made	1, 100
Tablet	Lenovo, PHAB PB1-750M	400
Tablet	Lenovo, PHAB PB1-750M	50
Laptop PC	DELL, VOSTRO 5468	3
Laptop PC	ASUS, UX360CA	1
Desktop PC	DELL, Inspiron 3650	3
Display (for desktop PC)	DELL, S2216H	3
Printer	FUJI XEROX, P225D	2
Fax machine	Panasonic, KX-FP701	1
Photocopier	RICOH, MP2014AD	1
Telephone	Panasonic, KX-TGC313	1
Paper shredder	Silicon, PS-800C	1
Water server	Kangaroo, KG 46	1
Dehumidifier	Sharp, DW-12A	1
Standee	MORE production	10
Wireless interpretation transmitter	Okayo, WT-500T	1
4WD car	Toyota, Land Cruiser Prado 2.7L 7 seater	4
IC Recorder	SONY, ICD-UX560FBCE	1

Item	Model	Figures
Desktop PC RAM	Kingston, 4GB PC3-12800 240pin DIMM (KVR16N11S8/4)	5
HDD for NAS	Western Digital, 2TB 3.5" WD20EFRX	1
Portable hard disk	Western Digital, 2TB 2.5" USB3.0 My Passport	1
3.5" HDD case	Orico, 3588us3-bk	1
Tablet	Lenovo, PHAB PB1-750M	35
UPS	Santak, offline 1000VA	1
Air Conditioner	Panasonic, CU-YZ12WKH-8	1
Laser printer	HP LaserJet Pro M706N	1
Desktop PC	Dell Inspiron 5458E	7
Projector	Panasonic PT LB 330 Projector	1
Photocopier	FUJI XEROX DocuCentre 2276	1
Drone	Phantom 4 Pro	3
PC	Dell Inspiron N7577	2
Analysis software	Pix4D mapper Pro (perpetual license)	1

Table 13: Equipment for the Japanese side

Item	Model	Figures	Status	After the Project
PC	HP Probook 450 G2 K9R22PA	1	Handover	-
PC	Dell N3443-C4i7 1820	1	Handover	-
PC	HP Probook 520 G2	1	Handover	-
PC	HP Probook 450 G3 T1A15PA	11	Handover	-
PC	Asus TP301UA C4147T	1	Handover	-
PC	Lenovo Thinkpad E460	2	Handover	-

Item	Model	Figures	Status	After the Project
PC	Dell V5459	1	Handover	-
PC	Dell 7348	1	Handover	-
Laser Printer	Canon MF 729CX	3	Handover	-
Photocopier	CANON IR Adv C3320	1	Handover	-
Air conditioner	Daikin FTXM50HVMV	1	Handover	-
Air conditioner	Daikin FTXM35HVMV	1	Handover	-
Air conditioner	Panasonic 1800 BTU	1	Handover	-
Projector	ViewSonic PJD5255	2	Handover	-
Projector	ViewSonic PJD5256	1	Handover	-
Projector	ViewSonic PJD5257	1	Handover	-
Moisture meter	Kett Electronic Laboratory PM450	1	Handover	-
Laser Printer	HP LaserJet Pro M706N	1	Handover	-
PC	Dell Inspiron 5458E	5	Handover	-
PC	Dell Vostro V7570	2	Handover	-
Photocopier with Scanner kit	FUJI XEROX DocuCentre 2276	1	Handover	-
Projector	Panasonic PT LB 330 Projector	1	Handover	-
Camera	Nikon Coolpix P900	5	Handover	-
Ultra-high resolution satellite imagery, Dien Bien Province (Pleiades)	DS_PHR1B_201501020401033_FR1_PX_E103N21_0109_05658	1	Handover	-
Very high resolution satellite imagery Son La Province (Pleiades)	DS_PHR1B_201312030350438_SE1_PX_E103N21_0921_06866	1	Handover	-
Very high resolution satellite imagery Lai Chau La Province (Pleiades)	DS_PHR1A_201412200400470_FR1_PX_E103N22_1107_04902	1	Handover	-

Item	Model	Figures	Status	After the Project
Ultra-high resolution satellite imagery, Hoa Binh Province (Pleiades)	DS_PHR1B_201412230338486_FR1_PX_E105N20_0410_08452	1	Handover	-
Ultra-high resolution satellite imagery, Son La Province (Pleiades)	DS_PHR1A_201610070357306_FR1_PX_E103N21_0907_05111	1	Return	Returned to the JICA Vietnam Office
Ultra-high resolution satellite imagery, Son La Province (Pleiades)	DS_PHR1A_201801200342191_FR1_PX_E103N21_0904_03164	1	Return	Returned to the JICA Vietnam Office

*The “Handover” status means the equipment and goods were handed over to the Counterparts, and “Return” means the equipment or goods were returned to the JICA Vietnam Office.

1-2 Input by the Vietnam side

1-2-1 Assignment of the counterpart (C/P) personnel

(1) Central Project Management Unit: CPMU

The Central Project Management Unit (CPMU) was established under the Management Board of Forestry Projects, which is an extra-ministerial department of the Ministry of Agriculture and Rural Development (Ministerial Decision of MARD as of March 27, 2017: 1002/QĐ-BNN-TCCB) The Project Director, Deputy Project Director and five other staff were assigned as the Project members.

CPMU was mainly involved as the counterpart of the Long Term Experts, and it was in charge of overall management of the Project and communicating and coordination with the Provincial Project Management Units (PPMUs)

(2) Provincial Project Management Unit: PPMU

The Provincial Project Management Units (PPMUs) were established in the four Provinces in the northwest, namely, Dien Bien Province, Lai Chau Province, Hoa Binh Province, and Son La Province, as well as Lam Dong Province. The PPMUs played a role in the implementation and management of the Project activities with the Japanese experts, and they were also expected to take the lead in the continuation and expansion of the activities after the completion of the Project.

The members of the PPMUs were selected from People's Committees from each level from Commune level to Provincial level, and they consisted of between 5 and 13 members, including directors, coordinators and accountants (ANNEX 1) Some PPMUs were revised during the Project period due to the retirement of the members.

The dates of establishment, revision or the decision from the government for each PPMU are shown below.

Establishment of PPMUs

January 23, 2017. Dien Bien Province (DECISION No. 68/QĐ-UBND)

March 2, 2017. Lam Dong Province (DECISION No. 440/QĐ-UBND)

March 3, 2017. Hoa Binh Province (DECISION No. 287/QĐ-UBND)

March 15, 2017. Son La Province (DECISION No. 569/QĐ-UBND)

August 9, 2017. Lai Chau La Province (DECISION No. 839/QĐ-UBND)

Revision of PPMUs

January 26, 2018. Hoa Binh Province (DECISION No. 256/QĐ-UBND)

March 21, 2018. Lam Dong Province (DECISION No. 519/QĐ-UBND)

November 20, 2018. Dien Bien Province (DECISION No. 1103/QĐ-UBND)

November 13, 2020. Lai Chau La Province (DECISION No. 1626 /QĐ-UBND)

(3) Facilitators/Extension Workers

In four north-west Provinces, a total of 47 Facilitators/Extension Workers were selected from the counterpart departments to proceed with the REDD+ pilot activities; 13 in Dien Bien, 7 in Lai Chau, 12 in Hoa Binh and 15 in Son La. The members were revised during the Project period and there are 45 Facilitators/Extension Workers in total; 13 in Dien Bien, 8 in Lai Chau, 10 in Hoa Binh and 14 in Son La as of 2020.11.18 (ANNEX 1)

1-2-2 Project Offices

Individual offices were set-up in Hanoi City, the central cities of the four northwest Provinces (Dien Bien Province, Lai Chau La Province, Hoa Binh Province, and Son La Province) and in Da Lat City.

An office room was provided in the building of MBFP for the Hanoi office, and office areas in the buildings of DARD were provided for the offices in the four northwest Provinces. The office of Da Lat City was established in the office building of the Bidoup Nui Ba National Park. Another office was established in a rented room in Hanoi City for the short term experts under Component 2, which was paid for by the Japanese side.

1-2-3 Operation Expenses of the Counterparts

The table below shows the planned and actual operation expenses of the counterparts.

Table 14: Operational Expenses of the Counterparts

Unit: VND (Millions)

Organization	2016*	2017		2018		2019		2020	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
CPMU	-	2,090	2,090	3,000	2,984	3,000	2,986	3,169	2,519
Dien Bien PPMU	-	1,102	300	1,103	350	1,103	600	910	550
Lai Chau PPMU	-	1,460	0	1,460	355	760	510	380	500
Son La PPMU	-	1,176	447	1,176	1,347	900	900	900	900
Hoa Binh PPMU	-	1,357	428	1,357	1,598	1,453	1,453	1,357	920
Lam Dong PPMU (LB-BRMB, BNBPN-MB)	-	1,875	786	1,875	1,236	1,875	1,247	1,247	1,247
Sub-total	-	9,060	4,051	9,971	7,870	9,091	7,696	7,963	6,636
Actual in total (2016-2020)	26,253 Mil.VND								

*: Due to the delay in the approval of the Project document in Vietnam, the CPMU and PPMUs had not yet been established. Therefore, counterpart funding was not allocated for 2015 and 2016.

1-3 Activities

The planned and actual activities are shown as below. The gray bars show the planned activities and the black bars show the actual activities.

1-3-1 Component 1

Activities			Year	2015				2016				2017				2018				2019				2020				2021	Responsible Organization		Achievements	Issue & Countermeasures
				VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	Japan	Viet Nam			
	Sub-Activities																															
Output 1-1: Policies contributing to sustainable forest management such as the forestry sector reform and the National REDD+ Action Program (NRAP) are promoted.																																
1-1-1 Assist in reviewing and drafting the Law on Forest Protection and Development																																
1-1-1-1 Assist in analyzing and determining review points of the current Law on Forest Protection and Development and related regulations.																																
1-1-1-2 Assist in preparing the profile of the new Forestry Law for submission to the Ministry of Justice.																																
1-1-1-3 Assist in organizing and operating a Task force team for drafting the new Forestry Law and related bylaws.																																
1-1-1-4 Assist in finalizing the draft of the new Forestry Law and related bylaws for submission to the National Assembly.																																
1-1-2 Assist in implementing the action plans to promote the Decision on Forestry Sector Reform Proposal (No.1565/QĐ-BNN-TCLN, 08/07/2013).																																
1-1-2-1 Improve quality seed/seedling production and supply system.																																
1-1-2-1-1 Assist in analyzing the current seed/seedling production and supply system.																																
1-1-2-1-2 Assist in identifying necessary policy and measures to promote quality seed/seedling production and supply.																																
1-1-2-1-3 Assist in developing a guideline on quality seed/seedling production and supply.																																

Activities					Year	2015				2016				2017				2018				2019				2020				2021	Responsible Organization		Achievements	Issue & Countermeasures
					VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	Japan	Viet Nam				
1-1-2-2 Improve high-quality timber (including large-diameter timber) production system.																																		
1-1-2-2-1 Assist in analyzing the current high-value timber production system.					Plan																					Long term experts	VNFOREST (Forest Development Dep)	Completed						
1-1-2-2-2 Assist in identifying necessary policy and measures to promote high-value timber production.					Plan																				Long term experts	VNFOREST (Forest Development Dep)	Completed							
1-1-2-2-3 Assist in developing a guideline on high-value timber production.					Plan																				Long term experts	VNFOREST (Forest Development Dep)								
1-1-2-3 Assist in attracting and promoting private investments into forestry sector.																																		
1-1-2-3-1 Assist in analyzing the current status of private investments into forestry sector.					Plan																				Long term experts	VNFOREST (Forest Development Dep)	Completed							
1-1-2-3-2 Assist in identifying necessary policy and measures to promote private investments into forestry sector.					Plan																				Long term experts	VNFOREST (Forest Development Dep)	Completed							
1-1-2-3-3 Assist in demonstrating good practice(s) on private investments into forestry sector.					Plan																				Long term experts	VNFOREST (Forest Development Dep)	Ongoing	ex. Bamboo in DB						
1-1-3 Assist in compiling the outcomes of the Forest Sector Support Partnership (FSSP)																																		
1-1-3-1 Assist in organizing the closing workshop of FSSP.					Plan																				Long term experts	VNFOREST (DOSTIC)	Completed							
1-1-4 Assist in promoting the National REDD+ Action Program (NRAP)																																		
1-1-4-1 Assist in analyzing the latest international trend on REDD+.					Plan																				Long term experts	VNFOREST (VRO)								
1-1-4-2 Assist in monitoring of the progress of NRAP.					Plan																				Long term experts	VNFOREST (VRO)								
1-1-4-3 Assist in reviewing NRAP, as needed.					Plan																				Long term experts	VNFOREST (VRO)	Completed							
1-1-4-4 Assist in applying for the pilot GCF REDD+ result-based payments					Plan																				Long term experts	VNFOREST								

Activities	Sub-Activities				Year	2015				2016				2017				2018				2019				2020				2021	Responsible Organization		Achievements	Issue & Countermeasures
					VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	Japan	Viet Nam				
1-1-5 Provide technical support related to formulation and implementation of Provincial REDD+ Action Plan (PRAP) in the pilot provinces under FCPF Carbon Fund and other donors.																																		
1-1-5-1 Assist in formulating PRAP of TTHue.					Plan																					Long term experts/ Japanese consultant	TT Hue (DARD) MBFPs	Completed						
1-1-5-2 Support in applying the Provincial Forest Monitoring System in the pilot provinces under FCPF.					Plan																					Long term experts/ Japanese consultant	6 Provinces (DARD)							
1-1-5-3 Support in applying the Provincial Forest Monitoring System in the pilot provinces under other donors.					Plan																					Long term experts/ Japanese consultant	6 Provinces (DARD)							
1-1-6 Provide support for the formulation and implementation of other emerging forest policies as needed.					Plan																					Long term experts	VNFOREST MBFPs							
					Actual																													
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1-3-2 Component 2

Activities		Sub-Activities		Year		2015		2016		2017		2018		2019		2020		2021		Responsible Organization		Achievements		Issue & Countermeasures	
				VFI		III IV		I II III IV		I II III IV		I II III IV		I II III IV		I II III IV		I		Japan		Viet Nam			
Output 2-1: PRAP implementing capacities in Dien Bien Province are enhanced																									
[in Dien Bien Province]																									
2-1-1. Establish a Provincial Project Management Unit.						Plan																PPMU/local authorities concerned/ MBFPs			
						Actual																			
2-1-2. Revise the Provincial REDD+ Action Plan (PRAP).						Plan																			
						Actual																			
2-1-2-1. Develop revised PRAP based on the recommendation from SUSFORM-NOW and other aspect including financial analysis and/or revised NRAP, and consultation with stakeholders.						Plan														Consultant Team	PPMU/PRAP task force/ MBFPs				
						Actual																			
2-1-2-2. Submit the revised PRAP to VNFOREST for official appraisal and then to PPC for official approval.						Plan														Consultant Team	PPMU/PRAP task force/ MBFPs				
						Actual																			
2-1-2-3. Monitor the implementation of PRAP and report to the PPC.						Plan														Consultant Team	PPMU/PRAP task force/ MBFPs				
						Actual																			
2-1-3. Plan and implement REDD+ activities in a selected pilot commune.						Plan																			
						Actual																			
2-1-3-1. Select a pilot commune.						Plan														Consultant Team	PPMU/local authorities concerned/ MBFPs				
						Actual																			
2-1-3-2. Conduct socio-economic survey in the pilot commune.						Plan														Consultant Team	PPMU/local authorities concerned/ MBFPs				
						Actual																			
2-1-3-3. Prepare a forest map of the pilot commune.						Plan														Consultant Team	PPMU/local authorities concerned/ MBFPs				
						Actual																			
2-1-3-4. Identify village boundaries in the pilot commune.						Plan														Consultant Team	PPMU/local authorities concerned/ MBFPs				
						Actual																			
2-1-3-5. Organize a REDD+ introduction workshop for the pilot commune.						Plan														Consultant Team	PPMU/ MBFPs				
						Actual																			
2-1-3-6. Develop a REDD+ implementation arrangement for the pilot commune.						Plan														Consultant Team	PPMU/ MBFPs				
						Actual																			

[illegible]

[illegible]

Activities	Sub-Activities																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Activities					Year	2015				2016				2017				2018				2019				2020				2021	Responsible Organization		Achievements	Issue & Countermeasures	
						VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	Japan	Viet Nam				
Sub-Activities																																			
2-2-3-10. Formulate capacity-building plans of the relevant stakeholders to be carried out under PRAP.						Plan																						Consultant Team	PPMU/PRAP task force/ MBFPs						
						Actual																						Consultant Team	PPMU/PRAP task force/ MBFPs						
2-2-3-11. Identify potential financial sources to implement activities to be carried out under PRAP.						Plan																						Consultant Team	PPMU/PRAP task force/ MBFPs						
						Actual																						Consultant Team	PPMU/PRAP task force/ MBFPs						
2-2-3-12. Clarify the implementation structure of PRAP.						Plan																						Consultant Team	PPMU/PRAP task force/ MBFPs						
						Actual																						Consultant Team	PPMU/PRAP task force/ MBFPs						
2-2-3-13. Prepare a final draft PRAP.						Plan																						Consultant Team	PPMU/PRAP task force/ MBFPs						
						Actual																						Consultant Team	PPMU/PRAP task force/ MBFPs						
2-2-3-14. Submit the final draft PRAP to VNFOREST for official appraisal and then to PPC for official approval.						Plan																						Consultant Team	PPMU/PRAP task force/ MBFPs						
						Actual																						Consultant Team	PPMU/PRAP task force/ MBFPs						
2-2-3-15. Monitor the implementation of PRAP and report to the PPC						Plan																						Consultant Team	PPMU/PRAP task force/ MBFPs						
						Actual																						Consultant Team	PPMU/PRAP task force/ MBFPs						
2-2-4. Plan and implement REDD+ activities in a selected pilot commune in each province.																																			
2-2-4-1. Prepare criteria for selecting a pilot site, and select a pilot commune based on the criteria.						Plan																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
						Actual																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
2-2-4-2. Conduct socio-economic survey in the pilot commune.						Plan																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
						Actual																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
2-2-4-3. Prepare a forest map of the pilot commune.						Plan																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
						Actual																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
2-2-4-4. Identify village boundaries in the pilot commune.						Plan																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
						Actual																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
2-2-4-5. Organize REDD+ introduction workshop for the pilot commune.						Plan																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
						Actual																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
2-2-4-6. Develop REDD+ implementation arrangement for the pilot commune.						Plan																						Consultant Team	PPMU/local authorities concerned/ MBFPs						
						Actual																						Consultant Team	PPMU/local authorities concerned/ MBFPs						

Activities	Sub-Activities							Year	2015				2016				2017				2018				2019				2020				2021	Responsible Organization		Achievements	Issue & Countermeasures
								VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I		
2-2-4-7. Conduct trainings for facilitators.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													
2-2-4-8. Hold a series of village meetings to finalize FMPs/LDPs.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													
2-2-4-9. Approve the FMPs/LDPs by CPC.								Plan																							Consultant Team	PPMUs/CPC/ MBFPs					
								Actual																													
2-2-4-10. Conduct forest management activities such as protection, regeneration, and reforestation, based on 2-2-4-9.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													
2-2-4-11. Conduct village livelihoods improvement activities based on 2-2-4-9.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													
2-2-4-12. Monitor village forest management and livelihoods improvement activities by facilitators / extension workers.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													
2-2-4-13. Monitor and evaluate the results of the REDD+ activities.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													
2-2-5. Enhance the capacity for operating the Provincial Forest Monitoring System (PFMS) in each province.								Plan																													
								Actual																													
2-2-5-1. Establish a PFMS task force.								Plan																							Consultant Team	Sub-FPD/ MBFPs					
								Actual																													
2-2-5-2. Assess the training needs of the staff operating PFMS.								Plan																							Consultant Team	Sub-FPD/ MBFPs					
								Actual																													
2-2-5-3. Prepare training programs for the capacity building of the staff operating PFMS.								Plan																							Consultant Team	Sub-FPD/ MBFPs					
								Actual																													
2-2-5-4. Conduct training courses based on 2-2-5-3.								Plan																							Consultant Team	Sub-FPD/ MBFPs					
								Actual																													
2-2-5-5. Revise the relevant guidelines and manuals on PFMS as needed.								Plan																							Consultant Team	Sub-FPD/ MBFPs					
								Actual																													
2-2-6. Compile achievements and lesson learned in REDD+ planning and implementation for further replication to other priority areas under the PRAP in each province.								Plan																							Consultant Team	PPMU/local authorities concerned/ MBFPs					
								Actual																													

1-3-3 Component 3

Activities					Year	2015				2016				2017				2018				2019				2020				###	Responsible Organization		Achievements	Issue & Countermeasures
	Sub-Activities				VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	Japan	Viet Nam				
Output 3-1: An institutional framework necessary for management and operations (integrated and collaborative ecosystem management framework) of LB-BR is established.																																		
3-0-1 Check the progress and status of the nomination form of the LB-BR.					Plan																									consultant team	BNBNPMB WG			
					Actual																													
3-0-2 Prepare an inception report.					Plan																									consultant team				
					Actual																													
3-0-3 Convene the 1st meeting of PPMU to set up an implementation structure of the component including working groups.					Plan																									consultant team	BNBNPMB WG			
					Actual																													
3-0-4 Prepare TORs of entrusted works for local consultants					Plan																									consultant team	BNBNPMB WG			
					Actual																													
3-1. Establish an institutional framework necessary for management and operations (integrated and collaborative ecosystem management framework) of LB-BR.																																		
3-1-1 Form a BR management structure for LB-BR with a legal document defining roles and responsibilities of the management board as well as constituent members/units.					Plan																									consultant team	LB-BR organizations WG			
					Actual																													
3-1-2 Facilitate a series of consultation meetings with the key members as well as commune/village leaders in the core and buffer zones.					Plan																									consultant team	LB-BRMB WG			
					Actual																													
3-1-3 Provide guidance and orientation on the MAB Programme to the relevant members of the BR management board of LB-BR.					Plan																									consultant team	LB-BRMB WG			
					Actual																													
3-1-4 Collect exiting data of natural, socio-economic, and administrative conditions of LB-BR.					Plan																									consultant team	LB-BRMB WG			
					Actual																													
3-1-5 Review and develop the necessary thematic maps (administrative, topography, land use status, vegetation covers, and zoning) of LB-BR.					Plan																									consultant team	LB-BR organizations WG			
					Actual																													
3-1-6 Develop a five (5) years management plan of LB-BR.					Plan																									consultant team	LB-BRMB WG			
					Actual																													

Activities					Year	2015				2016				2017				2018				2019				2020				###	Responsible Organization		Achievements	Issue & Countermeasures
	Sub-Activities					VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	Japan		Viet Nam			
3-1-7 Coordinate actions and efforts of the member organizations to implement the management plan.					Plan																							consultant team	LB-BRMB WG					
					Actual																													
3-1-8 Periodically monitor and evaluate the progress of the implementation of the management plan.					Plan																							consultant team	LB-BRMB WG					
					Actual																													
3-1-9 Organize information sharing workshops with forest owners of the adjacent forest areas and DARDs in the neighboring provinces (i.e. Dak Lak, Ninh Thuan, and Khanh Hoa).					Plan																							consultant team	LB-BRMB WG					
					Actual																													
3-1-10 Organize technical training courses at the BNNBP for relevant stakeholders of the neighboring provinces to deepen their knowledge on the MAB Programme.					Plan																							consultant team	LB-BRMB WG					
					Actual																													
Output 3-2: The collaborative management agreement (CMA) with the benefit sharing mechanisms (BSMs) is upgraded as a tool for conservation of forest ecosystems in the core and buffer zones of LB-BR.																																		
3-2. Upgrade the Collaborative Management Agreement (CMA) with the Benefit Sharing Mechanisms (BSMs) as a tool for conservation of forest ecosystems in the core and buffer zones of LB-BR.																																		
3-2-1 Review the benefit sharing mechanisms (BSMs) and collaborative management agreement (CMA) introduced/developed by the preceding JICA Project as well as other cases of BSMs and CMA demonstrated in Vietnam.					Plan																							consultant team	WG					
					Actual																													
3-2-2 Conduct a socio-economic (financial) survey in the target villages including study on financial conditions.					Plan																							consultant team	CPC WG					
					Actual																													
3-2-3 Identify potential crops/options that can generate additional income through improvement of quantity and/or quality of the products through EFLO.					Plan																							consultant team	AEC CPC WG					
					Actual																													
3-2-4 Improve and upgrade the CBET to further attract visitors.					Plan																							consultant team	DOCST BNNPMB WG					
					Actual																													
3-2-5 Develop and make a trial on a marketing strategy (including the label of MAB) for local products in LB-BR					Plan																							consultant team	DARD DPC WG					
					Actual																													

Activities						Year	2015				2016				2017				2018				2019				2020				###	Responsible Organization		Achievements	Issue & Countermeasures
							VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I		II	III		
3-2-6-1 Upgrade and/or develop the CMA with the BSMs using PFES and other possible benefits.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-6-2 Consider and propose a financial service in relation to PFES						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-7 Develop implementation plans on EFLO, CBET and CM						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-8 Develop guidelines for piloting the upgraded CMA with the BSMs in the core and buffer zones of LB-BR.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-9 Obtain approval from LB-BRMB for the guidelines on piloting the CMA/BSMs.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-10 Make a trial run of the CMA with the BSMs including FFSs on the potential crops and/or CBET in the target/pilot villages.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-11 Monitor and evaluate the results of the trial run.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-12 Conduct Off-JT and OJT-type training courses on CMA, BSMs, CBET, and EFLO for the staff of the relevant organizations to collaborative management.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-13 Revise the existing guidelines /manuals or develop new ones on the topics described in 3-2-12.						Plan																							consultant team	LB-BRMB WG					
						Actual																													
3-2-14 Develop a legal document on introduction/promotion of the CMA with the BSMs in the core and buffer zones of LB-BR and submit it to the BR management board for its endorsement to the PPC.						Plan																							consultant team	LB-BRMB WG					
						Actual																													

Activities	Sub-Activities					Year	2015				2016				2017				2018				2019				2020				###	Responsible Organization		Achievements	Issue & Countermeasures
						VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I		
Output 3-3: The results of forest and biodiversity monitoring are used for the management of the core and buffer zones of LB-BR.																																			
3-3. Promote utilization of the results of forest and biodiversity monitoring for the management of the core and buffer zones of LB-BR.																																			
3-3-1 Review the current monitoring systems of forest and biodiversity.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-2 Review the existing forestry inventory data covering the core and buffer zones of LB-BR.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-3 Analyze the baseline data of forest vegetation in the core and buffer zones of LB-BR and develop the vegetation map.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-4 Conduct biodiversity basic surveys and collect data on fauna and flora, especially on endemic and threatened species in the core and a buffer zone of LB-BR.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-5 Analyze the data collected by the basic surveys and identify indicator species and their habitat for biodiversity monitoring in the core and the buffer zone of LB-BR.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-6 Develop a methodology/survey manual to collect biodiversity data (indicators) of terrestrial ecosystems for monitoring in reference to SMART/FORMIS and the guidelines developed by the JICA NBDS Project.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-7 Conduct a biodiversity monitoring survey to collect biodiversity data using the methodology developed in collaboration with DONRE and other stakeholders.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-8 Submit the biodiversity data of the BNNP to VNFOREST and store them in the NBDS of MONRE in coordination with DONRE.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-9 Review the existing method for monitoring the status/condition of forests under the forest protection contract and revise it to enable BNNP-MB/DWPF-MB to validate the results of the contract together with communities in the target/pilot villages.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-10 Conduct Off-JT and OJT-type trainings on forest monitoring, biodiversity monitoring, database system management for the staff of the relevant member organizations.						Plan																								consultant team	LB-BRMB WG				
						Actual																													
3-3-11 Revise the existing guidelines/manuals or develop new ones on the topics described in 3-3-10.						Plan																								consultant team	DONRE WG BNBNPMB DNWPFMB				
						Actual																													
3-3-12 Conduct the participatory forest monitoring using the revised method in 3-3-9.						Plan																								consultant team	BNBNPMB DNWPFMB WG				
						Actual																													
3-3-13 Use the results of the participatory forest monitoring for evaluation and validation of the forest protection contract (PFES contract).						Plan																								consultant team	BNBNPMB DNWPFMB WG				
						Actual																													

1-3-4 Component 4

Activities	Sub-Activities					Year	2015				2016				2017				2018				2019				2020				2021	Responsible Organization		Achievements	Issue & Countermeasures
						VFI	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	Japan	Viet Nam				
Output 4-1: The forest resource data and information generated from the project are integrated into FORMIS.																																			
4-1. Assist in linking and/or integrating data and information on forest resources generated from the project into FORMIS.																																			
4-1-1 Assist in identifying data and information on forest resources generated from the Project to be linked and/or integrated into FORMIS.						Plan																					Long term experts	VNFORE ST	Completed						
						Actual																													
4-1-2 Assist in linking and/or integrating the data and information of 4-1-1 into FORMIS.						Plan																					Long term experts	VNFORE ST							
						Actual																													
Output 4-2: The achievements and lessons learned from the project are shared with relevant stakeholders at national and international level.																																			
4-2. Share the achievements and lessons learned from the project with relevant stakeholders.																																			
4-2-1. Compile achievements and lessons learned of the Project.						Plan																					Long term experts	MBFPs							
						Actual																													
4-2-2. Identify means of sharing the information of 4-2-1 with relevant stakeholders.						Plan																					Long term experts	MBFPs							
						Actual																													
4-2-3. Assist in sharing the information based on 4-2-2.						Plan																					Long term experts	MBFPs							
						Actual																													
Output 4-3: The results of the Project are widely publicized.																																			
4-3. Publicize the project results.																																			
4-3-1 Compiling the result of the Project.						Plan																					Long term experts	MBFPs							
						Actual																													
4-3-2 Identify means of publicizing the information of 4-3-1.						Plan																					Long term experts	MBFPs							
						Actual																													
4-3-3 Assist in publicizing the information based on 4-3-2.						Plan																					Long term experts	MBFPs							
						Actual																													

2. Achievements of the Project

2-1 Outputs and indicators (Target values and actual values achieved at completion)

(1) Component 1

Output	Development and implementation of key policies on natural resource management is promoted.
Activities	1-1 Policies contributing to sustainable forest management such as the forestry sector reform and the National REDD+ Action Program (NRAP) are promoted.
	1-2 The utilization of the National Biodiversity Database System (NBDS) is facilitated among the relevant stakeholders.
	1-3 Outputs from Components 2 and 3 are integrated into policy formulation and actions.
Objectively Verifiable Indicators	1. The revised draft Law on Forest Protection and Development is finalized (and submitted to the National Assembly for approval) 2. The guideline (s) /legal document (s) on quality seed/seedling production and supply, and on high-quality timber production are issued. 3. The legal document standardizing the Provincial Forest Monitoring System at national level is issued. 4. NBDS is used for the preparation of biodiversity-related national/international reportings.
Means of Verification	1. Revised Law on Forest Protection and Development 2. Guideline (s) /legal document (s) on quality seed/seedling production and supply and on high-quality timber production 3. Legal documents on the standardization of PFMS at national level 4. Biodiversity-related reports submitted to the government and international organizations, such as the Ramsar Secretariat, Secretariat of CBD and others
Summary of progress	The revised Law on Forest Protection and Development renamed to the Law on Forestry, which indicates the basic future direction of Vietnamese forestry sector, is expected to provide the solid foundation for implementing the new forest policies. Furthermore, enriched datasets stored into NBDS are also expected to provide useful information for biodiversity related policy formulation and implementation.

Objectively Verifiable Indicators	Achievement level
1. The revised draft Law on Forest Protection and Development is finalized (and submitted to the National Assembly for approval)	1. The Law on Forestry was adopted by the National Assembly on 15 November 2017, and put in force on 1 January 2019.
2. The guideline (s) /legal document (s) on quality seed/seedling production and supply, and on high-quality timber production are issued.	2. The national standard on “Testing of Value for Cultivation and Use of Tree Species” was officially approved by the Ministry of Science and Technology on 31 October 2017.
3. The legal document standardizing the Provincial Forest Monitoring System at national level is issued.	3. Use of tablet PC for forest monitoring was stipulated in the Circular No.33 (33/2018/TT-BNNPTNT)
4. NBDS is used for the preparation of biodiversity-related national/international reportings.	4. Over 65,000 species datasets collected from 36 protected areas have been stored into NBDS. These datasets have been utilized for international reporting, such as the 6 th National Report (2019) and the NBSAP for UNCBD.

Activity 1-1 Policies contributing to sustainable forest management such as the forestry sector reform and the National REDD+ Action Program (NRAP) are promoted.

Activity 1-1-1 Assist in reviewing and drafting the Law on Forest Protection and Development.

Activity 1-1-1-1 Assist in analyzing and determining review points of the current Law on Forest Protection and Development and related regulations.

Activity 1-1-1-2 Assist in preparing the profile of the new Forestry Law for submission to the Ministry of Justice.

Activity 1-1-1-3 Assist in organizing and operating a Task force team for drafting the new Forestry Law and related bylaws.

Activity 1-1-1-4 Assist in finalizing the draft of the new Forestry Law and related bylaws for submission to the National Assembly.

SNRM assisted the revision of the Forest Protection and Development Law (2004) to address the emerging domestic and international issues surrounding Vietnamese forestry sector. In particular, SNRM assisted VNFOREST in drafting the bill and coordination among relevant stakeholders from the beginning of the Project. Finally the revised law, namely the Law on Forestry (16/2017/QH14), was adopted by the National Assembly in November 2017.

In addition, SNRM also contributed to the formulation and revision of the bylaws, such as the Decree 156 providing details for the implementation of the Law on Forestry and other related decrees and circulars.

Activity 1-1-2 Assist in implementing the action plans to promote the Decision on Forestry Sector Reform Proposal (No.1565/QĐ-BNN-TCLN, 08/07/2013)

Activity 1-1-2-1 Improve quality seed/seedling production and supply system.

For the purpose of establishing quality seed and seedling production and supply system, SNRM assisted VNFOREST in developing the national standard, “Testing for Value of Cultivation and Use (VCU) on Tree Species” approved by the Ministry of Science and Technology on 31 October 2017, which provides important points for introducing new tree species with testing methods.

SNRM also assisted VNFOREST to identify the issues and measures to be taken for promoting utilization of appropriately selected tree species. And all these outputs were reflected into the revised law and bylaws.

Activity 1-1-2-2 Improve high-quality timber (including large-diameter timber) production system.

Besides conducting a survey to identify potential areas for wood production, SNRM assisted the Vietnam Timber and Forest Product Association (VIFORES) to organize a forum attended by the Prime Minister Mr. Phuc on 22 February 2019 for the purpose of promoting value-added wood products and wood products export. In order to follow up the outcomes from the forum, SNRM conducted a basic survey to set a target of the Vietnamese wood industry for 2020 - 2030 which is expected to be the basis of newly developed decree.

Activity 1-1-2-3 Assist in attracting and promoting private investments into forestry sector.

SNRM provided coordination support for forest regeneration and livelihoods development activities (sustainable coffee farming practices) in Muong Phang Commune, Dien Bien District, Dien Bien Province funded by two Japanese private companies namely Sumitomo Forestry Co., Ltd. and ASKUL Corporation as a part of their CSR investment. Note that these collaborative activities were originally started in 2013 through SUSFORM-NOW. This project took it over since 2015.

SNRM also provided coordination support for a private sector partnership project (SDGs business assessment) namely “Business feasibility study on the production of May Cha bamboo and the development of its value chain for the reduction of impacts of burning agriculture” in Dien Bien Province by a private company called Usui Nochikusan Ltd.

Furthermore, SNRM supported Japanese private organizations, including the Japan International Forestry Promotion and Cooperation Center, The Japan Forest Foundation, and the Defense of Green Earth Foundation, to make necessary arrangements with relevant Vietnamese government organizations for their re-forestation activities in Vietnam.

Other activities undertaken by SNRM include provision of updated information on wood industry/market to Japanese enterprises seeking business opportunity in Vietnam and necessary arrangements for their

survey visits.

Activity 1-1-3 Assist in compiling the outcomes of the Forest Sector Support Partnership (FSSP)

Activity 1-1-3-1 Assist in organizing the closing workshop of FSSP.

SNRM assisted VNFOREST to organize the final workshop of FSSP in December 2015 and to publish the booklet entitled “Vietnam Forestry” which compiled key data and information in Vietnam’s forestry sector, such as major policies, related legislation and statistical data. The booklet, “Vietnam Forestry”, was updated in December 2019 with the support of SNRM.

Activity 1-1-4 Assist in promoting the National REDD+ Action Program (NRAP)

Activity 1-1-4-1 Assist in analyzing the latest international trend on REDD+.

A long-term expert in charge of REDD+ monitored and analyzed the international trends and discussions on REDD+ related to UNFCCC, GCF, UN-REDD, and FCPF, and shared the findings with JICA Headquarters and Vietnam Office accordingly. The long-term expert also periodically updated and shared an information briefing entitled “Summary of REDD+ Development in Vietnam.” In relation with UNFCCC, the long-term expert participated in COP21 and COP23 Paris, France, and Bonn, Germany, respectively in order to understand the latest international discussions and negotiations on REDD+ and to coordinate with other international parties in REDD+. At COP23, the long-term expert also facilitated a side-event on REDD+ at the Japan Pavillion and participated in several meetings with international partners. In regards to GCF, the long-term expert closely monitored the discussions and developments at GCF through online participation to board meetings relevant to GCF RBPs. In addition, the long-term expert also reviewed the relevant board meeting decisions and documents as well as direct communication with the GCF Secretariat, which were shared with key stakeholders in both Japan and Vietnam. Furthermore, the long-term expert maintained the close communication with other donors including but not limited to UNDP, FAO, and World Bank in order to collect and analyze the latest international development related to REDD+.

Activity 1-1-4-2 Assist in monitoring of the progress of NRAP

The long-term expert in charge of REDD+ monitored the progress of NRAP through communication with relevant government agencies in Vietnam, participation to workshops and email lists, and information exchange with other donor projects including but not limited to UN-REDD and FCPF. The long-term expert compiled the collected information periodically into a brief entitled “Summary of REDD+ Development in Vietnam,” which was shared with JICA Headquarters, Vietnam Office, and other REDD+ projects in other countries.

Activity 1-1-4-3 Assist in reviewing NRAP, as needed

The long-term expert in charge of REDD+ assisted a review of the NRAP through provision of technical feedback to the draft versions and the participation in relevant consultation workshops led by UN-REDD. The revised NRAP was eventually approved by the Prime Minister in April 2017.

Activity 1-1-4-4 Assist in applying for the pilot GCF REDD+ result-based payments

The long-term expert in charge of REDD+ assisted the country’s application for the GCF pilot REDD+ RBPs in several different ways. First, the long-term expert collected and analyzed the information related the discussions at the GCF board meetings via online participation and review of recorded discussions, review of relevant documents, and direct communication with the GCF Secretariate. The collected and analyzed information served as foundations for the formulation of the country’s proposal. Second, the long-term expert extensively reviewed the TOR for the GCF pilot REDD+ RBPs program, its scorecards, templates for concept notes and funding proposals, the other countries’ proposals that were already approved by the GCF, and provided technical advice to the country. Third, the long-term expert facilitated an agreement among key international donors as well as the host government that JICA would be an accredited entity (AE) for the application for the GCF pilot REDD+ RBPs, which served as a foundation for collaboration and coordination among other donors for the proposal development. Furthermore, the long-term experts together with the JAFTA consultant team provided a series of technical feedback on drafts of the REDD+ result report by FIPI, contributing the finalization of the report.

Based on the above, the long-term expert technically assisted the development of a concept note and a funding proposal for the GCF pilot REDD+ RBPs including the preparation of safeguard related reports including Environmental and Social Assessment, Environmental and Social Management Framework,

Gender Assessment, and Gender Action Plan including stakeholder consultation meetings.

Activity 1-1-5 Provide technical support related to formulation and implementation of Provincial REDD+ Action Plan (PRAP) in the pilot provinces under FCPF Carbon Fund and other donors.

Activity 1-1-5-1 Assist in formulating PRAP of TT-Hue.

In response to a request from FCPF, the long-term expert in charge of REDD+ technically assisted the formulation of PRAP for Thua Thien-Hue (TT-Hue) Province, which was eventually approved by the PPC in December 2016. While the long-term expert provided direct support in the PRAP formulation from the later half of 2015, the consultant team contributed to the process through analysis of the Land Tenure Assessment Report, the estimation of the PRAP implementation budget, and the verification of consistency with the national PRAP formulation guidelines.

In relation to the above, based on an additional request from FCPF, the long-term expert also provided technical assistance in the formulation of the PRAP for Quang Tri Province, which was approved by the PPC in December 2018. Furthermore, based on a request from a local NGO and the provincial authority, the long-term expert together with the consultant team technically assisted the analysis of forest changes over time, which would be foundational to its PRAP formulation.

Activity 1-1-5-2 Support in applying the Provincial Forest Monitoring System in the pilot provinces under FCPF.

The Project supported to install PFMS in 6 north central coast provinces including Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue. PFMS TF establishment, ToT and RT were conducted in these provinces. In particular, technical support such as that master trainers from FIPI are sent for ToT. PFMS manuals were provided, project staff as adviser of PFMS management participated in TF. Figure 1 shows provinces installed PFMS, Table 15 explains the progress of PFMS replication, and Table 16 is for showing tablet PC procurement.

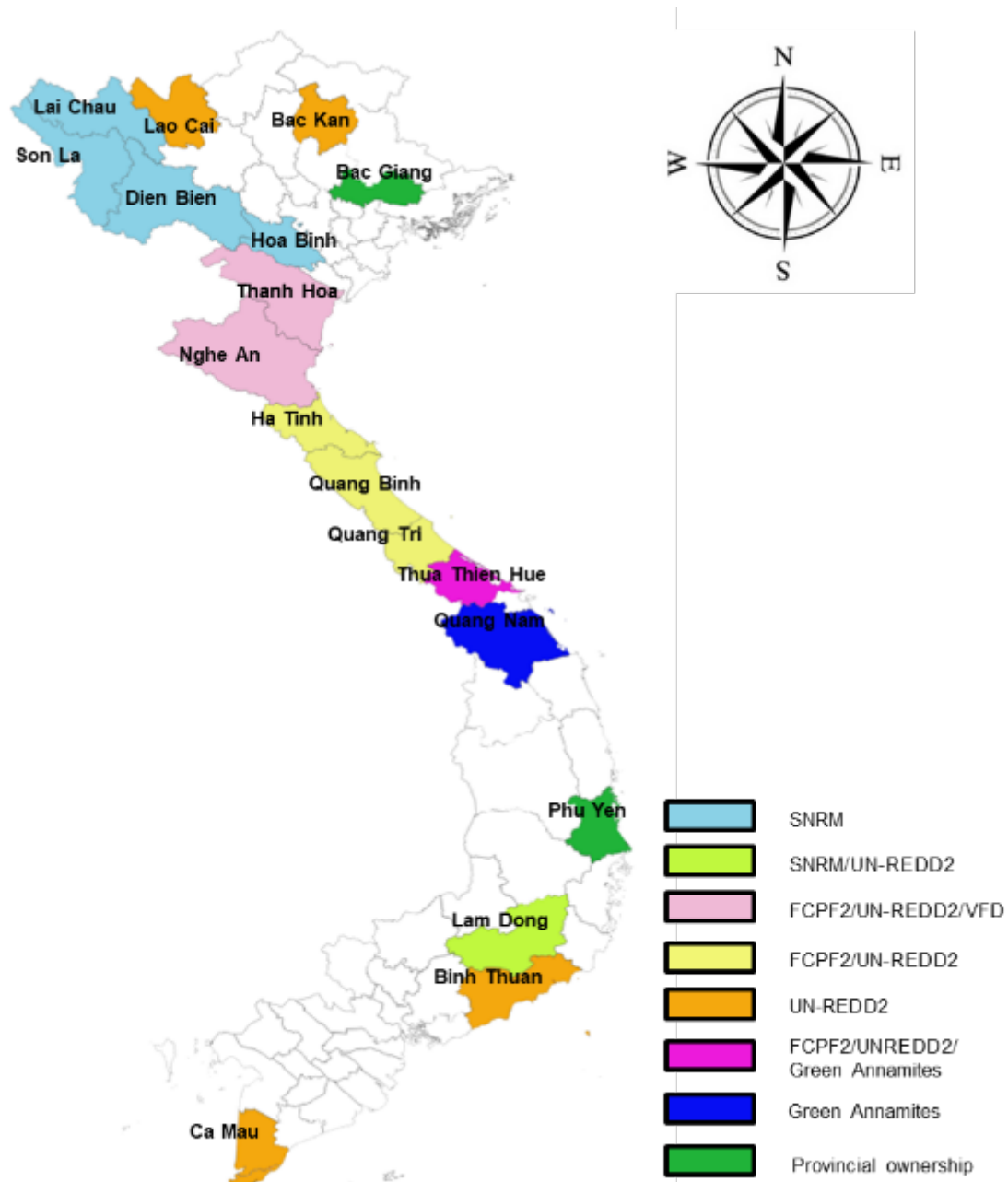


Figure 1: PFMS installed provinces and donors

Activity 1-1-5-3 Support in applying the Provincial Forest Monitoring System in the pilot provinces under other donors.

The Project supported provinces with the collaboration of projects funded by UN-REDD 2 (UNDP/FAO/UNEP), VFD (USAID), and Green Annamite (USAID) 5 provinces (Bac Kan, Lao Cai, Lam Dong, Binh Thuan, and Ca Mau) under UN-REDD 2, 2 provinces (Nghe An and Thanh Hoa) under VFD, and 1 province (Quang Nam) under Green Annamite, in total 8 province were supported by the Project for PFMS installation.

Contents of project supports were same with the Support for FCPF 2 stated at 1-1-5-2.

Presentation on PFMS was made for staff of Management Board for Forestry Projects (MBFP) who in charge of other projects. Participants positively asked questions on budget and law/regulation background with their high interest during 1st phase of the Project. The Project provided detailed information based on a request.

There are two provinces installed PFMS by themselves. These are Bac Giang and Phu Yen provinces with the ownership of Sub-FPD during 2nd phase. They spent their own budget for partial installation of PFMS. The Project provided necessary information and manuals of PFMS to them.

Two national workshops were organized with the participants of not only central, regional provincial FPD but also donors stakeholders supporting forestry sector including UN-REDD 2, VFD, and FCPF 2. First time was held in March 2017 and promoted PFMS's understanding by sharing information. Feedbacks were provided by these participants in relation with tablet PC and FRMS Mobile Application from FPD staff as users. Necessary refinements of FRMS Mobile Application were done. In addition, project staff participated to TF and promoted understanding on PFMS. Second time was organized in April 2020. Concerned stakeholders including FPD staff shared mutual understanding that PFMS is more effective than previous paper-based method.

In addition, administrator trainings were conducted for central, regional and Sub- FPD as the manager of forest monitoring to provide the contents of effective forest monitoring management under PFMS.

A point worthy of special mention that Sub-FPDs spent their own budget for sustainably managing PFMS as their self-help effort. There are two provinces installed PFMS by themselves. These are Bac Giang and Phu Yen provinces partially installed PFMS without donor's support with the ownership of Sub-FPD during 2nd phase. They spent their own budget for partial installation of PFMS. The Project provided necessary information and manuals of PFMS to them. Dien Bien province replaced new tablet PCs from the one SUSFORM-NOW project handed over to the province. Sub-FPDs in Son La, Lai Chau and Hoa Binh provinces spent their budget to replicate PFMS provincewide. Further information is provided by Table 15 and Table 16.

Table 15: PFMS installation and replication progress in each province

No	Province	Project	TF ^a establishment	ToT	RT	Note
1	Dien Bien	SNRM	Completed	Completed	Completed	Sub-FPD replaced old tablet PC procured during SUSFORM-NOW to new one by their own budget
2	Lai Chau	SNRM	Completed	Completed	Completed	Provincial replication was done by Sub-FPD's budget
3	Son La	SNRM	Completed	Completed	Completed	Provincial replication was done by Sub-FPD's budget
4	Hoa Binh	SNRM	Completed	Completed	Completed	Provincial replication was done by Sub-FPD's budget
5	Thanh Hoa	FCPF2/UN-REDD2/VFD	Completed	Completed	Completed	Provincial replication was done by FCPF2's budget
6	Nghe An	FCPF2/UN-REDD2/VFD	Completed	Completed	Completed	Provincial replication was done by FCPF2's budget
7	Ha Tinh	FCPF2/UN-REDD2	Completed	Completed	Completed	Provincial replication was done by FCPF2's budget
8	Quang Binh	FCPF2/UN-REDD2	Completed	Completed	Completed	Provincial replication was done by FCPF2's budget

9	Quang Tri	FCPF2/UN-REDD2	Completed	Completed	Completed	Provincial replication was done by FCPF2's budget
10	TT-Hue	FCPF2/UN-REDD2/GA	Completed	Completed	Completed	Provincial replication was done by FCPF2's budget
11	Lao Cai	UN-REDD2	Completed	Completed	Partially	After the close of UN-REDD 2 project, the Project conduct PFMS by themselves
12	Bac Kan	UN-REDD2	Completed	Completed	Partially	After the close of UN-REDD 2 project, the Project conduct PFMS by themselves
13	Binh Thuan	UN-REDD2	Completed	Completed	Partially	After the close of UN-REDD 2 project, the Project conduct PFMS by themselves
14	Lam Dong	SNRM/UN-REDD2	Completed	Completed	Partially	After the close of UN-REDD 2 project, the Project conduct PFMS by themselves
15	Ca Mau	UN-REDD2	Completed	-	Partially	RT was organized instead of ToT
16	Quang Nam	GA	Completed	Completed	Completed	Provincial replication was done by GA's budget
17	Bac Giang	Sub-FPD	-	-	-	Sub-FPD spent their own budget for its installation
18	Phu Yen	Sub-FPD	-	-	-	Sub-FPD spent their own budget for its installation

* TF: Task Force

Table 16: Number of tablet procured including SNRM and other projects

No	Province	Project					Personal procurement	Sum
		SNRM	UN-REDD 2	FCPF 2	GA	VFD		
1	Dien Bien	140	0	0	0	0	25	165
2	Lai Chau	168	0	0	0	0	4	172
3	Son La	225	0	0	0	0	36	261
4	Hoa Binh	156	0	0	0	0	8	164
5	Thanh Hoa	0	0	130	0	15	32	177
6	Nghe An	0	0	150	0	15	62	227
7	Ha Tinh	0	60	55	0	0	5	120
8	Quang Binh	28	0	145	0	0	45	218
9	Quang Tri	25	0	100	0	0	5	130
10	TT-Hue	23	0	95	25	0	0	143
11	Lao Cai	0	100	0	0	0	0	100
12	Bac Kan	0	100	0	0	0	0	100
13	Binh Thuan	0	100	0	0	0	0	100
14	Lam Dong	25	100	0	0	0	0	125
15	Ca Mau	0	57	0	0	0	0	57
16	Quang Nam	0	0	0	225	0	0	225

17	FPD (Central and regional office)	42	0	0	0	0	0	42
Sum		832	517	675	250	30	222	2526

The number of registered FRMS Mobile Application users were reached to 5,195 users as of the end of September 2020. Difference between the number of users and tablet PCs procured is that there are cases that FPD staff installed FRMS Mobile Application into their own smart-phone or tablet PCs.

Activity 1-1-6 Provide support for the formulation and implementation of other emerging forest policies as needed.

SNRM provided technical inputs to the Government of Japan for identifying potential areas of cooperation in forestry sector under the Med and Long Term Vision for Japan-Vietnam Agricultural Cooperation (MLTVJVAC) which is the official dialogue framework between Japan and Vietnam. In addition, SNRM assisted the Forestry Agency of Japan and VNFOREST to establish a framework aiming at enhancing cooperation and interaction between two organizations under MLTVJVAC.

Other activities undertaken by SNRM include technical/financial support to address the emerging issues related to forestry and biodiversity conservation, such as formulation of the Forestry Development Strategy 2021-2030 and consideration of country's position for the Post-2020 International Biodiversity Framework.

Activity 1-2 Assist in operating the National Biodiversity Database System.

Activity 1-2-1 Assist MONRE in operating NBDS.

SNRM in collaboration MONRE collected over 65,000 species datasets from 36 protected areas selected mostly from 44 biodiversity monitoring spots across the country designated by the Prime Minister's Decision (Decision No. 90/QĐ-TTg) issued on 12 January 2016. After screening, all these datasets were stored into NBDS. During 2015-2018, the FIMO center under the Vietnam National University maintained NBDS server to update the datasets, and then in 2018 this server was transferred to the Vietnam Centre for Environmental Information and Data (CEID) under MONRE. Since then CEID has been operating NBDS with the updated website (<http://nbds.ceid.gov.vn/>).

Activity 1-2-2 Assist relevant provinces and organizations in accumulating data on biodiversity.

SNRM in cooperation with MONRE organized six (6) training workshops attended by over 400 trainees, which include national park rangers and provincial government staff, to enhance their capacity necessary for NBDS management and for biodiversity related data collection.

Activity 1-3 Assist in integrating outputs from Component s 2 and 3 into policy formulation and actions.

Activity 1-3-1 Compile the outputs from Component s 2 and 3 periodically.

SNRM regularly compiled the outcomes of all four (4) components of the Project through annual review meetings and biannual monitoring report. In addition, SNRM also shared its achievements and lessons learned through websites of JICA and MBFPs and several publications including the Casebook on SNR's good practices.

Activity 1-3-2 Assist in producing policy documents relevant to Component s 2 and 3.

The long-term experts assisted Component 2 and 3 teams in developing legal documents, such as PRAPs in the northwest provinces, LB-BL 5-year management plan and others related to CMA.

Issues and Challenges

Policy formulation and implementation on the basis of the revised Law and bylaws on Forestry

- Although the Law on Forestry and related bylaws including decrees and circulars have been put into force since 2019, relevant government staff's understanding and awareness for these legal documents has not yet reached satisfactory level. Therefore, further capacity enhancement and awareness raising for them is imperative in order to make steady policy formulation and implementation under the new legal framework.

NRAP Implementation

- Although NRAP is a national program, its financial feasibility is in doubt as there is no particular state budget allocated for its implementation. This budgetary issue would be partially solved when the NRAP is integrated into the forestry target program in the future. This will be a challenge after 2021.

Application for the GCF pilot REDD+ RBPs Program

- The application for the GCF pilot REDD+ RBPs Program could be delayed due to several external factors to MARD, and thus the coordination among different ministries is among the critical factor for successful and timely application. For instance, the development of the greenhouse gas inventory (GHG-I) and emission reduction registry (ER Registry) are under the responsibility of MONRE. MONRE is also responsible for the submission of biennial update reports (BURs) to UNFCCC, to which the REDD+ result report should be attached. Furthermore, in order for the country or the AE to submit a concept note or a funding proposal to GCF, the submission of a non-objection letter from the Ministry of Planning and Investment (MPI) as a GCF's National Designated Authority (NDA) is necessary. The country / the AE need to manage all these coordination on time in order to meet important deadlines.
- At the same time, the timing of the funding proposal submission would also be influenced by the time schedule of the technical assessment of the REDD+ result report by the UNFCCC. The delay in UNFCCC technical assessment would also delay the final submission of the funding proposal to the GCF.
- Furthermore, the current envelop for the GCF pilot REDD+ RBPs Program is USD 500 million, and this funding would be depleted anytime soon (expected in 2020) because it is allocated to countries on first-come-first-served basis. This is another factor that the applicant country / the AE should take into account together with the above factors for possible delay.
- It is also indispensable to build better capacity at JICA Headquarters in handling the GCF REDD+ RBP application process as an AE.

Installation of PFMS

- Although several donors including JICA funded and supported to FRMS which is nearly 20 provinces, commitment by central FPD is not high. Thus, there is still warries technically and financially for its management.
- FRMS operation relies on FORMIS, funded by Finnish Government, which operation is done by VNFORST and this system should be stable including server maintenance. It is difficult to clearly mention that the server is fully secured its safety and stability for maintaining the server since the system is physically managed by VNFOREST's staff although the maintenance should be outsourced to IT expert. It is necessary to work on suggesting to securing budget for outsourcing maintenance and management works.
- FPD and DID are in charge of the management and maintenance of FRMS at central level. Hardware such as server, desktop PC, tablet PC is needed to periodically replace. Software such as FRMS database, desktop application, and mobile application is required to update. These technical works should be sustainably conducted. Therefore, it is essential to secure enough budget and to develop comprehensive planning of FRMS implementation within the Ministry.
- I Furthermore, the data gathering and management of FRMS is needed to regular and continuous capacity building and enhancement. Training budget should be secured at both central and provincial level.
- In terms of FRMS Mobile application, 18 out of 60 forested provinces have been replicated it either province wide or partial scale. Remaining 42 provinces and provinces which partially replicated

FRMS Mobile Application should replicate provincewide. Development of planning and secure of budge is urgent.

Management and operation of NBDS

- As a result of transferring NBDS server to CEID, sustainability in terms of the hardware maintenance has been secured. However, in order to update datasets collected by SNRM and to promote further data collection, enhanced collective effort among relevant stakeholders including central and local governments and protected areas is required.

(2) Component 2

Component Objective	Sustainable forest management is promoted through the development and implementation of the Provincial REDD+ Action Plans (PRAPs) in four provinces in the Northwest (Dien Bien, Lai Chau, Son La and Hoa Binh)
Outputs	2-1 PRAP implementing capacities in Dien Bien Province are enhanced 2-2 PRAPs for Lai Chau, Son La and Hoa Binh Provinces are developed with the knowledge transfer from Dien Bien Province
Objectively Verifiable Indicators	1. More than 90% of the existing natural forest area is protected (remaining), and the area designated for regeneration and afforestation is at least equal to the reduced natural forest area, by the end of the Project as compared to 2015 in the pilot communes in four (4) Provinces.
Means of Verification	Project monitoring report
Summary of Achievement	In comparison to 2015, more than 90% of the existing natural forest area was remaining. And the area designated for regeneration and afforestation is larger than the reduced natural forest area (2015-2020) in the pilot communes in four (4) Provinces. The results show that the Project support contributed to forest conservation and forest increase.

Objectively Verifiable Indicators	Achievement Levels
<p>“1. By the 24th month of the Project, PRAPs in three (3) provinces (Lai Chau, Son La and Hoa Binh) are finalized and approved by PPCs.</p> <p>2. By the end of 2016, pilot activity plans for the selected pilot communes of the four (4) provinces are approved by the respective CPCs.</p> <p>3. At the end of the Project, more than 90% of implemented pilot activities, which are included in the plans approved by CPC, continue in the pilot communes.</p> <p>4. In Dien Bien Province, PFMS (Provincial Forest Monitoring System) is replicated in all communes with forests. In the other three (3) provinces, PFMS is employed in 50% of PRAP and target communes with forest.”</p>	<p>1. By the 26th month of the Project, PRAP in three provinces (Lai Chau, Son La and Hoa Binh) has been developed and approved by PPCs.</p> <p>2. By December 2016, the activities in the Five-Year Plan (2016-2020) and the Annual Plan for Forest Management and Livelihood Development in the pilot communes of the four target provinces had been approved by the CPC.</p> <p>3. Of the 17 forest management activities and 31 livelihood development activities for which technical training and equipment was provided, 98% (except one livelihood development activity) were continuing at the end of the Project.</p> <p>4. PFMS has been introduced in all communes with forests in Dien Bien Province. In the other three target provinces (Lai Chau, Son La and Hoa Binh), PFMS was introduced in more than 80% of priority communes under PRAP.</p>

- Initially, the plan for Dien Bien province was to revise the PRAP that had already been approved in May 2014. However, as a result of the issuance of the National PRAP Development Guideline on December 2015³, it was decided that there was a need to develop a new PRAP together with the other three provinces instead of revising the existing one.
- While the target of the R/D was for approval of the PRAP by 36 months after the start of the Project, the target was brought forward to January 2018 during the discussions of the work plan, and then brought further forward to 24 months (July 2017) at the Project kick-off workshop in August 2016 (literally 12 months after the launch of PRAP development)

In accordance with the National PRAP Development Guideline, the steps for the development of PRAP were designed and agreed with the four provinces as shown in Figure 2, below. Table 17 summarizes the contents of each step and the correspondence to the activities listed in the PDM.

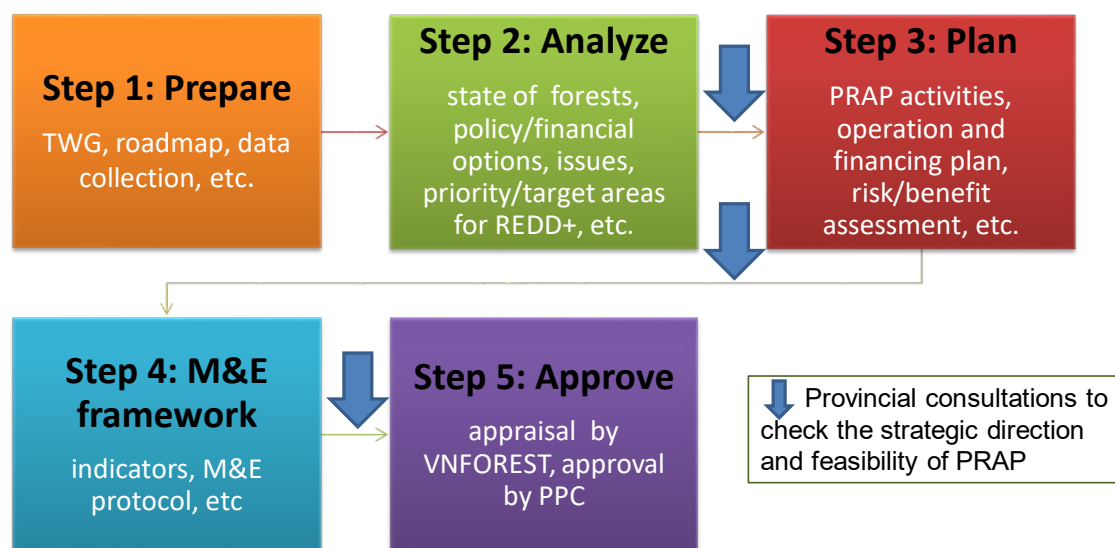


Figure 2: Summarized steps for PRAP development

³ Decision No. 5414/QD-BNN-TCLN as of December 15, 2015

Table 17: Comparison table of PDM and steps for PRAP development

PDM #	Action	Corresponding step
2-2-3-1	Organize REDD+ introduction joint workshop by three Provinces.	n.a.
2-2-3-2	Establish a Technical Working Group (TWG) to develop PRAP in each province.	1
2-2-3-3	Prepare a draft road map for developing PRAP.	1
2-2-3-4	Develop the outline of PRAP including the targets.	Results of step 1 to 5
2-2-3-5	Identify and agree the tasks as well as relevant sections of the Province responsible for each task.	1
2-2-3-6	Develop a plan for promoting FPDP activities to be carried out under PRAP.	2, 3
2-2-3-7	Incorporate the improved PFMS into the activities of PRAP.	3
2-2-3-8	Establish livelihood improvement plan to be carried out under PRAP.	2, 3
2-2-3-9	Establish a framework to monitor social and environmental risks of PRAP.	4
2-2-3-10	Formulate capacity-building plans of the relevant stakeholders to be carried out under PRAP.	3
2-2-3-11	Identify potential financial sources to implement activities to be carried out under PRAP.	3, 4
2-2-3-12	Clarify the implementation structure of PRAP.	3, 4
2-2-3-13	Prepare a final draft PRAP.	5
2-2-3-14	Submit the final draft PRAP to VNFOREST for official appraisal and then to PPC for official approval.	5

Additional activities to the PDM

- **Support for the PRAP experience sharing workshop**

Following the final approval of respective PRAPs by the four provinces, a joint workshop was held in Son La Province on 7 November 2018. The basic structures of the PRAPs were introduced and issues related to implementation and monitoring were also discussed. The Project assisted the PRAP Technical Working Group (TWG) of each province to plan and arrange the logistics for the workshop. The PRAP Coordinator gave a presentation about the PRAP development process.

- **Support for the PRAP dissemination workshops**

Responding to the request from the provinces, the Project supported the PRAP TWGs on the preparation of their presentations, and covered the cost of the workshops. The PRAP Coordinator gave a presentation about the PRAP development process:

- 7 November, 2018, Son La Province
- 22 November, 2018, Hoa Binh Province
- 12 December, 2018, Dien Bien Province

* Lai Chau La Province conducted its own PRAP dissemination without support from the Project.

- **Support for the Safeguards Information System (SIS) workshop**

For the SIS workshop of the northwest provinces organized by the Vietnam REDD+ Office (VRO), the Project supported the cost of participation for the Vietnamese counterparts from the four northwest provinces. The experiences of the Project in preparing the PRAPs, with particular focus on safeguards and implications to the SIS were presented.

- **Participation in a workshop on linking PRAP monitoring, national REDD+ monitoring and SIS**

A UN-REDD workshop was held to discuss common indicators for REDD+ provinces, coordination with the SIS, and coordination with the monitoring and evaluation of the National REDD+ Implementation Plan (NRIP) The Project presented the PRAP monitoring of the four northwest provinces. Although the workshop did not result in a clear way forward, it was useful in considering the

approach of PRAP monitoring.

Activity 2-1 PRAP implementing capacities in Dien Bien Province are enhanced

Activity 2-1-1 Establish a Provincial Project Management Unit

Following the official approval of the Project document, Dien Bien province completed the establishment of the Provincial Project Management Unit (PPMU) on 23 January, 2016 (68/QD-UBND)

On 4 August, 2017, the provincial kick-off workshop was held. The workshop proposed and agreed on the PRAP revision roadmap, the establishment of the Technical Working Group (TWG) responsible for the PRAP revision, and the addition of REDD+ related tasks into the functions of the provincial FPDP Steering Committee (SC) In addition, provincial data and policies were collected. The TWG was established on 18 August, 2017, and the addition of REDD+ related tasks into the Provincial FPDP SC's function was completed on 24 October, 2017.

Activity 2-1-2 Revise the Provincial REDD+ Action Plan (PRAP)

Dien Bien province had already officially approved its PRAP, which was the first case in Vietnam. As three years had passed since then, data needed to be updated. Also as the National PRAP Development Guideline was issued in December 2015, the structure and contents of the approved PRAP also needed to be revised accordingly, and in the end it was agreed that a full re-development was necessary rather than a revision. Accordingly, Dien Bien province basically followed the same process as the other three provinces, yet it also took on the role of sharing its previous experiences.

Further steps and outputs are described below in Table 18. The table explains the actions and outputs under Activity 2-1-2-1 and 2-1-2-2.

Table 18: Detailed actions for the Dien Bien PRAP revision

	Action contents and timing	Outputs
0	Provincial Kick-off Workshop for Component 2	PRAP revision roadmap, establishment of the TWG, addition of REDD+ related tasks into the function of the Provincial FPDP Steering Committee were agreed on. Data collection started.
1	Joint PRAP Kick-off Workshop 3 - 5 October 2016, Hanoi	The original plan was to invite only the three provinces. As Dien Bien decided to re-develop their PRAP, they decided to = join as well.
2	1 st Provincial Consultation Workshop 28 September 2016, Dien Bien	Agreements were on the approach to PRAP revision, steps and responsibilities. Drivers of deforestation and factors for forest restoration were analyzed, countermeasures and selection criteria for priority communes were discussed.
3	1 st district and commune consultations 31 October 2016 - 14 November 2016	Drivers of deforestation and factors for forest restoration were analyzed, countermeasures and criteria for priority commune selection were discussed with the stakeholders of priority districts and communes.
4	2 nd Provincial Consultation Workshop 1 December 2016	The draft PRAP was shared with the provincial and district stakeholders for comment. Feasibility (policy, target districts/communes, activities, and budget plan), environmental and social impacts, and institutional arrangements, etc. were analyzed.
5	2 nd district and commune consultations 23 December 2016 - 9 January 2017	The draft PRAP was shared with the district and commune stakeholders for comment. Feasibility (policy, activities, budget plan, institutional arrangement), and environmental and social impacts were analyzed.

	Action contents and timing	Outputs
6	Drafting workshop 5 - 6 January 2017	Based on the above results, the final draft PRAP was completed by the TWG.
7	3 rd (Final) Provincial Consultation Workshop 24 February 2017	The final draft PRAP was shared for formal consultation.
8	VNFOREST appraisal Submission: 24 April 2017 Appraisal completed: 16 May 2017	Based on VNFOREST's appraisal results, the PRAP was revised for submission to the PPC.
9	Provincial appraisal and approval Submission: 13 June 2017 Approval: 21 August 2017	The final approval of PRAP was completed after submission for PPC appraisal and revision.
10	PRAP Dissemination Workshop 12 December 2017	(Additional activity to the PDM) PRAP was disseminated to the provincial stakeholders, and challenges to its implementation were discussed.

* TWG meetings and related tasks were carried out before and after the series of workshops.

* At the 1st and 2nd district/commune consultation meetings, Vietnamese consultants were mobilized. The consultants provided training on consultation methods, and also provided hands-on training at the first consultation session to the TWG. For the 2nd district/commune consultation, a third party facilitator was mobilized to accompany the consultation sessions in order to ensure the transparency of the consultations.

* In addition, local staff (PRAP coordinator) paid several visits to the province to support the revision of draft PRAP by the TWG.⁴

Activity 2-1-2-1 Develop revised PRAP based on the recommendation from SUSFORM-NOW and other aspect including financial analysis and/or revised NRAP, and consultation with stakeholders

See Action Contents 1 - 7, above.

Activity 2-1-2-2 Submit the revised PRAP to VNFOREST for official appraisal and then to PPC for official approval

See Action Contents 8 - 9, above.

Activity 2-1-2-3 Monitor the implementation of PRAP and report to the PPC

This activity was not initially designed in the PDM. However, since the National PRAP Development Guidelines do not set specific guidance and procedures for monitoring and evaluation (M&E), the DARDs of the four provinces requested support from the Project, and it was added to the PDM version 3 dated April 1, 2018. According to this PDM, the activities were scheduled to be conducted from September 2018 to January 2019. Reflecting the opinion from the Vietnamese side that the monitoring can be done only after completing the compilation of various provincial forest data for 2018, it was agreed that the new target deadline for completion would be April 2019 (a shift of three months)

Basic approach to supporting PRAP monitoring

In supporting PRAP monitoring, ownership of the Vietnamese side was emphasized and the following points were agreed as the basic approach in consideration of the Project's policy and budget:

- Support building the capacity for PRAP monitoring in line with the needs of the provinces.
- The Project advisors will advise on the efficient implementation of monitoring. However, each province will be responsible for data collection, analysis and reporting.
- Support is only for PRAP monitoring in 2018 and does not include monitoring in 2019 and the evaluation in 2020.

⁴ Approved in May 2014 with support from Dien Bien Province REDD+ Pilot Project (Technical assistance, March 2012 – September 2013)

- Develop a PRAP monitoring guide based on the experiences of PRAP monitoring in 2018 so that it can be used for monitoring in 2019 (also for use as a reference for other provinces)
- Since the PRAP TWGs were dissolved after the approval of their respective PRAPs, the responsibilities and institutional arrangements for each province need to be clarified for PRAP monitoring (as a result, most of the same personnel were re-appointed as the TWG members)
- Take Hoa Binh Province as a precedent case and proceed with the other three provinces while fine-tuning the processes.

Scope and steps of PRAP monitoring

PRAP monitoring shall meet the standards of government reports, and shall also meet the REDD+ requirements, such as safeguard monitoring. It was agreed that the monitoring report shall have the following contents. A PRAP monitoring guide (1st draft) was prepared in advance to enhance common understanding among the Project and the provincial teams regarding the objectives, steps, detailed tasks, and issues for consideration, etc.

Table 19: Scope of PRAP monitoring

Monitoring Type	Results Framework	Social and Environmental Benefits/Risks Framework
Monitoring scale	Entire province	
Monitoring entity	DARD	
Monitoring year	2018	
Monitoring level	Outcome level only	As described in the PRAP
Monitoring method	Quantitative	Qualitative (also quantitative as adequate)
Information source	Information on the state of forests, policies, and FRMS, etc., of the province	Socio-economic data of the province (primary information from the pilot activities in the pilot communes will be also considered)

General steps:

- Step 1: Determine the outline of the report, work processes, procedures and responsibilities.
- Step 2: Review the M & E framework according to the feasibility of monitoring and make necessary adjustments. At the same time, decide the data collection method, data analysis/presentation format, and procedure for compiling the report.
- Step 3: Collect monitoring data according to the work procedure.
- Step 4: Check the quality of the collected data and analyze the contents.
- Step 5: Draft the monitoring report.
- Step 6: Obtain approval from the PPC and disseminate.

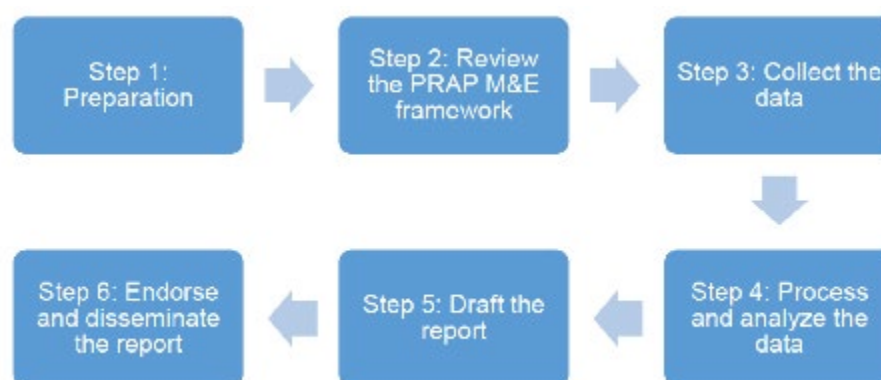


Figure 3: Steps for PRAP monitoring

Based on the steps defined above, PRAP monitoring was conducted according to actual processes and results, as follows. In addition to these, local staff (PRAP coordinator) visited Dien Bien a total of three times to support the monitoring work of the TWG.

Table 20: Dien Bien PRAP monitoring processes and results

	Action contents and timing	Outputs
1	PRAP Monitoring Kick-off Workshop 7 December 2018	PRAP monitoring procedures and processes were agreed on, and the monitoring work commenced.
2	Sample commune survey by the TWG January 2019	The TWG visited one sample district and several communes in the district in order to verify the information collected by district and commune officers, to exchange information and to enhance their own understanding on PRAP monitoring.
3	Approval of the PRAP Monitoring Report 2018 8 May 2019, Decision 84/SNN-LN	The PPC approved the PRAP Monitoring Report 2018.

As a result of monitoring, 6 out of 7 items were achieved and 1 item was not achieved in the Results Framework. The findings included, for example, the necessity of setting more appropriate goals for afforestation/reforestation activities that were not achieved, and encouraging villagers to participate in afforestation/reforestation activities. Regarding the Social and Environmental Benefits/Risks Framework, moderate or higher impacts were observed in 6 out of 7 items. Overall, the concerns were with regard to the changes in traditional farming practices and the culture of the villages due to afforestation/reforestation activities, restrictions on upland agriculture, and restrictions on harvesting timber and non-timber forest products (NTFPs) from forests. Although these cannot necessarily be judged as negative, it was agreed that such impacts require continued attention. As an overall result, 3 out of 7 items were evaluated as sufficient and 4 items were evaluated as insufficient, and the measures described above were proposed to counter the items evaluated as insufficient. See “Dien Bien 2018 PRAP M&E Report” for the details of monitoring results and evaluation.

Development of PRAP Monitoring Guide

Based on the experience and lessons learned from PRAP monitoring in the four provinces including Dien Bien, a Guide for Provincial REDD+ Action Plan (PRAP) Monitoring (April 2019) was developed in Vietnamese and English, which was shared with the four provinces and the CPMU.

Activity 2-1-3 Plan and implement REDD+ activities in a selected pilot commune

Activity 2-1-3-1 Select a pilot commune

For the selection of a pilot commune, using NFIMAP and National Forest Inventory and Statistics (NFI&S) data, the priority communes were ranked based on the selection criteria of (1) current forest area (2) potential afforestation area (bare land) and (3) deforestation rate in 2005-10.

Based on the results and additional points of consideration such as accessibility, the Pa Khoang commune was selected as the pilot commune after discussions with PPC and DARD of Dien Bien Province in July 2016.

Activity 2-1-3-2 Conduct socio-economic survey in the pilot commune

A socio-economic survey at village level was conducted in August 2016 in the selected pilot commune to collect basic information, including land use, forests, PFES, village funds, and access to finance, which was used as the basic information in the planning of pilot activities at village level.

Activity 2-1-3-3 Prepare a forest map of the pilot commune

Very high resolution satellite imagery (Pleiades) covering the Pa Khoang commune was procured for the planning of forest management activity at village level. The imagery helped to identify the areas for afforestation and forest regeneration based on the current forest condition together with the villagers. The Project also made a forest management map in the pilot commune to project the target areas for afforestation, forest regeneration, and forest protection activities in the villages.

Activity 2-1-3-4 Identify village boundaries in the pilot commune

This activity aims at defining the geographical extent of forest areas managed by the villagers in each village. However, the responsible area for village forest management may already be clear based on the land allocation and PFES payments, and the village boundary is not an official administrative boundary

of the Vietnamese government, so the necessity of support for this activity was discussed with PPMU and the relevant departments.

In Dien Bien Province, PPMU decided to support the activity, so we conducted a field verification and consultation meeting for the clarification of village boundaries in Pa Khoang commune starting in August 2017. First, a draft village boundary map was prepared based on the existing data with satellite images. Secondly, village level consultation meetings were held in the target villages and adjacent villages to discuss the draft. In addition, we investigated some of the disputed or unclear areas that needed the representatives of the target villages, their adjacent villages and the CPC officials to reach a consensus among the stakeholders concerned. The village boundaries of the pilot commune were approved by the CPC and the village boundary map was developed to clarify the agreed village boundaries.

Activity 2-1-3-5 Organize a REDD+ introduction workshop for the pilot commune

In terms of safeguard policy of REDD+, it is essential to explain the Project to the relevant organizations and villagers in the target area and to obtain their prior agreement to project implementation. Therefore, in order to ensure the understanding the background, purpose, and content of the Project, and to obtain agreement at the beginning of the Project, a REDD+ introduction workshop was held in Pa Khoang Commune at CPC meeting room on August 18, 2016. 58 participants, including 8 women and 40 ethnic minorities participated in the workshop and agreed to the implementation of REDD+ activities.

Activity 2-1-3-6 Develop a REDD+ implementation arrangement for the pilot commune

Nine (9) extension workers were appointed by the DPC, CPC and Muong Phang Special Use Forest Management in cooperation with the relevant departments that participated in the REDD+ introduction workshop. For the implementation of the Project in the pilot commune, the role and responsibility of CPC was clarified in the approval of the five-year plan and the annual plan of REDD+ activities in the pilot commune.

Activity 2-1-3-7 Conduct training of facilitators

Facilitator training was conducted for the facilitators/extension workers selected by the relevant departments as described in Activity 2-1-3-6 for the purpose of capacity building in participatory planning. First, lectures and on-site training were conducted for three days on measures against global warming, REDD+, participatory approaches, and facilitation skills. In addition, training on the planning of forest management and livelihood development activities were conducted. In Dien Bien Province, some of the facilitators/extension workers with experience of a former JICA project, called Sustainable Forest Management in the Northwest Watershed (SUSFORM-NOW), were appointed to the Project. Therefore, they had a better understanding of the content and methods of the Project, and implementation went smoothly.

Activity 2-1-3-8 Hold a series of village meetings to finalize the forest management plans (FMP) and livelihood development plans (LDP)

Since August 29, 2016, a series of village planning meetings were held in all 21 villages in the pilot commune. The main contents of the meeting were as follows.

- The First Meeting: Explanation of the objectives and supporting policies of the Project and obtaining prior agreement for its implementation
- The Second Meeting: Problem analysis on forest resources, establishment of Village Management Board for Forest Management/Livelihood Development, selection of Forest Management and Livelihood Development Activities, and five-year planning
- The Third Meeting: Formulation of annual plan of Forest Management and Livelihood Development Activities

In order to expand the experiences and lessons learned from the SUSFORM-NOW project to other areas, the planning process basically followed the participatory village planning of SUSFORM-NOW.

The participants in each planning meeting were as follows. In the first meeting, only a quarter of the

participants were women, but more than half of them participated in the subsequent meetings, indicating the active participation of women in the planning stage.

Table 21: Participants in the planning meetings of Dien Bien Province

	Days	Participants	Female	Ethnic Minority
The 1 st village planning meeting	0.5	861	227 (26%)	861 (100%)
The 2 nd village planning meeting	0.5	836	460 (55%)	836 (100%)
The 3 rd village planning meeting	0.5	834	502 (60%)	834 (100%)

Activity 2-1-3-9 Approve the FMPs/LDPs by CPC

The five-year plan and annual plan of village forest management and livelihood development activities were developed through three planning meetings. These plans were compiled and discussed in the workshop with relevant organizations in province/district/communities and villages. Based on the results of the consultations, the plan was revised and approved by the CPC on November 8, 2016.

Activity 2-1-3-10 Conduct forest management activities such as protection, regeneration and reforestation based on 2-1-3-9

The results of the forest management activities implemented in Pa Khoang Commune are as follows. In order to strengthen the capacity of extension workers, ToT was conducted and the extension workers provided the participants with technical training on forest plantation and protection. In addition, in order to ensure effective coordination with PFMS activities, Village Forest Patrolling Teams (VFPTs) were being (re) established and a training series was being carried out using the PFMS manuals and the officials trained through PFMS training.

Table 22: The results of forest management activities in Dien Bien Province

	Activities	# of Villages	# of HH	Area (ha) (Planned)	Area (ha) (Actual)	Input	Species
1	Forest Protection	21	264	1,202	1,202	Establishment of VFPT and forest patrolling, Signboard	-
2	Afforestation	17	252	115.2	90.11	101,942 seedlings Signboard	<i>Michelia mediocris</i> , <i>Pinus</i> , <i>Schima wallichii</i> , <i>Canarium tramdenum</i>
3	Forest regeneration	-	-	131.0	130.0	Signboard	-
4	Scattered planting	21	1,135	-	-	35,712 seedlings Signboard	<i>Michelia mediocris</i> , <i>Canarium</i> , <i>Dracontomelon</i> , <i>Chukrasia tabularis</i>
5	Village forest management regulation	21	-	-	-	-	-
6	Village boundary Delineation	21	-	-	-	-	-

(As of June 2020)

Activity 2-1-3-11 Conduct village livelihoods improvement activities based on 2-1-3-9

The results of the livelihood development activities in Pa Khoang Commune were as follows. The Project supported (1) identification of participating households, (2) procurement of seeds, seedlings and

other materials and equipment, (3) technical training (preparation of instructors, training of extension workers and training of participants), and (4) distribution of necessary materials and equipment. In order to ensure the ownership of the participants and the sustainability of the activity, the participating households have to share the initial investment to the extent possible as of the support policy (e.g., 50% of the initial investment for the Lao stove, free of charge for fruit trees up to 10 seedlings and 50% contribution for more than 10 trees), and this contribution from the participants was deposited in the village fund to be used mainly for forest management activities.

The results of the support are shown in Table 23, below. As for the biogas instruction activity, a feasibility study was conducted among the candidate households. However, it was found that there was no appropriate place to set up the biogas and that there was a lack of availability of biogas fermentation materials. Therefore, it was concluded that this activity was not feasible in terms of sustainability and the activity was cancelled.

Table 23: Results of livelihood development activities in Dien Bien Province

	Activities	# of Villages	# of HH	Inputs	Species	Details of activities
1	Vegetable cultivation (Fall-Winter)	21	746	Seeds: 696,235g	Kohlrabi, onion, garlic, mustard greens, zucchini	Technical training, Seeds
	Vegetable cultivation (Spring-Summer)	21	728	Seeds: 41,960g	Zucchini, broccoli, spinach	Technical training, Seeds
2	Fruit tree cultivation	21	869	Seedlings: 16,307	Pomelo, peach, mango, plum, four-season lime	Technical training, Seedlings
3	Fodder grass cultivation	21	404	Seedlings: 16,160	Gatemala	Technical training, Stem/Seedlings
4	Improved cookstove (Lao Stove)	20	377	396	-	Improved cookstove
	Improved cookstove (Improved)	8	90	cement, iron wire, frames		Technical training, materials (cement, iron wire, etc.) and frames
5	Biogas plant installation	Cancel			-	Study Trip
6	Fish raising	21	153	Fingerlings: 400,800	Grass fish, major carp, perch, hypophthalmichthys, carp, tilapia	Technical Training, Fingerlings, Marketing
7	Bee keeping	8	40	Beehives: 130	-	Technical Training, Seedlings, Study trip, Equipment, Marketing
8	Bamboo plantation	21	659	Seedlings: 6,720	<i>Dendrocalamul latiflorus</i> (Taiwan bamboo)	Technical Training, Seedlings

(As of June 2020)

Although not included in the Village Livelihood Development Plan, the Project supported the design, application preparation and implementation of the village road construction (1.8 km) project in Pa Khoang commune supported by the Japanese Embassy's Grant Assistance for Grassroots Human Security Projects in 2019.

Activity 2-1-3-12 Monitor village forest management and livelihoods improvement activities by facilitators/extension workers

The activities implemented in 2-1-3-11 were appropriately monitored, and additional inputs were provided in a PDCA cycle whenever necessary. For forest management, the Project participated in regular meetings of CPCs and village representatives to facilitate VFPT patrol activities and provided guidance to solve the issues of the activities.

For livelihood improvement activities, we supported the quality inspection of honey and the issuance of certificates to show compliance with the food safety standards of the Pa Khoang cooperative to expand the market of honey products, while providing additional technical support for beekeeping activities.

For fish farming activities, a water tank was introduced on a trial basis to promote sales of fresh fish in the commune.

Activity 2-1-3-13 Monitor and evaluate the results of the REDD+ activities

In order to monitor the progress and results of the implemented activities, semi-annual monitoring was conducted a total of four times since October 2018. Monitoring results were shared with PPMU to confirm progress and discuss the issues for further improvement. In addition, the results, lessons learned and suggestions were compiled in a monitoring report. The monitoring results are summarized as follows

[Forest management activities]

- In the target communes, village boundaries were delineated to define the area of forest management in each village, village forest development and protection regulations were developed, and Village Forest Patrolling Teams (VFPTs) were established in the target villages to strengthen forest management activities.
- Through the VFPTs, patrolling activities were carried out an average of 9 times per month in 2019 and 7.7 times in 2020. In addition, 30% of the PFES allocated to the villages was used for the daily allowance of VFPT patrol activities. The total amount of PFES allocated to the communes was 1,197.32 million VND.
- As a result of VFPT activities, 53 cases were reported by March 2020. Uncontrolled timber harvesting (25 cases), encroachment of livestock into forest land (22 cases), forest fires, and conversion to agricultural land were reported. Although some of the cases were not serious, they worked with the commune forest rangers and Muong Phang Special Forest Management Board to provide guidance to livestock farmers.
- In addition, the Project supported 90.11 ha of afforestation in 17 villages. The survival rate is 57%, mainly due to damage by livestock. However, in 2020, the trees have already grown to about 1.4 meters in height and there have been no reports of livestock damage since 2019.
- 130 hectares of regeneration forest have been promoted in 7 villages. The Project has installed signboards in the designated regeneration areas, but, so far, there has been no specific maintenance, such as weeding.

[Livelihood Development Activities]

- Beekeeping was supported by providing improved beehives and technical training to 40 households in 8 villages. As a result of the support, the yield and income from beekeeping have improved compared to the traditional method of beekeeping. In order to expand the market for honey and to diversify the sales options, the Project supported the quality inspection of honey and obtained a certificate of compliance with food safety standards. In the future, it is expected that CPC will register honey products as One Commune One Product (OCOP) to expand sales options and increase income from sales.
- The improved cookstove (ICS) was supported by providing Lao stoves to reduce firewood consumption and the time for fuelwood collection. 89.5% of participants still use the Lao stoves every day, but 10.1% of them have broken down. The Project additionally introduced 90 households to another type of ICS made using concrete that can be manufactured by villagers that was introduced in Son La province. It was confirmed that this type of ICS was expanded to 145 households without any additional input from the Project.



Improved Cookstove (left) and Lao Stove (right)

- Almost all 153 participating households in the fish farming activity were able to continue this activity, and, as of May 2020, 83 households have started selling fish, 62 of which are profitable and wish to continue this activity.
- As for the fruit tree activity, there was a low average survival rate at about 42.1% due to feeding damage over recent years and drought at the time of planting.
- The survival rate of forage grasses was 66.17% in Guatemala and 60.48% in VA06, but 90% of the participating households harvested the grasses and used them as feed for livestock and fish.
- Almost all of the participants harvested vegetables and used them for their consumption. In addition, they continue to grow vegetables in their own vegetable gardens.
- There was a very low survival rate of the bitter bamboo plantation (23.4%) due to the drought at the time of planting and the dry soil.

Among the above activities, "Village Forest Management and PFES," "Improved Cookstove" and "Beekeeping and Marketing" were compiled into a Good Practice report.

Activity 2-1-4 Enhance the capacity for operating the Provincial Forest Monitoring System (PFMS)

Activity 2-1-4-1 Review the PFMS established by SUSFORM-NOW

PFMS established during SUSFORM-NOW was revised with the consideration provincewide replication of PFMS under the Project. As a result of the review, administrator training was considered as important training for managers to implement PFMS to replicate whole province.

Figure 4 shows overall structure of FRMS. The Project collaborated with FORMIS II project funded by Finland. The Project supported to refine FRMS Mobile Application to send forest monitoring data collected at field level to FRMS developed by the FORMIS II and to replicate FRMS Mobile an Application to provincewide.

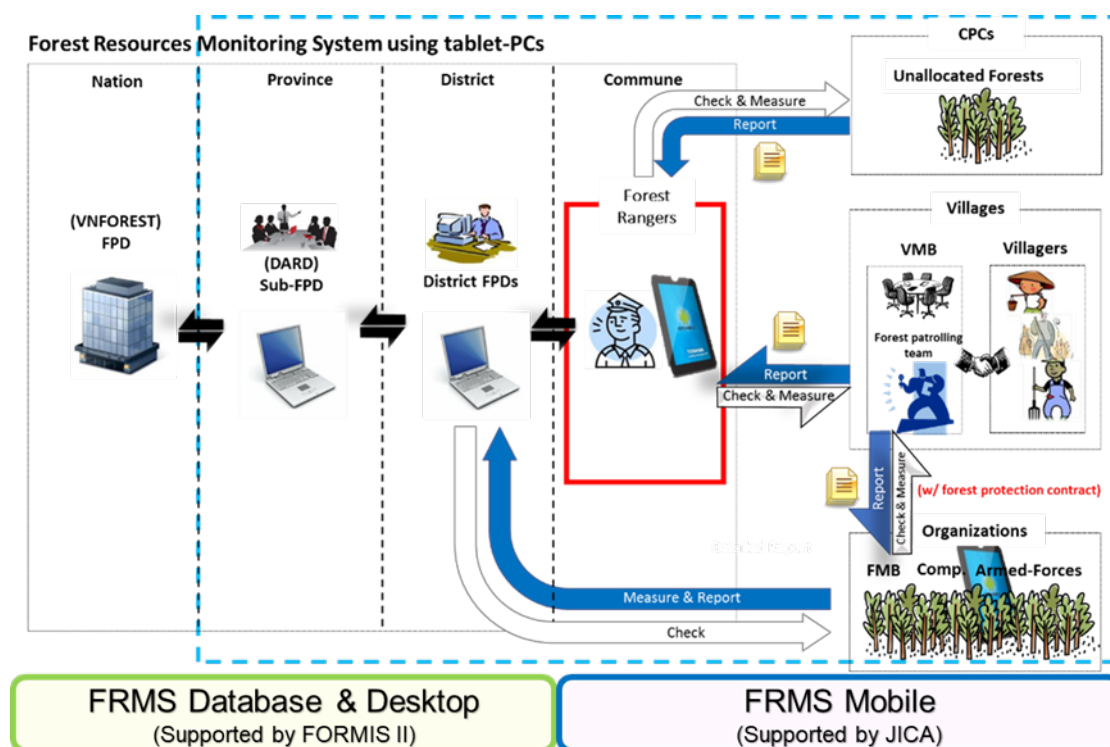


Figure 4: Overall structure of FRMS

Activity 2-1-4-2 Assess the training needs of the staff operating PFMS.

Assessment of training needs of commune-based forest rangers who conduct forest monitoring were continuously done through TF meeting which manage provincial forest monitoring.

Organization of ToT and RT and support on technical and management aspects of PFMS were examples of the needs. These needs were reflected to training programs for the capacity building of the staff

operating PFMS.

Activity 2-1-4-3 Prepare training programs for the capacity building of the staff operating PFMS.

Training programs for the capacity building of Sub-FPD and FMB staff operating PFMS were prepared with the consideration of provincewide replication. In particular, (1) ToT to train provincial PFMS trainer, (2) RT to replicate PFMS provincewide for commune-based forest ranger, (3) Administrator training for manager level to operate forest monitoring at province level were organized.

Moreover, Quality Assurance/Quality Control (QA/QC) contents were included in order to improve forest monitoring quality since forest monitoring by using tablet PC is new to Vietnam.

Precondition of PFMS is participation of people who live in an area. However, it is true that there is a difficulty to find all the forest changes by forest rangers' patrolling and reporting by residents. Therefore, the Project conducted to develop detecting deforestation area by using satellite image through innovative system, named Google Earth Engine (GEE), to minimize missing deforestation reports. Moreover, a system to send a mail to Sub-FPD in case deforestation is detected by GEE system was developed. It is named as Early Warning System (EWS) Both systems received high evaluation by FPD. GEE system is currently published through FPD's webpage (<http://canhbaomatrung.kiemlam.org.vn/>): while mails from EWS have kept sent deforestation data to sub-FPD managers in forested provinces.

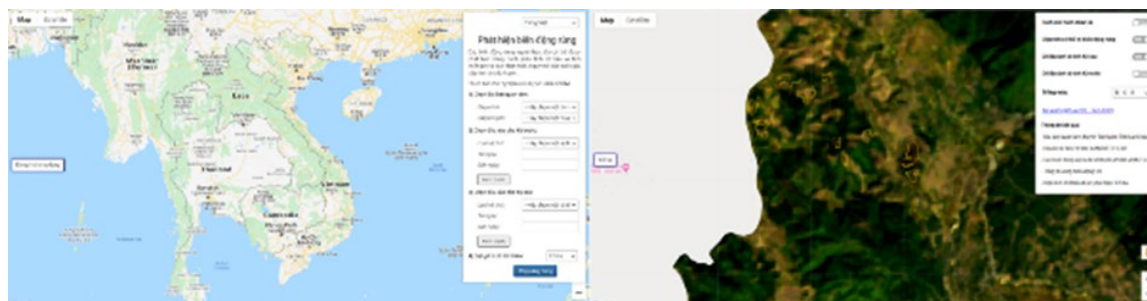


Figure 5: Screen captures of GEE system

Activity 2-1-4-4 Conduct training courses based on 2-1-4-3.

ToT, RT, and administrator trainings were organized based on 2-1-4-2 and 2-1-4-3. The target of RT was whole province. This is, therefore, PFMS can cover whole forested area in the province. Input of training is referred to the content of “inputs”.

Activity 2-1-4-5 Revise the relevant guidelines and manuals on PFMS as needed.

Guidelines and manuals of PFMS were revised. Feedbacks from training participants including Sub-FPD staff of each training and workshop were reflected in order for making guidelines and manuals enhance its usability.

These guidelines and manuals were uploaded to PFMS web-platform (<http://tailieu.vnforest.gov.vn/>) that is linked in the VNFOREST FRMS webpage (<http://tongcuclamnghiep.gov.vn/LamNghiep/Index/he-thong-csdlung-dungphan-mem-3658>) The platform provides enable environment to forest rangers both who were trained for continuous study and not trained for learning about PFMS by themselves.

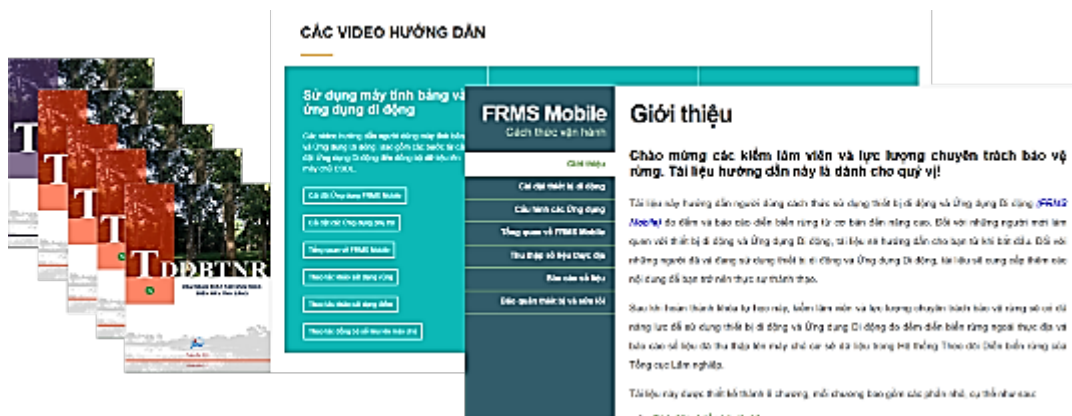


Figure 6: PFMS manuals (left) and PFMS web-platform (Right)

Activity 2-1-4-6 Coordinate PFMS with central forest information system (FORMIS)

Forest monitoring data saved in the tablet PC and collected through FRMS Mobile Application was integrated into FRMS of FORMIS. Forest monitoring parameter and related contents were unified to FORMIS and FRMS Desktop Application in order for integration.

Forest monitoring data collected through FRMS Mobile Application was sent to FRMS by on-line and off-line modes and used for annual forest change data.

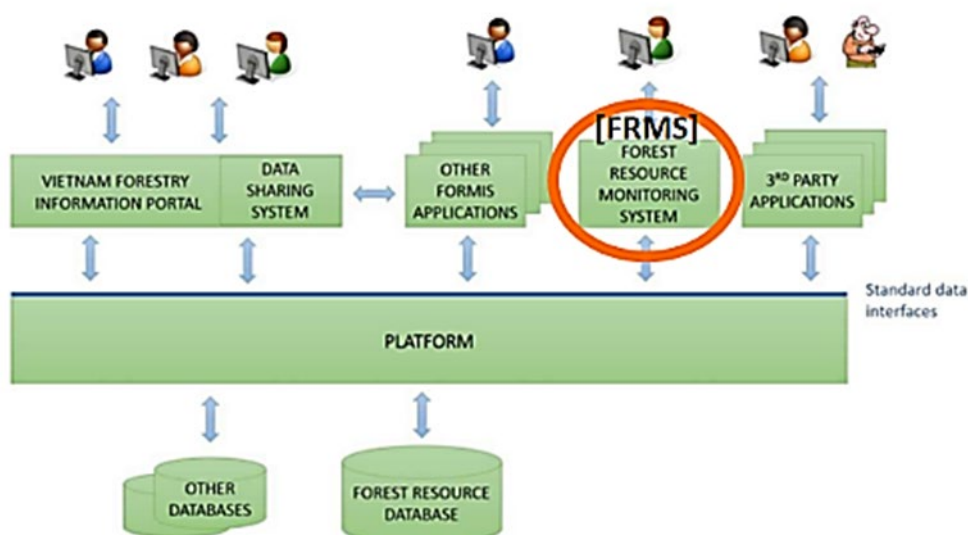


Figure 7: Overall structure of FORMIS and FRMS
(Source: FORMIS II project Mid-term evaluation report)

Activity 2-1-5-1 Develop training plans for the three provinces in the Northwest based on the activities of SUSFORM-NOW

A joint workshop of PRAPs in 4 Provinces was planned for October 3-5, 2016. The content of administrator training for PFMS was developed in order to share knowledge and experience regarding PFMS pilot activities in the SUSFORM-NOW project.

Activity 2-1-5-2 Conduct training courses and workshops based on 2-1-5-1

- A joint workshop of the PRAP in the 4 province mentioned above was held to share experiences on PRAP formulation and implementation in Dien Bien Province.
- The knowledge and experience of the pilot activities of PFMS in two communes in Dien Bien province were shared with administrators/managers of PFMS through the administrator training planned in activity 2-1-5-1.
- An exchange of experiences from the implemented REDD+ pilot activities has been carried out as needed. The PPMU Lai Chau Province visited Son La (May 2018), the PPMU Hoa Binh Province

visited Dien Bien Province and Lai Chau La Province (June 2018)

- In May 2018, a joint workshop was held with ICRAF (76 participants, including DARDs in four northwestern provinces), which provided an opportunity to share the results of REDD+ pilot activities, especially in Hoa Binh Province.
- In June 2019, an experience-sharing workshop was held in Son La Province with 37 participants, including CPMU, PPMUs in four northwestern provinces, and DPCs where there are the priority communes of Son La PRAP. Case studies were presented on forest regeneration models, agroforestry, improved cookstoves, and the utilization of village funds and Payment for Forest Environmental Services (PFES)

Activity 2-1-6 Monitor the forest management and livelihoods development activity progress and results in the pilot communes of SUSFORM-NOW [1] (Muong Phang and Muong Muon) and provide technical support as necessary

Activity 2-1-6-1 Prepare monitoring plans for the forest management and livelihoods development activities

The Project prepared the work plan for the monitoring of forest management and livelihood development activities of SUSFORM-NOW, the monitoring items and evaluation criteria, and a questionnaire. The Project also discussed with the counterpart organizations of SUSFORM-NOW, namely Dien Bien and Muong Cha DPCs, and Muong Phan and Muong Mon CPCs, and obtained their approval for the monitoring items and the implementation plan of the field survey.

Activity 2-1-6-2 Conduct monitoring based on 2-1-6-1 and evaluate the results

Former extension agents/facilitators of SUSFORM-NOW in Dien Bien DPC, Muong Phan Special Use Forest Management Committee, Muong Mon Conservation Forest Management Board, Muong Phan and Muong Mon CPCs took the lead in collecting information according to the agreed monitoring items. The information was compiled and a draft monitoring report was prepared.

Activity 2-1-6-3 Provide feedback on the result of the monitoring and evaluation to the C/P

A summary of the monitoring results was presented to DARD, Dien Bien DPC, Muong Phan Special Use Forest Management Committee, Muong Mon Conservation Forest Management Board, and Muong Phan and Muong Mon CPCs, and comments and feedbacks were exchanged. A monitoring report was developed based on the comments from the relevant organizations.

Activity 2-1-6-4 Provide technical support to the C/P as necessary

Compiling the results of this monitoring and discussing them with the relevant organizations, it was concluded that no additional technical assistance would be provided to the C/P. However, many of the former extension workers who worked on SUSFORM-NOW were working as extension workers for the Project, and, as a result, continuous technical support was being provided.

Activity 2-1-7 Compile achievements and lessons learned in REDD+ planning and implementation for further replication to other priority areas under the PRAP

- The results, issues and lessons learned from the REDD+ pilot activities in Dien Bien Province were summarized in a monitoring report. The results had been shared with relevant agencies through the final workshop in the target province and also used for the final evaluation. The report had been uploaded on the MBFP website to disseminate the results to the public.
- Trainers of PFMS were trained and the guidelines and manuals for PFMS were compiled to expand the PFMS into other communes not covered by the priority commune of PRAP.
- The PFMS platform has been developed so that provincial administrators involved in PFMS and forest rangers who actually conduct forest monitoring in the field can refer to the contents of PFMS at any time.
- The Project is currently coordinating with the FPD and the Department of Information and Data (DID), which will be in charge of website management, so that the PFMS can be linked to the central FPD website.
- The platform will be open to the public during the second phase of the Project.

Activity 2-2 PRAPs for Lai Chau, Son La and Hoa Binh Provinces are developed with the knowledge transfer from Dien Bien Province

Activity 2-2-1 Establish a Provincial Project Management Unit in each province

Following the approval of Project documents, Lai Chau Province, Son La Province and Hoa Binh Province have established their PPMUs:

- Hoa Binh Province, 3 March, 2017, Decision No. 287/QD-UBND
- Son La Province, 15 March, 2017, Decision No.569/QD-UBND
- Lai Chau Province, 9 August, 2017, Decision No. 839/QD-UBND

Activity 2-2-2 Conduct natural-environmental/socioeconomic survey**Activity 2-2-2-1 Conduct natural-environmental/socioeconomic survey at provincial level**

Description omitted as this activity was conducted mostly by the long-term expert team.

Activity 2-2-3 Develop a PRAP in each province**Activity 2-2-3-1 Organize REDD+ introduction joint workshop by three Provinces**

A joint PRAP Kick-off Workshop was organized from 3rd - 5th October 2016 in Hanoi with the four provinces (including Dien Bien Province) invited. The TWGs of the four provinces participated and were familiarized with REDD+ and its importance for Vietnam, the structure of PRAP and its contents, development procedures and processes. The results of remote sensing-based analysis of forest cover changes in the four provinces were shared by the subcontracted consultants. Using these results, each province discussed the causes of forest cover change, countermeasures and priority geographical areas in a workshop format in order to utilize them for the following PRAP development processes.

Activity 2-2-3-2 Establish a Technical Working Group (TWG) to develop PRAP in each province

At the provincial kick-off workshops held during July to August 2016, the PRAP development roadmap was agreed. Proposals were also made for the establishment of the TWGs for PRAP development, and the addition of REDD+ related tasks into the function of the Provincial FPDP SCs. At the same time, provincial data and related policies were collected. The establishment of the TWGs and addition of REDD+ related tasks into the Provincial FPDP SC's functions were completed, as shown below.

Table 24: PRAP TWG and Provincial FPDP Steering Committee

	Establishment of the PRAP TWG	Decision to add REDD+ related tasks into the Provincial FPDP SC
Hoa Binh Province	17 August 2016	29 August 2016
Son La Province	30 August 2016	Not required, as REDD+ was confirmed as already being a part of the tasks of the Provincial FPDP SC.
Lai Chau Province	28 September 2016	7 September 2016

Activity 2-2-3-3 Prepare a draft road map for developing PRAP**Activity 2-2-3-4 Develop the outline of PRAP including the targets****Activity 2-2-3-5 Identify and agree the tasks as well as relevant sections of the Province responsible for each task****Activity 2-2-3-6 Develop a plan for promoting FPDP activities to be carried out under PRAP****Activity 2-2-3-7 Incorporate the improved PFMS into the activities of PRAP****Activity 2-2-3-8 Establish livelihood improvement plan to be carried out under PRAP****Activity 2-2-3-9 Establish a framework to monitor social and environmental risks of PRAP****Activity 2-2-3-10 Formulate capacity-building plans of the relevant stakeholders to be carried out under PRAP****Activity 2-2-3-11 Identify potential financial sources to implement activities to be carried out under PRAP****Activity 2-2-3-12 Clarify the implementation structure of PRAP****Activity 2-2-3-13 Prepare a final draft PRAP****Activity 2-2-3-14 Submit the final draft PRAP to VNFOREST for official appraisal and then to PPC for official approval**

At the abovementioned provincial kick-off workshops, a PRAP development roadmap for each province was agreed. Table 25 below explains the actions and outputs under Activities 2-2-3-3 to 2-2-3-14.

Table 25: Detailed actions for PRAP revisions for Hoa Binh, Son La and Lai Chau

	Action contents and timing	Outputs
0	Provincial Kick-off Workshop for Component 2	Agreements made for PRAP revision roadmap, establishment of the TWG, and addition of REDD+ related tasks into the function of the Provincial FPDP Steering Committee. Data collection started.
1	Joint PRAP Kick-off Workshop 3 - 5 October 2016, Hanoi	TWG's understanding on REDD+ enhanced. Agreements made for the structure, contents, procedures and steps for PRAP development. Based on forest cover change analysis, the causes of changes, countermeasures and priority geographical areas were discussed as the basic information for further steps.
2	1 st Provincial Consultation Workshop Hoa Binh: 8 November 2016 Son La: 14 November 2016 Lai Chau: 18 November 2016	Agreements made to the approach to PRAP revision, steps and responsibilities. Drivers of deforestation and factors for forest restoration were analyzed, countermeasures and selection criteria for priority communes were discussed.
3	1 st district and commune consultations Hoa Binh: 18 - 25 October 2016 Son La: 21 - 31 October 2016 Lai Chau: 25 October - 1 November 2016 LC: 10.25 ~ 11.1	Drivers of deforestation and factors for forest restoration were analyzed, countermeasures and criteria for priority commune selection were discussed with the stakeholders of priority districts and communes.
4	2 nd Provincial Consultation Workshop Hoa Binh: 13 December 2016 Son La: 19 December 2016 Lai Chau: n.a.	The draft PRAP was shared with the provincial and district stakeholders for comment. Feasibility (policy, target districts/communes, activities, and budget plan), environmental and social impact, and institutional arrangement, etc. were analyzed.
5	2 nd district and commune consultations Hoa Binh: 3 - 12 January 2017 Son La: 9 - 16 January 2017 Lai Chau: 12 January - 10 February 2017	The draft PRAP was shared with the district and commune stakeholders for comment. Feasibility (policy, activities, budget plan, institutional arrangement), and environmental and social impact were analyzed.
6	Drafting workshop Hoa Binh: 2 - 3 March 2017 Son La: 27 - 28 March 2017 Lai Chau: 6 - 7 March	Based on the results above, the final draft PRAP was completed by the TWG.
7	3 rd (Final) Provincial Consultation Workshop Hoa Binh: 14 April 2017 Son La: 20 April 2017 Lai Chau: 18 May 2017	The final draft PRAP was shared for formal consultation. The 3 rd Provincial Consultation Workshop of Lai Chau province was substituted by a TWG meeting.
8	VNFOREST appraisal Hoa Binh: submission 31 May 2017 appraisal completed 27 July 2017 Son La: submission 9 June 2017 appraisal completed 11 July 2017 Lai Chau: submission 9 June 2017 appraisal completed 24 July 2017	Based on the VNFOREST's appraisal results, the PRAP was revised for submission to the PPC.
9	Provincial appraisal and approval Hoa Binh: submission 7 September 2017 approval 20 September 2017 Son La: submission 2 August 2017 approval 29 August 2017 Lai Chau: submission 24 August 2017 Approval 13 September 2017	The final approval of PRAP was completed after submission to the PPC for appraisal and revision.

	Action contents and timing	Outputs
10	PRAP Dissemination Workshop Hoa Binh: 22 November 2017 Son La: 17 November 2017 Lai Chau: organized as a part of the Provincial FPDP meeting	(Additional activity) The PRAP was disseminated to the provincial stakeholders, and challenges to its implementation were discussed.

*TWG meetings and related tasks were carried out before and after the series of workshops.

*At the 1st and 2nd district/commune consultation meetings, Vietnamese consultants were mobilized. The consultants provided training on consultation methods, and also provided hands-on training at the first consultation session to the TWGs. For the 2nd district/commune consultation, a third party facilitator was mobilized to accompany the consultation sessions in order to ensure transparency of the consultations.

*In addition, local staff (PRAP coordinator) paid several visits to the province to support the revision of draft PRAP by the TWG.

Activity 2-2-3-15 Monitor the implementation of PRAP and report to the PPC

The explanation of the detailed process of this activity is omitted as it has already been described in Activities 2-1-2-3. In order to provide the most efficient support to PRAP monitoring in a limited time, Hoa Binh Province was chosen as the priority among the four provinces. Based on the trial and lessons learned from Hoa Binh, the processes for the other three provinces were adjusted. The final results are shown in Table 26, below. In addition to these, local staff (PRAP coordinators) visited each province a total of three times as needed in order to support the monitoring work of the TWGs.

Table 26: PRAP monitoring processes and results for Hoa Binh, Son La and Lai Chau

	Action contents and timing	Outputs
1	PRAP Monitoring Kick-off Workshop Hoa Binh: 8 August 2018 Son La: 5 December 2018 Lai Chau: 7 December 2018	Agreements were made for PRAP monitoring procedures and processes, and the monitoring work commenced.
2	Sample commune survey by the TWG Hoa Binh: January 2019 Son La: March 2019 LC: January 2019	The TWG visited one sample district and several communes in the district in order to verify the information collected by district and commune officers, to exchange information and to enhance their own understanding on PRAP monitoring.
3	Approval of the PRAP Monitoring Report 2018 Hoa Binh: 5 March 2019, Decision 383/SNN-BCREDD+ Son La: 20 May 2019, Decision 1420/SNN-CCKL Lai Chau: 13 May 2019, Decision 591/BC-SNN	The PPC approved the PRAP Monitoring Report 2018.

The results of monitoring for each province were as follows:

For Hoa Binh Province, 5 out of 7 items were achieved and 2 items were not achieved in the Results Framework. The two items not achieved were “production of large timbers to improve the economic efficiency of afforestation did not meet the expected quality” and “offset planting for infrastructure development reached only 71%.” Regarding the Social and Environmental Benefits/Risks Framework, moderate or higher negative impacts were observed in 1 out of 7 items. The issue that was observed was the change in land-use and traditional farming practices of pastoral communities due to strengthened protection of natural forests. It was agreed that such impacts require continued attention. As for the overall results, 3 out of 7 items were evaluated as sufficient and 4 as insufficient, and measures were recommended for those that were considered insufficient.

For Son La Province, all 7 items of the Results Framework were achieved. Regarding the Social and Environmental Benefits/Risks Framework, moderate or higher negative impacts were observed in 3 out of 7 items. In all of the three negative impacts, the issues observed were conflicts among local communities over land and resource use, and changes in traditional farming practices due to the promotion of afforestation/reforestation activities and the restriction of upland agriculture. It was agreed that such impacts require continued attention. As for the overall results, 4 out of 7 items were evaluated as sufficient and 3 as

insufficient, and measures were recommended for those that were considered insufficient.

For Lai Chau Province, 6 out of 8 items were achieved and 2 items were not achieved in the Results Framework. Forest fire incidents increased 15% compared to the previous year. The number of arrests for illegal forest clearing increased about three times compared to the previous year. However, this can be attributed to an increase in the arrest rate, and thus future trends need to be monitored. Regarding the Social and Environmental Benefits/Risks Framework, moderate or higher negative impacts were observed in 2 out of 8 items. The first was a concern about the changes in traditional farming practices and culture due to restrictions over the use of timber and non-timber forest products (NTFPs). Although this cannot necessarily be judged as negative, it was agreed that such impacts require continued attention. The second was a concern that the restriction of upland (slash-and-burn) farming may in return increase the amount of combustible materials in the area. As for the overall results, 6 out of 8 items were evaluated as sufficient and 2 as insufficient, and measures were recommended for those that were considered insufficient.

Activity 2-2-4 Plan and implement REDD+ activities in a selected pilot commune in each province

Activity 2-2-4-1 Prepare criteria for selecting a pilot site, and select a pilot commune based on the criteria

For the selection of a pilot commune, communes were ranked based on the selection criteria of (1) current forest area, (2) Potential afforestation area (bare land) and (3) deforestation rate in 2005-10 using NFIMAP and National Forest Inventory and Statistics (NFI&S) data.

Based on the same indicators for site selection described in Activity 2-1-3-1, priority communes were listed and the following communes of Hoa Binh, Son La and Lai Chau Province were selected through discussions with PPC and DARD in July 2016.

- Hoa Binh Province: Than Hoi Commune, Tan Lac District
- Son La Province: Muong Gion Commune, Quynh Nhai District
- Lai Chau Province: Phuc Khoa Commune, Tan Uyen District

Activity 2-2-4-2 Conduct socio-economic survey in the pilot commune

A socio-economic survey at the village level was conducted in the selected pilot commune to collect basic information, including land use, forests, PFES, village funds, and access to finances, which was used as basic information for the planning of pilot activities at village level.

Activity 2-2-4-3 Prepare a forest map of the pilot commune

Ultra-high resolution satellite imagery (Pleiades) covering the target communes was procured for planning of forest management activity at village level. The imagery helped to identify the areas for afforestation and forest regeneration based on the current forest condition together with the villagers.

The Project also made a forest management map in the pilot commune to project the target areas for afforestation, forest regeneration, and forest protection activities in the villages.

Activity 2-2-4-4 Identify village boundaries in the pilot commune

As described in the activity 2-1-3-4, the necessity of support for this activity was discussed with PPMU and the relevant departments and all provinces decided not to support this activity.

In Hoa Binh Province, most of the forest area was allocated to individual households and there was a lack of clarity regarding forest land ownership and the geographical extent of forest management areas. In Son La Province, there is a village boundary that was established when migration was carried out due to the construction of the Son La Dam in 2002. In Lai Chau Province, the forest land owners and forest management area eligible for PFES payments have been identified.

Activity 2-2-4-5 Organize REDD+ introduction workshop for the pilot commune

In terms of the safeguard policy of REDD+, it is essential to explain the Project to the relevant organizations and villagers in the target area and to obtain their prior agreement to Project implementation. Therefore, in order to ensure the understanding the background, purpose, and content of the Project, and to obtain agreement at the beginning of the Project, REDD+ introduction workshops were held as follows.

- Hoa Binh Province: September 15, 2016; 55 participants including 6 women, and 31 ethnic minorities
- Lai Chau Province: September 19, 2016; 40 participants including 20 women, and 25 ethnic minorities
- Son La Province: September 23, 2016; 58 participants including 6 women, and 48 ethnic minorities

In addition, Muong Gion Commune, a pilot commune of Son La Province, includes villages that were resettled by the Son La Dam construction and land conflicts were observed. As a result of excluding villages with land conflicts from the target villages, approval was given by the WS to support activities in 12 villages out of the 29 villages in the commune (Tongbua village, a resettlement village adjacent to the afforestation area, was later also included in the target villages, making 13 villages in the end)

Activity 2-2-4-6 Develop REDD+ implementation arrangement for the pilot commune

Thirteen (13) extension workers of Hoa Binh, sixteen (16) of Son La and eight (8) of Lai Chau Province were appointed by the relevant departments that participated in the REDD+ introduction workshop. For the implementation of the Project in the pilot commune, the roles and responsibilities of DPC and CPC were clarified.

Activity 2-2-4-7 Conduct training for facilitators

Facilitator training was conducted for the facilitators/extension workers selected by the relevant departments, as described in Activity 2-2-4-7, for capacity building on participatory planning. In addition, training on the planning of village forest management and livelihood development activities was conducted.

Activity 2-2-4-8 Hold a series of village meetings to finalize FMPs/LDPs

Village planning meetings were held three times in the target villages of the pilot commune (twice in Hoa Binh Province) In Hoa Binh Province, 13 villages that require forest management were reselected out of 19 villages in the commune in the process of village planning. The main contents of each planning meeting are the same as those described in Activity 3-1-3-8. In Hoa Binh Province, the planning meeting was held again in September 2017.

The participants of each planning meeting were as follows. As many ethnic minorities were living in these communes, the participation of ethnic minorities is quite high. The average participation rate of women in the three provinces was 44.3%.

Table 27: Participants in the planning meetings of Hoa Binh Province

	Days	Participants	Female	Ethnic Minority
The 1st village planning meeting	0.5	1230	531 (43%)	1055 (86%)
The 2nd village planning meeting	1	852	442 (52%)	799 (94%)
The 3rd village planning meeting	0.5	503	199 (40%)	480 (95%)

Table 28: Participants in the planning meetings of Son La Province

	Days	Participants	Female	Ethnic Minority
The 1st village planning meeting	0.5	1105	559 (51%)	1105 (100%)
The 2nd village planning meeting	0.5	1025	472 (46%)	1025 (100%)
The 3rd village planning meeting	0.5	1265	452 (36%)	1265 (100%)

Table 29: Participants in the planning meetings of Lai Chau Province

	Days	Participants	Female	Ethnic Minority
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The 1st village planning meeting	0.5	586	277 (47%)	446 (76%)
The 2nd village planning meeting	0.5	468	193 (41%)	344 (74%)
The 3rd village planning meeting	0.5	522	222 (43%)	414 (79%)

Activity 2-2-4-9 Approve the FMPs/LDPs by CPC.

The five-year plan and annual plan of village forest management and livelihood development activities were developed through planning meetings. These plans were compiled and discussed in the workshop with relevant organizations in province/district/communities and villages. Based on the results of the consultation, the plan was revised and approved by the CPC.

Activity 2-2-4-10 Conduct forest management activities such as protection, regeneration, and reforestation, based on 2-2-4-9

The results of the forest management activities implemented in Pa Khoang Commune are as follows. In order to strengthen the capacity of extension workers, ToT was conducted and the extension workers provided technical training on forest plantation and protection to the participants. In addition, in order to ensure effective coordination with PFMS activities, Village Forest Patrolling Teams (VFPTs) were being (re) established and a training series was being carried out using the PFMS manuals and the officials trained through PFMS training.

Table 30: Results of forest management activities in Hoa Binh Province

	Activities	# of Villages	# of HH	Area (ha) (Planned)	Area (ha) (Actual)	Input	Species
1	Forest Protection	8	17	760.9	760.9	Establishment of VFPT and forest patrolling, Signboard	-
2	Afforestation	13	189	146.4	146.4	242,742 Seedlings Signboard	<i>Acacia Mangium</i> , <i>Melia azedarach</i> Linn, <i>Chukrasia tabularis</i> A.Juss, <i>Canarium album</i> Raeusch, <i>Canarium tramdenum</i> Dai & Ykovl., <i>Dracontomelon duperreanum</i> (Native 31%, <i>Acacia</i> 69%)
3	Models of Tree Plantation (mixed with native species and acacia species)	3	3	2.4	2.4	Plantation Design, Technical Training, 4,224 seedlings	<i>Acacia Mangium</i> , <i>Melia azedarach</i> ., <i>Canarium album</i> Raeusch, <i>Canarium tramdenum</i> ., <i>Dracontomelon duperreanum</i>
4	Models of NTFP* Plantation (mixed with cardamom and tree species)	1	2	1	1	Plantation Design, Technical Training, 3,058 seedlings	<i>Acacia Mangium</i> + <i>Michelia</i> and <i>Amomum</i>
5	Watershed Area mapping	13	-	-	-	-	-
6	Environmental Education	-	355	-	-	-	Educational event on forest conservation at junior high school. A painting contest on the theme of forests and a quiz contest on village forest management

(As of June 2020)

Table 31: Results of forest management activities in Son La Province

	Activities	# of Villages	# of HH	Area (ha) (Planned)	Area (ha) (Actual)	Input	Species
1	Forest Protection	12	159	4,621.96	4,621.96	Establishment of VFPT and forest patrolling, Signboard	
2	Afforestation	4	225 Plots (3 Villages 222 HHs)	125.4	94.85	183,849 Seedlings Signboard	<i>Pinus massoniana</i> Lamb
3	Forest Regeneration	10	10 Plots (Villages)	310.3	295.39	3,560 Seedlings Signboard	<i>Canarium tramdenum</i> <i>Michelia mediocris</i>
4	Village forest management regulation	12	-	-	-	-	-

(As of June 2020)

Table 32: Results of forest management activities in Lai Chau La Province

	Activities	# of Villages	# of HH	Area (ha) (Planned)	Area (ha) (Actual)	Input	Species
1	Forest Protection	9	202	4230.55	4230.55	Establishment of VFPT and forest patrolling, Signboard	
2	Afforestation	1	11	3.3	2.5	6,496 Seedlings Signboard	<i>Michelia mediocris</i> , <i>Schima wallichii</i>
3	Forest regeneration	4	-	94.7	70.4	Plantation Design, Technical training, Signboard	
4	Scattered planting	9	278	-	-	12,254 Seedlings	<i>Michelia</i> , <i>Chukurasia</i> , <i>Cinammomum</i> , <i>Canarium</i>
5	Boundary (farmland-forestland) Plantation	6	67	10,380m	7,290m	1,462 Seedlings Signboard	<i>Michelia</i>

(As of June 2020)

Activity 2-2-4-11 Conduct village livelihoods improvement activities based on 2-2-4-9

The results of the livelihood development activities in the pilot communes of each province were as follows. The Project supported (1) identification of participating households, (2) procurement of seeds, seedlings and other materials and equipment, (3) technical training (preparation of instructors, training of extension workers and training of participants), and (4) distribution of necessary materials and equipment.

Table 33: Results of livelihood development activities in Hoa Binh Province

	Activities	# of Villages	# of HH	Inputs	Species	Details of activities
1	Vegetable cultivation (Spring-Summer, Fall-Winter)	3	80	Seeds: 20.52 kg Plastic material for mulching: 550 kg	- Summer: morning glory, cowpea, pumpkin, water spinach, and green mustard - Winter season: cabbage, kohlrabi and broccoli	Technical training, Seeds
2	Fruit tree cultivation	9	250	Seedlings: 5,947	Early ripe longan, Thailand sugar apple, Taiwan apples, and Thailand jackfruit, Custard -Apple	Technical training, Seedlings
3	Technical training on pomelo plantation	9	108	n.a.	n.a.	Technical training
4	Beekeeping	9	87	Beehive: 249 Other necessary materials	n.a.	Technical training, Seedlings, Study trip, Beehives
5	Fodder grass cultivation	9	98	Arachis pinto: 1,650 kg VA06: 14,000 kg Guinea Mombasa: 14 kg	Arachis pintol, VA06, Guinea Mombasa	Technical training, Stem/Seedlings
6	Improved cookstove	13	1,053	1,988	Portable and stationary ICS	Equipment
7	Biogas plant installation	9	20	20	Composite type	Technical training, Materials and equipment

Table 34: Results of livelihood development activities in Son La Province

	Activities	# of Villages	# of HH	Inputs	Species	Details of activities
1	Vegetable cultivation	12	451	Seeds: 38.98kg	Mustard green, Kohlrabi, Glebionis coronaria	Technical training, Seeds
2	Fruit tree cultivation	12	557	Seedlings: 12,104	Longan, Taiwan mango, ychee, plum, Malus doumeri, Peach, Canarium tramdeum, lime	Technical training, Seedlings
3	Fruit tree cultivation (grafting)	5	30	Stems: 749, Grafting tool kit: 30	Longan, Lychee, Plum, Docynia indica, Canarium tramdeum	Technical training, Seedlings, Equipment

4	Compost/organic fertilizer production	10	239	Bio fermentation: 239 kg, Plastic cover: 4,780 m2		Technical training, Study trip, Material
5	Fodder grass cultivation	9	9249	Guatemala: 272kg, Ghine: 1,720kg	Guatemala Grass, Ghine	Technical training, Stem/Seedlings
6	Improved cookstove	13	579	Cement: 21,850kg Frame: 16 sets	Middle size	Technical training, Study trip, Materials and equipment
			13		Large size	Technical training, Materials and equipment
7	Biogas plant installation	2	2	2	Composite type	Technical training, Materials and equipment
8	Contour cropping/ Agroforestry	11	72	Seedlings: 9,296 Fodder: 6,149 kg	<i>Mango, Longan, lychee, plum, Malus doumeri, Pomelo, Canarium tramdeum, Ghine grass</i>	Technical training, Study trip, Seedlings
9	NTPP (cardamom) plantation	1	1	Seedlings: 264	<i>Amomum longiligulare amomun xanthioides</i>	Technical training, Study trip, Seedlings
10	Mushroom production	11	77	Mushroom bed: 12 kg, other necessary materials		Technical training, Materials

Table 35: Results of livelihood development activities in Lai Chau La Province

	Activities	# of Villages	# of HH	Inputs	Species	Details of activities
1	Vegetable cultivation	8	275	Seeds (Chayote) : 204 Seeds (others) : 48.2 kg Seedlings: 55,000	Chayote, Mustard greens, Collard Greens, Bok Choy, Broccoli, Cabbage, Kohlrabi	Technical training, Seeds, Production Group, Marketing (retail shop)
2	Fruit tree cultivation	8	471	5,402	guava, pomelo, lime, plum, longan, and persimmon	Technical training, Seedlings
3	Fodder grass cultivation	7	63	VA06: 14,800 kg Mulato II: 13,000 kg	VA06, Mulato II	Technical training, Stem/Seedlings
4	Improved cookstove	5	47	61	—	Technical training, Study trip, Materials and Equipment
5	Biogas plant installation	5	26	22	Composite type	Technical training, Materials and equipment
6	Technical training on pig raising	5	118	-	—	Technical training
7	Watermelon Cultivation	3	112	Seeds: 8,620g	Seeds: HMN-8998, SNO8230	Technical training, Seeds

8	Watermelon cultivation using plastic cover (model-case building)	2	17	Seeds: 700 g Pot: 3.5 kg Plastic sheet for mulching: 3,920 m Others	Seeds: HMN-8998, SNO8230	Technical training, Study trip, Materials and Equipment, Follow-up, Production Group, Marketing (retail shop, labeling for sales promotion)
9	Fish raising	3	59	Fingerlings: 22,048	-	Technical training, Fingerlings

Although not included in the Village Livelihood Development Plan, the Project supported the design, application preparation and implementation of the following projects supported by the Japanese Embassy's Grant Assistance for Grassroots Human Security Projects in 2019.

1. Thanh Hoi Commune, Hoa Binh Province: Water supply project
2. Muong Gion Commune, Son La Province: Construction of dormitory for ethnic minorities' school project
3. Phuc Khoa Commune, Lai Chau Province: Water supply project

Activity 2-2-4-12 Monitor village forest management and livelihoods improvement activities by facilitators/extension workers

The activities implemented in 2-2-4-11 were appropriately monitored, and additional inputs were provided in a PDCA cycle whenever necessary.

Activity 2-2-4-13 Monitor and evaluate the results of the REDD+ activities

In order to monitor the progress and results of the implemented activities, semi-annual monitoring was conducted a total of four times since October 2018. Monitoring results were shared with PPMU to confirm progress and discuss the issues for further improvement. In addition, the results, lessons learned and suggestions were compiled in a monitoring report. The monitoring results are summarized below.

[Hoa Binh Province]

[Forest management activities]

- In the target commune, which is dominated by monoculture Acacia plantations, the Project supported the planting of mixed native species (20-30% in production forest, 50% in protection forest) for long-term harvesting periods. The survival rate of Acacia is more than 85% while that of native species is only 65%; Xoan ta (*Melia azedarach*), Doi (*Michelia mediocris*), and Tram trang (*Canarium album*) are showing relatively good growth. In particular, the model of planting *Michelia*, which is the shade tree of *Acacia*, and logging *Acacia* after two years has become a model for mixed *Michelia*-*Acacia* forests because of the expected income from the fruits of *Michelia* and its high value as timber. In general, there is little interest among villagers in indigenous species but it was found that *Acacia* plantation mixed with 20% of *Michelia* and livelihood development support was acceptable by villagers.
- Village forest management activities were promoted, forest management rules were established, and awareness events for forest conservation were held. VFPTs were established to strengthen forest patrolling and, as of May 2020, 10 cases were found. As an example, an acacia plantation (5.9 ha) without any permission in protected forest was found by a VFPT. As a result of discussions with CPC according to village regulations, the planted acacia would be returned to the natural forest to protect water sources after being harvested. As PFES is not available in the commune, the village fund provided 100,000 VND for patrolling activities, but it is expected that the government will continue to provide financial support.

[Livelihood development activities]

- In order to reduce the amount of firewood consumption and improve the efficiency of energy use, 20 biogas units were provided to 20 households and 2,189 improved cookstove (ICS) were provided to 1,053 households, accounting for 97.7% of the total households in the target commune.

As a result of the introduction of these ICSs, a reduction of 40-60% of wood and charcoal consumption was achieved, and women's labor for fuel wood collection was reduced.

- As a result of support for beekeeping activities, 87 households have formed three farmer groups with about 700-800 hives to carry out honey production. Yield and income have also improved, with annual sales of 2,160,000 VND per hive. The farmers' group plays a role as a place to exchange information on production techniques and to share equipment.
- In order to reduce the risk of monoculture and to diversify the sources of income in the target commune where pomelo is dominant, 250 households were supported with fruit tree seedlings. Survival rates of longan, sugar apple, apple, and jackfruit are above 80%.
- For fodder grass cultivation, support was given for three types of pasture, VA06, Mombasa Ghine, and Arachis pintol, and VA06 had the highest survival rate and villager showed a preference for VA06.

"Beekeeping," "Native Species Plantation" and "Forest Management" were compiled into a Good Practice report.

Son La Province

[Forest management activities]

- Forest patrolling activities have been carried out by VFPTs and 7 cases (forest fires (5 cases) and livestock encroachment (2 cases) were reported from 2017 to May 2020. It should be noted that before the Project supported the strengthening of the VFPT, there was an average of about 17 cases per year, and it was assumed that such violations have been reduced by the Project's efforts for forest patrolling.
- The Project conducted 310.3 ha of weeding, installation of signboards, and forest patrolling activities to ensure forest regeneration. By the end of 2017, 124.83 ha had become forest and was eligible for PFES payment.
- Pine tree plantation was supported in 94.85 ha owned by villages and households. The survival rate was high, accounting for 99.2%. The Project provided seedlings and technical support for plantation and natural regeneration activities, which were carried out through voluntary work by villagers, while Sub-FPD provided 322.77 kg of rice per household to the target villages after checking the status of forest two years after planting.
- Payments for Forest Environmental Services (PFES) for 2015-17 have been paid to 12 villages at VND 1.76 billion, which is 92% of the revenue of the Village Fund. Expecting support for rice distribution, Huoi Nga village was purchasing pine seedlings using PFES funds and planting them voluntarily. This case could become a new model for sustainable afforestation.

[Livelihood development activities]

- As the target commune is located on a mountainous slope, an agroforestry model, mixed with fruit tree and fodder grass on the slope, was introduced to 72 households. Son Tra (*Docynia indica*), Longan and Mango showed high survival rates (97-100%), while the survival rate for lychee and plum was 74-80%. As for fodder grass, it can be harvested seven times a year at 868 kg/household per year and is used to feed buffaloes. There is a lot of interest in this activity and it is expanding to non-participating households.
- As for cardamom (Sa Nhan) cultivation, 266 cardamom seedlings were planted in the natural forest for a model household in one village, and it showed good growth. This activity has been expanded to seven neighboring villages.
- In order to reduce firewood consumption and improve the efficiency of energy use, two biogas units were provided to two households and 579 households were provided with improved cookstoves (ICS) For the ICS, SNRM provided technical assistance and frames, and 50% of the cement to make the ICS through their own efforts. In addition to the supported households, the Project was expanded to 161 non-participating households. This model was also introduced to the target villages in Lai Chau and Dien Bien provinces, and in Dien Bien province, in particular, the expansion has been similar, making it a model case of self-sustained development.
- As for fodder grass cultivation, the growth of the introduced grasses has been generally favorable, and 75% of the feed for cattle and buffaloes has been secured. In addition, nearly 90% of the households would like to continue this activity in the future.

- The vegetables were basically used for self-consumption, while 8.6% of the participants sold the vegetables. Due to the relatively simple techniques, 96% of the participants expected to continue vegetable cultivation in the future.
- The survival rate of the fruit tree seedlings was relatively high at about 77.5%. Although it has not reached the year of harvesting yet, the participants have expressed their intention to continue their activities in the future.
- As for mushroom cultivation, technical training was provided to seven households in four villages by Tai Bac University, but it was not possible to continue with this activity. The reasons were the requirement for continuous input, low technical skill, and the uncertainty of the market for the mushrooms.

"Afforestation", "PFES", "Agroforestry" and "Improved cookstove" were compiled into a Good Practice report.

Lai Chau Province

[Forest management activities]

- In the target communes of Lai Chau Province, most of the forest area was Special Use Forest and Protection Forest, and forest conservation activities have been strengthened through the establishment of Village Forest Patrolling Teams (VFPTs), the development of regulations for forest patrolling activities, and training for VFPTs. Village forest monitoring activities by the VFPT were conducted on average once or twice a month, and an allowance of between 150,000VND and 200,000VND was paid to the VFPT members from the PFES funds allocated to the villages.
- As a result of VFPT activities, four cases were reported by March 2020. These included forest fires (2 cases), conversion to tea plantations, and unauthorized timber harvesting. In cooperation with communal forest rangers, guidance was provided to the violators.
- The Project supported 2.5 ha of tree plantation. The survival rate is about 70%, which is mainly due to livestock encroachment. However, there has been little change in the survival rate since 2019 and no reports of livestock damage have been made.
- In the four villages, 71 ha of forest regeneration area were designated, and signboard instruction and forest patrolling activities were carried out in designated areas. According to the Provincial Forest Protection and Development Fund, 45% of these areas have been certified as forest land, which is eligible to receive PFES fund and use for strengthening forest management activities.
- In response to the expansion of tea plantations into protection forests, the boundary between farmland and protection forest was confirmed together with 67 households in 6 villages that have farmland along 7,290 meters of the boundary, and 1,462 trees were planted on the boundary.

[Livelihood development activities]

- As for the watermelon cultivation activity, the Project introduced cultivation techniques using mulch to 17 households, and, as a result of continuous follow-up (technical guidance, etc.), productivity increased from 10 tons/ha using traditional farming methods to 25 tons/ha, and sales amounts have also improved. Subsequently, as marketing support, the Project sought new options for watermelon sales, assisted in setting up simple retail shops along roads, and supported the launch of a new producer's association (2 villages, 46 member households), which was approved by the CPC. As a result, the Project promoted women's empowerment, self-sustained development, and networking with relevant organizations (Farmers' Association and Women's Union)
- Support was given for 26 units of biogas in 5 villages. The result of monitoring indicated that biogas can be used for 4-5 hours per day, leading to a reduction in the use of other energy such as wood and charcoal.
- As for the improved cookstove (ICS), 44 households were supported and 70% of them continue to use it, but 30% have stopped using it. One of the reasons was that the size of the ICS was too small and inappropriate for cooking, so it would be more convenient if different sizes could be provided for different purposes.
- Regarding vegetable cultivation, 35% of the participants reported an increase in yield, and the remaining 65% reported a slight increase, indicating that almost all of the participants harvested vegetables and expected to continue vegetable cultivation. In addition, from the viewpoint of sales

promotion, the Project supported the establishment of a producer's association in one village, which, as in the case of watermelon cultivation, was formally approved by the CPC. In addition, the Project supported the establishment of a simple retail shop for sales promotion.

- As for fodder grass cultivation, the growth rate has been generally good, but we have not been able to secure a sufficient amount of feed for livestock rearing. In addition, there was no problem with VA06, but it was reported that cattle and fish did not prefer Mulato II. It could be suggested that it was necessary to select the species in order to verify not only the productivity but also the preference prior to the implementation of the activity.
- As for fruit tree plantation, the survival rate of seedlings was about 60%. The reasons were damage due to livestock and inadequate weeding. The Project had supported additional technical training and continuous follow-ups to address the issues.
- "Forest patrolling activities using PFES," "boundary plantation," and "watermelon cultivation and marketing" were compiled into a Good Practice report.

Activity 2-2-5 Enhance the capacity for operating the Provincial Forest Monitoring System (PFMS) in each province.

2-2-5-1 establish a PFMS task force.

PFMS TaskForce (TF) was established for managing PFMS and whole provincial forest monitoring.

TF in Lai Chau province was formed in September 30, 2016 (460/QD-SNN), Son La province was September 30, 2016 (302/QD-SNN), and that of Hoa Binh was October 6, 2016 (1035/QD-SNN)

Activity 2-2-5-2 Assess the training needs of the staff operating PFMS.

High training needs of the staff operating PFMS was confirmed through hearings from Sub-FPD and DARD during TF meeting. These needs were reflected to training programs for the capacity building of the staff operating PFMS.

Activity 2-2-5-3 Prepare training programs for the capacity building of the staff operating PFMS.

ToT and RT programs were developed based on the case and experience of Dien Bien province and training needs collected through 2-2-5-2. Also, administrator training was planned for managers of forest monitoring at province level.

Activity 2-2-5-4 Conduct training courses based on 2-2-5-3.

Based on 2-2-5-3, ToT, RT, and Administrator trainings were organized. Approximately 25 PFMS trainers in each province were trained. They become a provincial trainer and replicated PFMS to province wide. In order to maximize outputs from each RT, FIPI staff as a trainer of provincial trainer was sent to each RT at district and commune level trainings. The budget of RT was covered by Sub-FPD's budget, which shows high ownership of each Sub-FPD. As a result, all forest rangers in each province including REDD+ pilot communes were trained resulting in that all forested communes' forest monitoring in all 3 target provinces were covered by PFMS.

Activity 2-2-5-5 Revise the relevant guidelines and manuals on PFMS as needed.

Same as 2-1-4-5

Activity 2-2-6 Compile achievements and lesson learned in REDD+ planning and implementation for further replication to other priority areas under the PRAP in each province

The results, issues and lessons learned from the REDD+ pilot activities in Hoa Binh, Son La, and Lai Chau Province were summarized in a monitoring report. The results had been shared with relevant agencies through the final workshop in the target provinces and also used for the final evaluation. The report had been uploaded on the MBFP website to disseminate the results to the public.

Challenges for the future

PRAP

- Although PRAP monitoring for 2019 was not in the scope of support of the Project, Hoa Binh Province completed the monitoring activities and finished its report in February 2020. Lai Chau Province has completed data collection and intends to complete its report this year. Son La Province has conducted data collection. However, since some of them were not of the expected quality, the province is still working to supplement the data. Dien Bien province has not conducted any monitoring activities in 2019 due to a lack of budget.
- All four provinces are considered to have built their basic capacities through PRAP monitoring in 2018. However, there are still gaps between the provinces in the efficiency of implementation. In particular, Dien Bien Province needs to prepare a budget for monitoring.

REDD+ pilot activity

- The planning, implementation, and monitoring of REDD+ pilot activities was conducted as planned in cooperation with the extension officers appointed by the relevant departments, and, in some provinces, certain activities were successfully expanded beyond the initial number of participants, such as fodder cultivation, improved cookstoves, and NTFP plantation. On the other hand, follow-up is still needed for some of the activities. For example, in the forest patrolling activities by the VFPT, changes to the member of VFPTs have been frequently observed, so continuous guidance and training on how to conduct patrolling and how to manage the PFES funds for forest management will be necessary. In addition, for self-sustainable REDD+ activities and their further expansion to other areas, there is a need for not only technical assistance and initial investment support but also marketing support from DARD/DPC/CPC/Forest Management Board in order to expand the market options for agricultural products, as shown in the case of beekeeping and watermelon cultivation. Policy and financial support from the forest sector and rural development sector will be essential for the sustainability and further development of the activities.

PFMS

- Enhancement of tablet PC based forest monitoring implantation and nation-wide replication: Tablet PC utilization for forest monitoring was stated in Circular 26/2017/TT-BNNPTNT and replaced it to Circular 33/2018/TT-BNNPTNT. Tablet PC for forest monitoring has still been mentioned in the Circular meaning the utilization of Tablet PC is officialized.
- On the other hand, there was a comment by Sub-FPD staff that PFMS should be replicated nationwide for more effective implementation of national forest monitoring system. This is, therefore, development or revision of forest monitoring regulation should be addressed.
- This is because current forest monitoring regulation allows to employ both methods which are PFMS using tablet PC and paper based monitoring and reporting. Furthermore, not few provinces (18 out of 60 forested provinces) have not installed PFMS yet.
- With the combination of PFMS and GEE system as a package of forest monitoring, more effective and accurate forest monitoring system will be implemented. Thus, VNFOREST should consider to implement necessary revisions of forest monitoring regulation and replicate PFMS to other provinces.

(3) Component 3

Component Objectives	An integrated and collaborative ecosystem management system is established for sustainable conservation and management of the Lang Biang Biosphere Reserve (LB-BR)
Activities	<p>3-1 An institutional framework necessary for management and operations (integrated and collaborative ecosystem management framework) of LB-BR is established.</p> <p>3-2 The collaborative management agreement (CMA) with the benefit sharing mechanisms (BSMs) is upgraded as a tool for conservation of forest ecosystems in the core and buffer zones of LB-BR.</p> <p>3-3 The results of forest and biodiversity monitoring are used for the management of the core and buffer zones of LB-BR.</p>
Objectively Verifiable Indicators	<p>1. The data obtained through PFMS is continuously used for the sustainable management of LB-BR.</p> <p>2. Biodiversity monitoring system developed is continuously used for the monitoring of ecological status of LB-BR.</p> <p>3. Legal documents on the result of CMA trial in the target villages are approved and issued by the PPC with the commitment for expansion.</p> <p>4. The management plan approved by the PPC is implemented by relevant stakeholders.</p>
Means of Verification	<p>1. CMA and monitoring report</p> <p>2. Annual report of BNNBP-MB</p> <p>3. Legal document</p> <p>4. Annual report of BR-MB</p>
Progress	<p>The Achievement levels of the component index is as follows.</p> <p>1. Forests in the target villages were monitored by the forest owners through PFMS, Drone monitoring system and improved PFES patrol. The data obtained through the monitoring was continuously reported to the LB-BRMB for the sustainable management of the LB-BR.</p> <p>2. In accordance with the Biodiversity Monitoring System, biodiversity monitoring was commenced by the BNNBPMB with the monitoring on mammals/ birds in the LB-BR through camera traps, preparedness of which was highest among the monitoring items. Data collection on biodiversity in the LB-BR was continuously conducted, thus contributing to understand its status of the LB-BR.</p> <p>3. Based on the successful results of the CMA/ BSM trials in the target villages, policy documents with CMA/ BSM related guidelines are expected to be proposed to and endorsed by the LB-BR MB in its 9th meeting to be held in either December 2020 or January 2021 for wider and continuous application of the above activities within the LB-BR after the Project termination.</p> <p>4. After the LB-BR management plan (MP) had been approved by the PPC at the end of April 2018, 2018 annual action plan of the MP (AAP) was developed, implemented and monitored by 11 relevant provincial departments/ organizations. Furthermore, 2019 AAP was developed, implemented and monitored by 12 departments/ organizations throughout 2019.</p>

Activity 3-1 Establish an institutional framework necessary for management and operations (integrated and collaborative ecosystem management framework) of LB-BR.

Objectively Verifiable Indicators	Achievement Levels
3-1-1 All the key stakeholders including CPCs located in the buffer and core zones deepen their understanding of the objectives of the biosphere reserve and their roles/responsibilities in the framework.	1. Through two series of the consultation meetings, etc., the understandings of the key stakeholders of the LB-BR such as provincial organizations including CPC and villagers on the purpose of the LB-BR and the roles /responsibilities of stakeholders were deepened.
3-1-2 A management plan for LB-BR is approved by the PPC of Lam Dong Province.	2. The draft MP formulated in July 2017 had been endorsed at the 3rd meeting of the LB-BRMB, which was then approved by the PPC in April 2018.

3-1-3 More than (At least) 80% of relevant provincial organizations listed in the management plan implement and monitor the activities following the approved plan.	3. 2018 AAP of the MP was developed, implemented and monitored by 11 provincial organizations which were listed in the PPC Decision on the approval of the above MP and 2019 AAP was developed, implemented and monitored by 12 provincial organizations concerned. Thus, 100% of the relevant organizations did them.
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Activity 3-1-1 Form a BR management structure for LB-BR with a legal document defining roles and responsibilities of the management board as well as constituent members/units.

Prior to the commencement of the implementation of the Project activities, a proposal for the establishment of the LB-BR Management Board (LB-BRMB), which is chaired by the PPC Vice-Chairman with 11 members (DONRE, DOST, DOCST, DARD, Da Lat CPC, 5 DPCs including Lac Duong DPC and Bidoup Nui Ba National Park Office: BNBPNMB), was formulated and submitted by BNBPNMB to Lam Dong PPC for approval. On June 3, 2016, the LB-BRMB was officially set up with the issuance of the Decision by the PPC, which defines the purpose of its establishment, the structure of its organization and the role of its⁵ members. To date, a total number of nine LB-BRMB meetings were held (July 29, November 28 in 2016, July 3, November 30 in 2017, April 19, December 7 in 2018, June 6, November 7 in 2019, and in either December 2020 or January 2021) with support of the Project team. In addition to the LB-BRMB member organizations, the meeting was attended by its stakeholders including, central/ provincial government agencies, leaders/ villagers of the target villages of the Project, private companies concerned, international donors, etc., and the Project team supported/ promoted discussions on activity plans and progress of the Project activities as well as on proposals for important management systems to be introduced for the LB-BR such as 5-year Management Plan of the LB-BR (MP), upgraded CM Agreement, Collaborative Management Platform (CMP), establishment of Biodiversity Monitoring System (BMS) and drone monitoring.

Although the LB-BRMB meeting is considered as a higher level or provincial forum for discussions among the member organizations of the LB-BR MB and its stakeholders (participants) mentioned above, it is difficult for the villagers to freely express their opinions because it is half-day meeting held twice a year with the participation of many high-ranking officials of the provincial government organizations for discussions on plans, budgets/ implementations and issues covering the entire LB-BR rather than those of local area. In response to the above situation, a proposal on setting-up CMP as a lower level or field level forum was made / discussed and agreed upon at the 2nd meeting of the LB-BR MB. Based on the above meeting result the CMP was officially established with¹Decision 198/QD-BQL dated 30/1/2018⁶ as a lower level forum to identify, discuss local issues and find their solutions. While the LB-BRMB meeting is functioned to establish policies on CM toward the conservation and the development of the LB-BR, CMP plays an important role in implementing CM, such as collaborative actions among stakeholders (provincial government agencies, private companies and villagers) to discuss and solve issues at local areas of the LB-BR. With the support of the Project team, four CMPs were implemented in response to issues of local livelihood improvement of villagers concerned and environmental conservation in watershed areas since the official establishment of the CMP and based on the agreements among the stakeholders, collaborative activities on shiitake production and cowshed improvement were conducted, resulting in significant achievements.

Activity 3-1-2 Facilitate a series of consultation meetings with the key members as well as commune/village leaders in the core and buffer zones.

Two series of consultation meetings were held between December 2016 and January 2017 and between September 2017 and October 2017 in Da Lat City and the five districts within the LB-BR which were aimed at deepening the understanding on the LB-BR among provincial agencies, CPC and village leaders. The first series of meetings were held to widen/ deepen the participants' understanding on the MAB program and the LB-BR, whereas the second series of meetings were held to increase their understanding on the Management Plan agreed upon at the 3rd meeting of the LB-BRMB. The two series of meetings

⁵ Decision 1164/QD-People's Committee dated 3/6/2016, Establishment of Management board Langbiang biosphere reserves, Lam Dong province

⁶ Decision 198/QD-BQL dated 30/1/2018 by Langbiang World Biosphere Reserve Management Board on the establishment of the Collaborative Management Platform under LB BR MB

with the participation of 605 stakeholders contributed to the deepened understanding on the LB-BR among its stakeholders.

Activity 3-1-3 Provide guidance and orientation on the MAB Programme to the relevant members of the BR management board of LB-BR.

When the LB-BRMB was officially established, the knowledge of its board members and stakeholders on the MAB program were limited, therefore, the following activities were conducted.

At the 1st LB-BRMB meeting, the board members of the LB-BRMB and its participants were given an orientation on the program and the LB-BR, and since then whenever the LB-BRMB meeting was organized, orientations and advices were provided in accordance with the necessity.

When CMPs were organized, the MAB program and LB-BR were explained to stakeholders including villagers to deepen their understanding on the background and purpose of the CMP for possible agreement on collaborative activities to solve issues. Furthermore, necessary orientations and advices were provided to the WG members in their regular meetings which was composed of officials from relevant organizations including LB-BRMB members in the process of developing and implementing 2018 and 2019 Annual Action Plans of the LB-BR Management Plan developed based on the MAB program. In addition, aiming to deepen their understanding on ways of how specific activities were conducted by BRs including the MAB program and the collaborative management, two trainings in Japan were organized for 17 officials of relevant organizations including LB-BRMB members in total to learn cases in Japan on the BRs and management of the BRs.

Activity 3-1-4 Collect exiting data of natural, socio-economic, and administrative conditions of LB-BR.

In order to contribute to the development of the 5-year management plan of the LB-BR, existing data (district/commune level statistical data, land use data, forest cover data (NFI&S), topographic data, etc.) and existing plans for LB-BR management (provincial master plan, land use plan, strategies of each sector, etc.) were collected, showing natural and socio-economic conditions related to Lam Dong Province and the LB-BR. Some of the plans collected are shown below.

- Decision 1462/QĐ-TTg; The master plan on socio-economic development of Lam Dong province through 2020 (2011)
- Decision 2644 / QĐ-UBND: Decision on approval of the proposal - estimates of land use planning in 2017 for the districts and the city (2016)
- Decision 2897 / QĐ-UBND: Approval of agricultural and rural development plan of Lam Dong to 2020 (2014)

Activity 3-1-5 Review and develop the necessary thematic maps (administrative, topography, land use status, vegetation covers, and zoning) of LB-BR.

Various thematic maps required for the management of the LB-BR (administrative, topography, land use, vegetation cover map) were created by using the data collected in the above 3.1.4. It should be noted that zoning map was not developed, since it had already been created in the preparation process of the Lang Biang Biosphere Reserve registration to UNESCO and the map was judged to be appropriate in terms of the content.

Activity 3-1-6 Develop a five (5) years management plan of LB-BR.

A 5-year management plan of the LB-BR (MP) was developed with supports of the Project team through the following steps. First of all, consultation meetings were held with stakeholders such as officials of major relevant provincial government organizations, private companies, village leaders, etc. where after the purpose and the necessity of the MP were explained to them, their opinions on the MP were listened to and views were exchanged between them on the MP vision to be realized in the future and on draft SWOT analysis for its finalization. The below SWOT analysis is the final one.

SWOT analysis into LB-BR

<p>Strength</p> <ul style="list-style-type: none"> - High Biodiversity - Rich tourism resources - PFES implementation - Readiness of stakeholders - Good natural environment - Diverse cultural identity 	<p>Weakness</p> <ul style="list-style-type: none"> - Fragmentation of ecosystem - Loss of ecosystem - Insufficient legal foundation and policy on BR - Inappropriate operation of PFES - Low interest of communities in the LB-BR - Exploitation and overuse of resources - Urbanization - Insufficient human resources
<p>Opportunities</p> <ul style="list-style-type: none"> - Big possibility of PFES - Increasing resource for development investment - Development of science and technology - Availability of sustainable development program - Growth of tourism services - Improvement of institution and policy - Internal cooperation 	<p>Threat</p> <ul style="list-style-type: none"> - Increasing demand for resources - Environment pollution - Climate change - Spread of pest and disease - Economic crisis - Loss of cultural identity - Lack of human resources - Change of policy and land use plan

Based on the results of the above consultation meetings, review and analysis into the data collected at 3-1-4 and various thematic maps prepared at 3-1-5 as well as on national/ provincial strategies and plans (socio-economic development master plan, land use plan, development strategy of each sector, etc.) the MP was drafted. In particular, after setting the vision of the LB-BR and its objectives necessary for achieving the vision, 9 programs and 36 sub-programs (activities) that contribute to achieving the objectives were developed based on the Lam Dong Province's Socio-Economic Development Plan (approved by the Prime Minister of Vietnam) etc..

In addition, the budget plan necessary for the implementation of the activities which were compiled into the draft MP was also estimated based on existing budget plans.

The draft MP was revised based on comments from provincial government departments/ organizations, etc., and revised MP was proposed and discussed at the 3rd LB-BRMB meeting held on July 3, 2017, which was basically agreed upon. The MP was finalized based on comments by participants in the meeting. Since LB-BRMB is a coordinating body, which is not authorized to direct the implementation of the MP endorsed at the 3rd LB-BRMB meeting to provincial government departments/ organizations, the implementation of the MP requires the approval of the PPC. Thus, the MP was submitted to the PPC for the approval of its implementation in August 2017.

The LB-BRMB Secretariat with the support of the Project team frequently explained the necessity of early approval of the MP to the PPC and provincial departments/ organizations concerned, however, (1) due to the lack of a legal foundation for the BR in Vietnam, approval procedure of the MP by the PPC was unknown, and (2) provincial departments misunderstood that the budget plan of the MP requires new /additional budget although the budget plan of the MP was formulated through the accumulation of officially approved budget of the relevant provincial departments/ organizations, etc., its approval was delayed. In response to the above situation, efforts were further strengthened for persuading the PPC to approve the MP since January 2018, a meeting on the approval of the MP was organized at the end of March by the PPC with the participation of relevant provincial departments/ organizations and a representative of the Project team as an observer, resulting in unanimous agreement on the MP implementation and the MP was finally approval by the PPC with the Decision 786/QD-UBND at the end of April 2018.



Discussion on the MP in the 3rd LB-BRMB meeting

Activity 3-1-7 Coordinate actions and efforts of the member organizations to implement the management plan.

As the MP implementation is conducted in the following way. 11 relevant provincial departments/ organizations nominated in the above decision by the PPC develop their own Annual Action Plans (AAPs) through selecting activities/ budgets from existing/ approved activities/ budgets in the year that are appropriate to 9 Programs of the MP. Due to the delay of the approval of the MP, the formulation and implementation of 2018 AAPs from the beginning of 2018 became impossible. However, the establishment of the working group (WG) was approved by the PPC for the smooth development/ implementation of the AAPs in response to a request. The WG consisting of officials provincial departments/ organizations concerned was officially established in March 2017 under the PPMU. Immediately after the approval of the MP, the first meeting between PPMU and the WG was organized with the support of the Project team, based on its results, the development of 2018 AAPs was commenced by 11 provincial organizations concerned with support of the Project team. The AAPs were developed and submitted to the LB-BRMB by the end of September despite the fact that the works were done in a very short period by the organizations without any experiences. As for the development and implementation of 2019 AAPs, an organization was added based on an advice by the Project team, thus becoming the 12th provincial organizations for the development/ implementation of AAPs. And with the support of the Project team an AAP formulation guideline was developed for enabling the above 12 organizations to sustainably develop AAP after the Project termination. Development of 2019 AAPs was commenced by 12 organizations from October 2018 in accordance with the guideline and completed and which was submitted to the LB-BRMB by the end of 2018

Activity 3-1-8 Periodically monitor and evaluate the progress of the implementation of the management plan.

Development and implementation of 2018 AAPs and 2019 AAPs were regularly monitored by the WG and provincial government organizations concerned with the support of the Project team and they were evaluated based on the monitoring results as follows.

As for the implementation of 2018 AAPs, due to the delay in approval of the MP as described in 3-1-7, development of the AAPs was commenced in May and completed at the end of September by 11 related organizations, which were implemented until December. Regarding 2019 AAPs, its development was completed at the end of 2018 and their implementations were commenced from the beginning of 2019 and continued until December by 12 organizations concerned. These implementations were monitored by the WG, the implementing organizations and LB-BRMB secretariat. 2018 and 2019 AAP development, implementation and monitoring were evaluated based on the result of the above monitoring as follows.

The total budget for 2018 AAPs developed by the organizations was 257,959 (million Dong) in 9 programs. The formulations/ implementations of the AAPs were first experience to the organizations with very limited development/ implementation time, resulting in some shortcomings, such as insufficient allocation of budgets to activities in some programs; namely 98.6% of the planned activities, etc. Nevertheless, it was evaluated as a successful development and implementation of the AAPs. Attention should be paid that part of the AAP of organizations concerned was invested in forest conservation activities through CMA, livelihood improvement activities based on CMP, and biodiversity monitoring.

Development of 2019 AAPs with the total budget of 269,281 (million VND) in 9 programs by 12 organizations in accordance with the AAP development guideline was highly evaluated. On the other hand, since the budget related to environmentally friendly economic development programs was insufficiently allocated, the total budget implementation rate was 91.4%, in addition, the budget allocation to programs was unbalanced. Despite of the above shortcomings, the development and implementation of 2019 AAPs were evaluated as better than those of the previous year. In addition, part of the AAP of organizations concerned was also invested in such activities as livelihood improvement activities based on CMP.

Due to the limited experience and capacity of the LB-BRMB Secretariat on AAP development/ implementation, it was evaluated that the capacity improvement of the Secretariat on the development/ implementation of AAPs is required and a competent person with enough experiences should be placed. If the Secretariat is strengthened in its capacity and human resources, a sustainable development / implementation of AAPs is expected after the Project termination, considering significant achievement of successful development and implementation of the 2018 and 2019 AAPs by 12 organizations.

Activity 3-1-9 Organize information sharing workshops with forest owners of the adjacent forest areas and DARDs in the neighboring provinces (i.e. Dak Lak, Ninh Thuan, and Khanh Hoa)

The 1st information sharing workshop (ISW) / technical training (TT) was held in December 2017 with the participation of approximately 30 officials of provincial governments including DARD and forest owners in neighboring provinces (Dak Lak, Ninh Thuan, and Khanh Hoa) to share with them systems/ techniques developed by the Project such as the LB-BR MP, CMA, CMP, Environmentally Friendly Livelihood Options (EFLO) and drone forest monitoring to contribute to possible expansion of the LB-BR to include protected areas of neighboring provinces in the future.

In order to disseminate systems /techniques developed by the Project such as Environment Education program (EE), Biodiversity Monitoring system (BM) in addition to the above systems to all Biosphere Reserves (BRs) in Vietnam, forest owners in neighboring provinces, Lam Dong provincial government organizations, the preparation was made to organize the second ISW / TT in March 2020 in collaboration with MAB Vietnam. However, due to restrictions such as the organizations of events and entry of foreign nationals to Vietnam by the government of Vietnam in response to the spread of the COVID-19, the above ISW / TT was postponed several times as results of consultations with the PPMU. Although the restriction was partly lifted or eased, foreigners remained subject to the regulation in August, making it difficult to organize ISW/TT in October with participation of Japanese consultants. Thus, ISW/TT was decided to be cancelled in consultation with the PPMU. Under the situation, the achievements of the Project is going to be disseminated by the end of the Project, in consultation with the PPMU, to all BRs in Vietnam and forest owners in the neighboring provinces through the MAB Vietnam, which include CMA/BSM,CMP, EFLO (profitability improvement of the coffee farming through the compost making/ its application and highly profitable shiitake production with its sales through supply chain) and biodiversity monitoring system in order to contribute to sustainable conservation/development of BRs and national parks in Vietnam.

Activity 3-1-10 Organize technical training courses at the BNNBP for relevant stakeholders of the neighboring provinces to deepen their knowledge on the MAB Programme.

Same as the above.

【Reference】

Table 36: Contents and relationships of frameworks, institutions and activities on management /operation of the LB-BR

Name	Institutions with legal foundation	Participants	Major functions and activities
LB-BR	Approval of UNESCO LB-BR was recognized in the 27 th session of International Coordination Council held in July 2015 as the 1 st at the central highland and 9 th BR in Vietnam.	LB-BR is a Biosphere Reserve (BR) is called in Japan as UNESCO Eco-Park.	LB-BR is an internationally recognized reserve centered on BNNBP covering 275,439 ha, which is located at Da Lat city and surrounding 5 districts in Lam Dong province. LB-BR is aimed to conserve landscape, biodiversity and cultural values of the LB plateau in a harmonious manner with development of its area. LB-BR is divided into 3 zones. Core zone (34,943 ha) is legally protected area where those activities contributing to the conservation of its landscape and biodiversity such as survey and research are only permitted. Whereas, Buffer zone (72,232 ha) permits such activities as tourism and grazing with a certain limit and in the Transition zone (168,264 ha) sustainable resource management activities are tried with major economic activities including agricultural crop production.
LB-BR MB	Legal document by the Lam Dong PPC on the establishment of the LB-BRMB (2016. Decision 1164 / QĐ-UBND: Establishment of Management board Langbiang biosphere reserves, Lam Dong province) LB-BRMB was established on 3 rd June 2016 with the above legal document, which is a public non-profit corporation. Based on the document its secretariat with a BNNBPMB staff was established.	<ul style="list-style-type: none"> ◆ PPC Vice chairman (LB-BRMB Chairman) ◆ DARD (LB-BRMB Vice chairman) ◆ BNNBPMB (LB-BRMB Vice chairman) ◆ DONRE ◆ DOST ◆ DOCST ◆ DPI ◆ Lac Duong DPC ◆ Da Lat City PC 	<p>Under the direct guidance of the Lam Dong PPC, the LB-BR MB fulfils the following roles as a coordination body for appropriate management and operation of the LB-BR in accordance with laws, regulations etc. of UNESCO Vietnam, MAB Vietnam and provincial government organizations concerned.</p> <ul style="list-style-type: none"> ◆ Establishment of 5-year Management Plan of LB-BR⁷ (MP) and Annual Action Plans based on the MP in collaboration with relevant provincial government organizations ◆ Monitoring and information collection on programs/ activities in accordance with the above plans. ◆ Organization of periodical LB-BRMB meeting (<u>Provincial platform for appropriate management/ operation of the LB-BR</u>)⁸ with participation of relevant provincial organizations/ private companies concerned / community residents concerned ◆ Organization of Collaborative Management Platform (CMP) (District/ commune level platform for aiming to effectively solve local issues within the LB-BR through collaborative works among stakeholders including villagers, provincial organizations and private companies. ◆ Mobilization of human/ financial resources to conduct activities contributing to

⁷ Management Plan of the LB-BR is comprised of 9 programs including forest conservation and 36 sub-programs (activities), which was formulated based on existing/approved budgets/ programs of relevant provincial government organizations. Parts of sub-programs/ activities were collaboratively implemented by provincial organizations.

⁸ LB-BRMB meeting, which is organized twice a year, is a kind of forum to discuss systems/ plans/ activities with their budgets on the LB-BR proposed by organizations concerned as well as issues associated with their implementation. The LB-BRMB is supposed to be held 9 times by the end of December 2020.

Name	Institutions with legal foundation	Participants	Major functions and activities
			<p>sustainable conservation/ development of natural resources and cultures in LB-BR</p> <ul style="list-style-type: none"> ◆ Conduct of the LB-BR promotion activities on environment awareness and environment education ◆ Proposal of science/research activities that contribute to realization of the vision of the LB-BR in collaboration with domestic and foreign research institutes
CMP	<p>Decision 198/QD-BQL dated 30/1/2018 by LB-BR MB on the establishment of the Collaborative Management Platform (CMP) under LB-BR MB</p> <p>CMP was officially established in January 2018 with the above legal paper, which is a district/ commune level platform⁹ for appropriate management/ operation of the LB-BR.</p>	<ul style="list-style-type: none"> ◆ Provincial organizations concerned ◆ Forest owners ◆ Private companies concerned ◆ Ethnic minority people in the target villages (mainly CMA participants) <p>Note; participating organizations/ persons in CMP is determined in accordance with issues</p> <p>Secretariat: LB-BR MB secretariat</p>	<p>CMP fulfils very important roles to provide opportunities for discussing local issues such as livelihood improvement and for collaboratively conducting activities with use of their own programs and budgets to solve the issues based on the results of the discussions. Thus, CMP provides opportunities to implement Collaborative management.</p> <p>The CMP on the “Cowshed improvement” is shown below as one of example. “Cowshed improvement” which is aimed to reduce the coffee production cost by replacing costly chemical fertilizers with compost made of manure collected and to conserve forests /crop fields through the control of free grazing, was conducted based on the CMP in the collaborative way among stakeholders as follows.</p> <p>Construction guidance: Lac Duong District Agriculture Center Provision of posture seedlings for 1.5ha: Lac Duong District Agriculture Office Provision of materials for biobeds and floor: DONRE) Provision of galvanized iron and materials for construction of floor: SNRM project Materials other than above and construction labor: villagers participating in the “Cowshed improvement”</p>

⁹ The establishment of the CMP was officially approved by the LB-BRMB. Therefore, the organization of the CMP does not require the approval from LB-BRMB, making it possible to hold the CMP at villages in response to urgent issues. The CMP was conducted 4 times so far.

Table 37: Comparison of the CMA in the previous phase (2010~2013) and the upgraded CMA in the SNRM project

CMA	Institution (legal foundation)	Target area	Participants	Main functions/ activities	Remark
CMA in the previous phase	<ul style="list-style-type: none"> Decision by the PPC on the Project implementation CMA) among parties (BNBNPMB, CPC and representative of villagers' group) 	Activities outside of forests in 5 target villages	<ul style="list-style-type: none"> Villagers' groups committed to conserve forests in 5 target villages BNBNPMB CPC <p>*Participation rate of villagers at villages was around 65%.</p>	Villagers' groups in the target villages who committed to the forest conservation, voluntarily participate in the CMA and comply with village regulations formulated by themselves which was approved by CPCs concerned. The groups are given benefits (Benefit Sharing Mechanism; BSM) such as low interest loans from Village Development Fund (VDF), improvement of coffee farming (EFLO) through Famer Field School (FFS) and provision of opportunities to participate in eco-tourism (CBET)	Previous CMA realized participation of nearly 2/3 of villagers in the target villages. And VDF is still managed well by the groups even now, contributing to improvement of their livelihoods. However, there was an issue of sustainability on some activities which are not their authority. Another issue is how to secure seed money for the VDF.
Upgraded CMA ¹⁰ (trial version)	<ul style="list-style-type: none"> Forest Law¹¹ Decision by PPC on the implementation of project activities MOU between DPC and forest owners on CMA conduct in forest land CMA among parties (BNBNP/ DNWPFMB /CPC, PFES group) 	forest lands under forest protection contract and surrounding agriculture lands in 7 target villages, which are located in Core/Buffer zone of the LB-BR.	<ul style="list-style-type: none"> PFES groups in target villages BNBNPMB DNWPFMB CPC concerned <p>EFLO activity was participated by provincial organizations with agriculture program for sustainable livelihood activities and highly motivated private companies for securing markets.</p>	<p>Payment to villagers based on forest patrol under the forest protection contract (PFES contract), which is funded from the Department of Forest Protection Development Fund, is widely introduced in the LB-BR and contribute to maintaining/improving livelihood of the poor. Paying attention to the above situation, it was decided that the payment to villagers based on PFES contract between forest owners and villagers should be adopted as the main BSM with strengthening of forest conservation through increase of efficiency and effectiveness of the current PFES patrol.</p> <p>【Main activities】</p> <ul style="list-style-type: none"> Regrouping of PFES member considering customary land use Making illustration of the target patrol forest and delineation forest and agriculture land Strengthening of PFES patrol including drone monitoring EFLO (Support to establish sustainable collaborative system among stakeholders on helping CMA participating villagers for improvement of coffee farming and diversification of crops) 	As shown left, CMA was improved in a way to maintain the CMA framework in the previous phase which was evaluated as effective and to make CMA more sustainable and effective in terms of contributing to forest conservation.

¹⁰ Upgraded CMA is a tool to implement forest conservation program which is one of 9 programs of the LB-BR5-year Management Plan approved by the PPC. .

¹¹ Law on Forestry was enforced from 1st January 2019 (translation and underline by the Project)

Article 4, Chapter 6: The State guarantees to ethnic minority people and communities who depend on forests to be allocated forests with land for production of forestry, agriculture and fishery combined; To cooperate and associate with forest owners to protect and develop forest and to share benefit from forests; To practice the culture and beliefs associated with forests according to the Government's regulations.

Article 54, Chapter 3: For ecological restoration sub-areas of special-use forests, special-use forest management boards shall contract for forest protection and development or cooperate with local households, individuals and local communities to protect and develop forests

Article 54, Chapter 4 Residential land and production land of households, individuals and communities located in the SUF but not belong to the planning of SUF, then households, individuals and communities may continue to use them according to the land use planning approved by competent state agencies and consistent with the sustainable forest management plan of the forest owner.

Upgraded CMA ¹² after the project termination	<ul style="list-style-type: none"> ◆ Forest Law¹³ ◆ Policy document which is expected to be approved by the PPC on the replication of CMA/BSM ◆ MOU among BNBPNMB and DPC with witness of LB-BRMB on smooth development and implementation of CMA/BSM ◆ CMA among parties (BNBNP, DNWPFMB, CPC, heads of villages) 	Forest lands under forest protection contracts of forest owners and surrounding agriculture lands of 8 communes/ town within the LB-BR which are indicated in the policy document	<ul style="list-style-type: none"> ◆ Heads of villages with CMA activities conducted ◆ BNBPNMB ◆ DNWPFMBs ◆ CPCs concerned 	Same as the above	<p>It should be noted that the CMA procedure was simplified for smooth and wider implementation of the CMA/BSM after the Project termination as follows.</p> <p>(1) Target area of CMA was expanded from a PFES patrol area to all forest lands under the forest protection contract which belong to forest owners in a commune in order to make the procedure easy and simple for replication after the Project termination.</p> <p>(2) Contents of CMA activities (place, activities and group⁹ are attached in the annex of the CM Agreement as a part of procedure simplification, so that new CM Agreement is not required even if CM/BSM activities are changed in terms of location and PFES groups within a commune</p>
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¹² Upgraded CMA is a tool to implement forest conservation program which is one of 9 programs of the LB-BR5-year Management Plan approved by the PPC. .

¹³ Law on Forestry was enforced from 1st January 2019 (translation and underline by the Project)

Article 4, Chapter 6: The State guarantees to ethnic minority people and communities who depend on forests to be allocated forests with land for production of forestry, agriculture and fishery combined; To cooperate and associate with forest owners to protect and develop forest and to share benefit from forests; To practice the culture and beliefs associated with forests according to the Government's regulations.

Article 54, Chapter 3: For ecological restoration sub-areas of special-use forests, special-use forest management boards shall contract for forest protection and development or cooperate with local households, individuals and local communities to protect and develop forests

Article 54, Chapter 4 Residential land and production land of households, individuals and communities located in the SUF but not belong to the planning of SUF, then households, individuals and communities may continue to use them according to the land use planning approved by competent state agencies and consistent with the sustainable forest management plan of the forest owner.

Activity 3-2 Upgrade the Collaborative Management Agreement (CMA) with the Benefit Sharing Mechanisms (BSMs) as a tool for conservation of forest ecosystems in the core and buffer zones of LB-BR.

Objectively Verifiable Indicators	Achievement Levels
3-2-1 More than (At least) 75% of the villagers participated in the pilot CMA shows their willingness to continue actions in accordance with the agreement even after the Project.	1. 87% of the villagers participated in the CMA activities expressed their intentions to continue the activities in accordance with the Agreement even after the Project.
3-2-2 In the CMA pilot villages, more than (At least) 75 % of the villagers participated in the CMA evaluates that the BSMs introduced by the Project are effective in improving their livelihoods.	2. 78% of the villagers participated in the CMA/BSM activities at the target villages evaluated that BSMs introduced by the Project were effective in improving their livelihoods.
3-2-3 More than (At least) 80 % of the staff participated in the Project activities of the BNNP-MB, DWPF-MB, and CPCs evaluates that they can replicate and manage the CMA with the BSMs.	3. 90% of the staffs of the forest owners and the CPCs who participated in the Project activities evaluated that CMA/BSM could be replicated and managed.
3-2-4 Policy documents on the CMA with the BSMs are endorsed by the BR management board.	4. The draft policy documents including the relevant guidelines necessary to replicate CMA with BSM in the LB-BR after the Project termination, are expected to be endorsed at the 9 th meeting of the LB-BRMB to be held in either December 2020 or January 2021 toward their approval by the PPC.

Activity 3-2-1 Review the benefit sharing mechanisms (BSMs) and collaborative management agreement (CMA) introduced/developed by the preceding JICA Project as well as other cases of BSMs and CMA demonstrated in Vietnam.

Between March and June 2016, materials and information were collected and reviewed on CMA/BSM developed and introduced in the previous project "Strengthening Community-based Management Capacity of Bidoup Nui Ba National Park" and similar collaborative management systems introduced in Vietnam such as Community Forestry, which were compiled into a report. The lessons learned through the review were used to improve the CMA and BSM in 3-2-6-1.

Activity 3-2-2 Conduct a socio-economic (financial) survey in the target villages including study on financial conditions.

Between May and September 2016, a survey was conducted on the socio-economic conditions and households of the seven target villages in order to obtain information and data necessary for the planning and implementation of the Project activities such as the historical formation of the villages, land use, the rich and the poor situation in the villages, agricultural production, main means of livelihood, household status of villagers, financial situations of households (HHs), dependence on natural resources, market access, PFES management issues, information and data related to access to financial services. The results of the survey were compiled into a report and used for planning and implementation of the Project activities from 3-2-3 to 3-2-8.

Activity 3-2-3 Identify potential crops/options that can generate additional income through improvement of quantity and/or quality of the products through EFLO.

With reference to the EFLO, taking into account the result of the above survey, that is; many villagers' livelihoods depend heavily on coffee production, it was decided that the basic policy was to improve the profitability of the coffee farming and to diversify crops of the agricultural production. In particular, it was also decided that crops and necessary techniques for their introduction should be selected based on selection criteria such as environmental friendliness, utilization of local resources, small financial burden,

and technical accessibility, considering the location of farmland within the LB-BR and farmers' financial situation in the target villages. Besides, forest owners cannot provide continuous technical support for livelihood improvement because they do not have direct responsibility and human/ financial resources for developing and disseminating agriculture techniques. Therefore, in order to realize continuous benefit provision to CMA participants even after the Project termination, the following three strategies were adopted as EFLO implementation strategies: (1) Technique transfer to key farmers who agreed to share it with CMA participants, (2) Utilization of existing programs/ budgets of the provincial government organizations such as DARD, DONRE for collaborative support to their livelihoods, and (3) Technical transfer, collaborative production, and product sales in collaboration with private companies related to coffee and mushrooms.

After agreeing with forest owners on the EFLO strategies, an implementation/budget plan was prepared based on the strategies, which consist of coffee farming improvement activities, coffee production support activities with use of local resources, identification of profitable crops with their trial productions and of private companies willing to collaborate with, as well as promotion activities of agricultural products.

In order to identify potential crops and concrete measures that contribute to improving livelihoods of the target area, following three activities 1) research survey (soil survey), 2) problem extraction through village meetings, 3) business sector trend survey, were conducted. Of particular note was the "impact on productivity due to the disappearance of organic matter" and "proposal for maintaining/ raising productivity by adding organic matter" obtained from the survey, used as judgment materials when deciding the improvement activities. Besides, the selection of potential crops was tried to narrow down according to the actual job through the following process.

Extraction of issues	Survey into models	Survey target	Key farmer-based training and demonstration
Improvement of the processing and sales of coffee beans	1. Direct sales (Starbucks certification program) 2. Processing and value-added improvement	1. ACOM's sustainable production of coffee 2. UCC/La Viet Coffee Married coffee company	1. Direct sales through certification programs 2. Coffee Beans (Cherry) harvesting and processing
Improvement of profitability through soil conservation of coffee fields and reduction of its production costs	1. Appropriate use of livestock manure through cowshed improvement 2. Soil conservation by using local organic matters and mixed planting	1. Organic fertilizer making through livestock manure practiced by key farmers 2. Organic fertilizer making with using coffee pulp 3. Practice of Coffee/Banana mixed planting	1. Making and fertilizing organic fertilizers through the improved cowshed 2. Production and fertilization of organic compos by using coffee pulp 3. Coffee & Banana mixed planting
Diversification of crop production Mushrooms, persimmons, medicinal herb	1. Contracted mushroom production 2. Medicinal herb mixing	1. Institute of Science and Technology, Lam Dong DOST and, Nguyen Long company, 2. BNBPNMB herb production model	1. Cultivation of shiitake, shimeji and cloud ear mushroom 2. Herb and seedling cultivation test

Based on the results of the above trainings and demonstrations with Key farmers, the following two types of models were selected as EFLO's main activities, considering sustainability from viewpoints of 1) public services by local governments, 2) continuous cooperation between private businesses and villagers, and 3) villagers' interest (willingness to invest) Besides, even when identifying crops, the higher selection criteria were whether implementations of crop productions (administrative services, private sector cooperation) work or not.

- Cowshed improvement, cow dung and composting of local organic matters, fertilization, reduction of grazing in forests, pasture cultivation, and banana mixed planting in coffee fields. Implementation method: Cooperation with DPC / CPC, DARD and DONRE.

- Production and direct sales of agricultural products (mushrooms, persimmons, coffee) using production methods with minimum environmentally negative impacts. Implementation method: Collaboration with private companies such as ACOM, UCC, Nguyen Long (NL), Sang Sinh, LAS, etc.

It was decided to give due consideration to gender as much as possible when implementing the above activities.

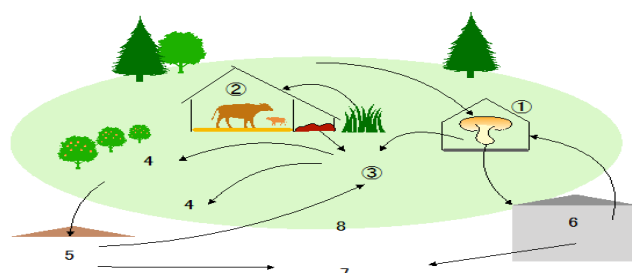
In the second period, EFLO development was decided to focus on developing/ establishing the following two models, considering the perspective of the LB-BR conservation, sustainable agricultural development, and consistency with related policies of the organizations concerned, based on the results of the activities

of the previous period.

1) Profitability improvement of coffee farming through raising fertility of soil, productivity of coffee plantation and reducing coffee production cost: Cowshed improvement and compost production using cow dung (application of the Poverty Reduction Program) improving cowshed and securing raw materials for compost (application of the Poverty Reduction Program) coffee pulp and local agricultural by-products (application of DoNRE budget)

2) Development of highly profitable Shiitake production model and establishment of its value chain (application of DPC budget)

The relevant diagram on these two EFLO models is shown below.



1	Shiitake production model
2	Cowshed improvement model, grass cultivation for cow, use of its manure for compost
3	Compost production (raw materials: waste fungus bed, cow manure, coffee pulp)
4	Application of compost to coffee garden/farmlands for increased fertility
5	Coffee processing company: Sale of coffee pulp which is produced in the coffee refining process
6	Shiitake company; Shiitake media production/sale, packing of shiitake collected from famers
7	Sales of shiitake with the LB-BR logo to the place of consumption
8	Tourism and environment education in the LB-BR including BNBPNP

As shown in the above, livestock farming is the foundation of the subsistence agriculture, and cow dung, a by-product, can be used as a compost and a method of obtaining cash. Coffee pulp is promising as local raw material. Furthermore, the used waste mushroom media from shiitake mushroom cultivation is also a useful material with the same value as cow dung. In other words, by creating organic matter circulation within the region, a scenario is established that improve the sustainability of agricultural production and restrict cash expenditure which is an initial assumption by this project.

Details of the above models selected from this background is reported in Activity 3-2-5 and below.

Activity 3-2-4 Improve and upgrade the CBET to further attract visitors.

The activities on upgrading the CBET was conducted from March 2016. Surveys for further development of Ecotourism (ET) in BNBPNPMB/ CEEE (Center for Ecotourism and Environmental Education), trainings on the ET for its staffs and villagers in the target villages, and study tours with them on the ET activities in northern parts of Vietnam. Based on them the possibility of CBET development in Da Chai village was pursued with some villagers. However, due to unavailability of necessary land for CBET development and its low sustainability, its development in the village was judged difficult. On the other hand, because of good influences on villagers by the above mentioned activities, villagers increased their participation in the ET activities of the CEEE as eco-tour guides, etc., In addition, eco-tour within the village such as traditional gong dance and village walk etc. became operational and a homestay facility of their own was built by a group of young villagers, and the preparations are currently underway for its commencement of the operation.

With reference to the CEEE, which is required to increase the number of customers for further development of the ET, it is necessary to develop ecotourism products and to strengthen the capacity of staffs and participating villagers to meet needs of customers. Therefore, efforts were made to improve the ET product development and the CEEE capacity through the collaboration with a private travel company as well as to support the conclusion of a MOU between CEEE and a travel company on the Team Building product development and capacity development of the CEEE. Based on the MOU, the collaborative development of the team building product was commenced on business basis.

Considering that 1) ET product development was commenced as above, 2) Environment Education (EE) was set as one of 5 objectives of the Management Plan of the LB-BR to realize its Vision, 3) the EE development is considered to contribute to the conservation of the LB-BR through deepening the understanding of the local people on the value of the LB-BR because little understanding on them is considered as an indirect driver of deforestations, the EE program development was decided as a priority activity of the ET with the agreement by the PPMU and the approval by the JICA.

As for the development of the EE, considering the objectives of the EE in the LB-BR MP, an EE implementation plan was formulated, consisting of the development of EE teaching materials on natural resources and ethnic culture of the LB-BR for the secondary school students etc. as well as of the conduct of the EE tours. The EE was designed to be full of arts and hands-on nature experience to make students easy to learn with fun. Workbooks (English/ Vietnamese) for secondary school student and university student and Facilitator textbooks (English/ Vietnamese) were produced as teaching materials.

In cooperation with the Education Department of Opinion exchange with stakeholders in HCMC and Lam Dong province, EE tours were conducted several times with participation of more than 100 secondary school students from HCMC



Opinion exchange with stakeholders on EE program

and Da Lat, which were highly appreciated by the students and accompanying teachers. In addition, through the conduct of the above EE tours, the abilities of the CEEE and villagers concerned were strengthened enough to conduct the EE tour without any support of donors.

Through various opportunities such as the LB-BRMB meeting and the information sharing workshop at Activity 3-1-9, experiences were shared with participants in the above meeting/ workshop on the development of the teaching materials and the conduct of the EE tour, which were highly appreciated by all BRs and MAB Vietnam among others.

On the other hand, EE tours targeting students alone do not necessarily attract enough tourists and profits to the CEEE and villagers concerned, efforts were made to improve profitability and to ensure sustainability by responding to diverse demands of tourists including the wealthy. Specifically, the development of profitable EE tour products for families and individual tourists from HCMC and overseas was made. In addition, in order to provide the EE tourists with comfortable staying space suitable to the LB-BR landscape, renovation of interior of an existing guest house and the set-up of one glamping tent were made as model facilities that can provide comfortable staying spaces at low cost. Furthermore, and one water purification facility was made to provide the EE tourists with natural water, which is a blessing of LB-BR, as a model for possible replications after the Project termination.

Families and visitors from overseas and HCMC, who seek long stays in nature, are expected to increasingly join EE tours and accommodation stays in the LB-BR. Therefore, if the EE products are further developed in response to diverse demands and capacities of the CEEE and the villagers concerned are further improved, the EE in the LB-BR is surely expected to be developed sustainably, thus resulting in improved livelihood of the villagers concerned and in increased understanding of the Vietnamese people including local people on the value of the LB-BR, which lead to its conservation.

Activity 3-2-5 Develop and make a trial on a marketing strategy (including the label of MAB) for local products in LB-BR

The following works were conducted for developing a marketing strategy between October 2016 and November 2017, such as a case study on sale strategies in BRs inside and outside Vietnam, SWOT analysis on sales strategies for the LB-BR, study on the LB-BR brand strategy for the LB-BR products with candidate products. As the result of the above works, the draft marketing strategy was developed through repeated discussions with the PPMU, which consist of sales strategies, a proposal for the LB-BR brand strategy ("Nature Made") based on uniqueness/ characteristics of the LB-BR products, certification systems, proposals for logos and candidate products that meet the definition of Nature Made with their sales strategies etc.. This strategy is not just a sales strategy but a proposal of concrete measures to show

the LB-BR's value to the outside world and gives essential suggestions for future promotion of LB-BR products. The proposed strategy was introduced and approved at the 4th LB-BRMB meeting after the consent of PPMU.

In accordance with the strategy, representatives of companies which were interested in environment-friendly businesses were convened to discuss on possible sales trial of some products that may be branded as the LB-BR products using the LB-BR logo and to invite for study tours to precedent cases of branding. Based on this result and on the recognition that the branding is aimed to improve the livelihood of the villagers, it was decided that the branding should basically be done in collaboration with the companies participating in EFLO activities in 3-2-3 and target products and services suitable for trial were narrowed down to 1) agricultural products (persimmons, coffee, mushrooms, medicinal herbs) 2) tourism / EE.,.

Among these products, a shiitake production model between Nguyen Long Company (NLC) which succeeded in cultivating native shiitake mushrooms found in the LB-BR, and the minority HHs which started the shiitake cultivation with the support of the Project. Branding was tried with shiitake as a local agricultural product which does cause almost no environmentally negative impacts on the LB-BR and contributes to its conservation. The technical cooperation contributed to the expansion of the model and improved production technology (see Activity 3-2-3.)

The specific marketing activities were done as follows. The Project created a photo book showing the relationship between the LB-BR and the shiitake mushroom in an easy-to-understand manner and conducted promotion activities with the LB-BR introductory materials in HCMC. Additionally, trial sales were conducted with companies that recognize the importance of the LB-BR conservation, such as AEON MALL, 4Ps, and Thien Sinh Farm. And a week-long exhibition sale at AEON MALL in collaboration with the Lam Dong Province. As a result, the continuous sales of these companies started.

So far, various crops have been listed for the candidates as products representing the LB-BR, but shiitake cultivation was particularly promising among them. It contributed to the improvement of the villagers' livelihoods, and the understanding of provincial government organizations was deepened as an environmentally friendly agricultural product such as pesticide-free, and their support for the construction of its production facilities and the establishment of the supply chain was strengthened. The supply chain establishment and its background are shown below.

1) NLC, which started production of shiitake mushrooms with the minority HHs through the support of the Project, contributed to the promotion of agriculture development, meeting the objectives of the policy on value chain and promotion of unionization (Nghị định 98/2018 / NĐ-CP), thus resulting in the DPC decision to use its budget (2018, 2019) for supporting the establishment of the shiitake mushroom supply chain centered on the NLC. DPC also decided to lend DPC-managed land for expanding the NLC's mushroom media production plant to widen the shiitake production model. The method of building up the collaboration among stakeholders was based on the agreement in the CMP developed by this project which played an important role in obtaining the policy related budget because private investment by companies and HHs (farmers) is a requirement for the adoption of the above policy related budget.

2) PPC selected the shiitake mushrooms produced by NLC and HHs as "One Commune One Product (OCOP)" based on the OCOP policy by MARD. Shiitake mushroom grown in the cool environment of this region is profitable, environmentally friendly, thus contributing to the forest conservation, and above all, it plays an important role in improving the livelihoods of the minority. Besides, many shiitake producers were provided with VietGAP certificate. Those selection and certification are expected to contribute to the promotion of its branding, to increase its sales and to receive supports on it by local government organizations.

3) As a result of 1) above, high-quality shiitake mushrooms produced in the expanded production model have been delivered by Da Lat Ecology; a sales company established on the occasion of the model development, through the above supply chain to end-users in HCMC including AEON MALL, Pizza 4Ps, etc. The supply chain has expanded demands of shiitake and stabilized its prices. The company built up a cold chain by sharing refrigerated trucks with its partners. The cold chain has contributed to the stabilization of the qualities of shiitake brought to the users in HCMC.

Regarding the trial of sales with use of the logo, the draft logo was approved by the Vietnam National Intellectual Property office after being approved at the LB-BRMB meeting. Although the trial of sales with the LB-BR logo (trademark) was delayed and shortened in its trial period due to the spread of the COVID-19, important lessons have been obtained through the trial for the branding of products in the LB-BR after the Project termination.

Activity 3-2-6-1 Upgrade and/or develop the CMA with the BSMs using PFES and other Possible benefits.

Based on the results of the review about the CM and BSM models mentioned in 3-2-1, the upgrade of the CMA/ BSM model was seriously considered in a manner where the upgraded version can contribute to forest conservation more effectively and sustainably while reducing the costs necessary for the development/ implementation of the CMA/BSM. As a result, it was decided that the framework of the CM/ BSM model in the previous project should be applied in the upgraded version, which had been confirmed as effective, such as a three-party agreement, participation in forest conservation activities by villagers and provision of benefits to the participating villagers through BSM. Thus, the concept of the upgraded CMA/BSM model was determined as follows, (1) BSM; In order to widely apply CMA/BSM with low cost, PFES (Payment for Forest Environment Service) is the main BSM tool, considering that PFES has already been widely introduced for the forest conservation in the LB-BR/ Vietnam and that it has been contributing to the improvement of livelihoods of poor villagers. Furthermore, additional BSM from EFLO activities are provided to the villagers for their benefits, if conditions are met. (2) Forest Conservation Activities; the conservation activities in the upgraded model are conducted through the improvement of effectiveness/ efficiency of the PFES patrol, (3) Target areas; The target area of the upgraded model is a PFES patrol area in forest/ forest land area of forest owners (4) 3-party Agreement; The upgraded model is based on a 3-party agreement among forest owners (BNBNPMB/ DNWPFMB), CPC and a PFES patrol group. The concept and the proposal of its trial of the upgraded model were discussed and approved at the 2nd LB-BRMB meeting after obtaining the consent of the forest owners on them.

However, the realization of wide and sustainable application of the upgraded model in the LB-BR after the Project termination was concerned due to the procedures set in the first period, under which the development of the upgraded model has to be made on each PFES patrol area basis. Therefore, the target area of the upgraded model was changed from the individual PFES patrol area to the entire forest/ forest land areas under the forest protection contracts of forest owners within a CPC concerned for the simplification of the development procedure of the model. In addition, signatories of the CM Agreement were revised to forest owner leaders, CPC leaders, and village heads in accordance with the expansion of its area. In addition, it was decided that CM/ BSM site, PFES team members and activities of CMA/BSM were described in an annex to the CM Agreement so that the development of new CM Agreement would not be required when the CMA/BSM is transferred to another PFES patrol area.

Furthermore, with regard to the development/ implementation of the upgraded model under the leadership of the BNBNPMB, which was relatively easy to obtain understanding/ cooperation among stakeholders under the Project framework approved by the PPC, however, after the Project termination, it is considered difficult to develop/ implement the CMA/ BSM model under forest owners' leadership, considering the vertically divided administration in the province. Therefore, a MOU among BNBNPMB and Lac Duong DPC with witness of the LB-BRMB on the smooth development/ implementation of CMA/BSM model under the leadership of the forest owner (s) was drafted and approved by the PPMU toward the smooth/ wide application of the model in the LB-BR after the Project termination.

In addition, as described in 3-1-1, CMP was officially established as a field level platform for the LB-BRMB, which served as a forum to identify, discuss local issues and to collaboratively find /implement their solutions among stakeholders including provincial organizations, private companies and villagers with their roles/ responsibilities agreed upon. Thus, the CMP paved a way to efficiently and effectively build up collaboration among stakeholders, leading to successful BSM establishment. With 4 times of the CMP organizations, very good achievements were made in improving the livelihoods of villagers participating in CMA, as stated in 3-2-10, such as cowshed improvement and use of local resources for compost making/ its application, which are improving the profitability of coffee farming as well as are becoming agriculture policy in the district by provincial organizations. Considering vertically divided administration, it is strongly hoped that CMP should be used as a tool for building up the collaboration among stakeholders to develop /implement not only BSM but also CM model after the Project termination.

Activity 3-2-6-2 Consider and propose a financial service in relation to PFES.

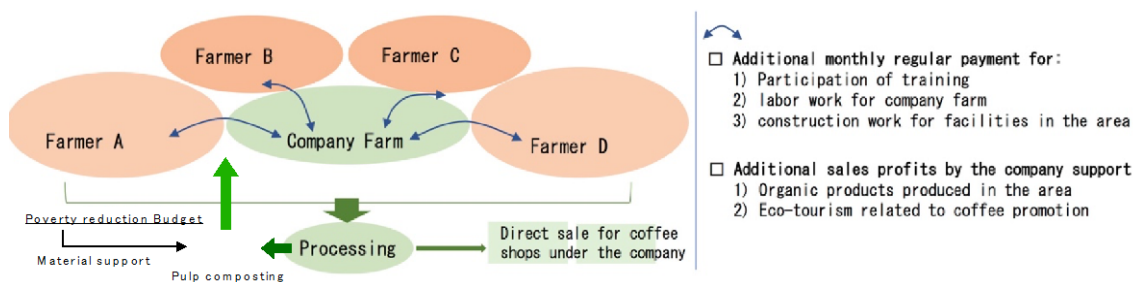
In order to examine the possibility of providing financial support to HHs in the target villages, the information collection was made on 1) existing loan services 2) Village Development Fund (VDF) which was developed in the previous phase, 3) the economic/ financial situation of the HHs, including the poor and from 4) Socio-economic surveys in the 3-2-3. When considering providing financial support related

to PFES to villagers, 1) possibility of financing with PFES payment as collateral (change to the payment through financial institutions), 2) Creation of a fund based on PFES management costs held by forest owners, etc. were devised as support options. However, as for 1), the reality is that chances for multiple debtors, many of who are the poor, to receive financial services of loans involving third-party institutions including microfinance are extremely low. For example, some cases were that even CPC staff's salary in a commune was mortgaged, thus, the option was judged to be unrealistic. Regarding 2), it is considered that forest owners use the PFES management fee for PFES contract-related activities, etc., thus, it was judged that the creation of a fund based on the management fee is not possible for the time being at least. The only low-interest loan that has contributed to many villagers' livelihoods is the VDF (in Da Ra Hoa village), which has been being managed and operated by the villagers. In 2017, the fund size was 250 Mil VND, the number of members (HHs) permitted to borrow loans was just half of all the members each year in accordance with the regulation of the fund. The interest rate was 0.8% / month, and the total amount of the fund after repayment at the end of the period was 283 Mil VND. Factors bringing the success to the fund are removal of restrictions on the purpose of use, simplification of the fund management with loan period of 12 months (regular), thorough disclosure of fund management information to members, and quality of the leader. Securing fund sources is the biggest issue for the fund. For example, if REDD + etc. are secured as a source of the fund, sufficient financial services can be provided to villagers including the poorest.

Based on the above analysis, a trial of financial support methods advantageous to villagers has been being collaboratively tried among PFES patrol HHs, a private company "Shin Coffee" and Da Chais CPC, which is reported as follows:

■ Contracted production and sale of coffee beans between private companies and villagers:

Incomes of the PFES patrol villagers at the CM/BSM site in Da Dung are primarily raised from coffee farming, however, the span from the investment in fertilizer until cash collection is long, and income is earned only during the harvest season. Therefore, villagers, who depend basically on high-interest loans of local shops for expenses including living expense during other than the harvest season, are obliged to sell coffee beans harvested to them with unfavorable conditions because of the debts to them. A series of discussions were made among Da Chais CPC, PFES patrol villagers at Da Dung, the Project and the private company, which appreciates coffee grown under favorable environments at the area to improve the above situation. Based on the result of the discussions, an idea was developed that the company makes a contract with villagers on direct sales of produced coffee beans with various benefits toward the realization of the sustainable coffee production.



Shin Coffee's plan on the production / sales including financial support at Da Dung

As described above, in order to realize a sustainable coffee production, it is assumed that the above villagers are absolutely required to be provided with a financing service for coffee management expenses and living expense without dependence on local shops. The company, as shown in the above, 1) Fertilizer support, 2) Payment of labor compensation for participation in on-the-job trainings 3) Labor compensation for the construction works of the shared infrastructure of the production cooperative to be organized by the contractors (villagers) with the company, 4) Purchase of coffee beans produced at premium prices in an organic way 5) Proposal of selling agricultural products produced by the contractors at favorite prices in association with organic cultivation to be practiced in Da Dung area, such as sweet potatoes, bananas, etc. Furthermore, the CPC also proposed a support for making a cooperative composed of contracted villagers with benefits through applying existing programs. Unfortunately, collaborative works among them were stagnated due to the spread of the new pneumonia caused by the COVID-19. However, with the commencement of collaborative works for the obtainment of the EU (European Union) certificate

system on organic coffee cultivation as well as of the preservation work on rare coffee varieties such as yellow bourbon in August, the progress on the collaborative works is expected to be smoothly made soon toward the realization of the sustainable coffee production.

Although the environment surrounding coffee farming is becoming increasingly severe, private companies are expected to try increasingly engaged in business with minority HHs while proposing financial supports because that is seemingly an only way for their survival. Therefore, it becomes very important for the LB-BRMB to actively work with such private companies and to collaboratively provide appropriate support measures in cooperation with relevant organizations. Specifically, one of examples for collaborative support can be to promote setting up value chains for crops in the LB-BR according to the Policy on the value chain development (Nghị định 98/2018/NĐ-CP) through public-private partnerships based on results of CMPs organized.

Activity 3-2-7 Develop implementation plans on EFLO, CBET and CM.

CM implementation plan was developed as follows. Firstly, a PFES patrol area of each jurisdiction of the forest owners was selected as CM trial sites. Then, based on the upgraded CM model concept described in 3-2-6-1 as well as the analysis into causes on ineffectiveness of currently practiced PFES patrol, its implementation plan was developed with following main activities. Clarification (illustration) of the PFES patrol area in a map covering the CM sites, regrouping of PFES patrol teams based on the current status/conventional land-use, delineation of boundaries of the forest/ farmland in the CM sites, conduct of the patrol with focus on high-risk areas such as encroachment, implementation of drone forest monitoring, and improvement of the patrol report. As for the implementation plans of EFLO and CBET, please refer to 3-2-3 and 3-2-4. After obtaining the agreement from forest owners, CPC concerned and PFES group, the outline of Implementation plans of the CM, EFLO and CBET (EE) activities was proposed to, discussed with and approved by the LB-BRMB at its second meeting.

Item	Contents	Reason
Regrouping of PFES group	Regrouping of PFES patrol group members is made through allocating target forest to PFES patrol based on current/ customary land use	PFES forest for patrol was allocated to villagers without considering their current/ customary land use, bringing difficulty to detect early land-use change.
Delineation of boundaries forest lands / farm lands	Delineation is made through confirming boundaries between target PFES forest land and adjacent farm lands together with PFES patrol members. In addition, the target forests are illustrated for clear understanding to the group members by putting digital data on the confirmed boundaries into aero photos of the forests.	Regarding boundaries between target PFES forest land and surrounding farmland, information on the map and that of fields were different in many cases, that posing difficulties to confirm encroaches.
Improvement including drone introduction	Trials of periodical forest monitoring with use of drone is conducted. Collaborative conduct of patrol between rangers and PFES patrol group is tried, periodical meeting is conducted for information exchange.	There were difficulties in PFES patrol such as (1) early detection of encroachment was difficult, (2) reporting of results of PFES patrol to forest owners was not made in a timely manner and (3) there was a case that PFES patrol was inadequately made when target forest was remotely located

In order to select CM activities for implementation in the second period, a workshop on the result of the trial in the first period was co-organized by the PPMU and the Project with the participation of provincial government organizations, forest owners including rangers and PFES teams. As a result, (1) The regrouping of PFES teams (2) delineation of forests/farmlands, and (3) drone monitoring, etc., were highly evaluated for their effectiveness in forest conservation. Based on the above results, the above activities were determined for the implementation in a small scale for their further improvement as well as for revision/ creation and finalization of their guidelines toward wide introduction of the CM/ PFES model in the LB-BR after the Project termination. Draft implementation plan on the CM/PFES activities was developed periodically which was then discussed and agreed upon by the PPMU in its regular meetings. In addition, as for the CMP, its implementation plan was developed based on its necessity which was discussed and agreed upon by the PPMU in its regular meetings.

Activity 3-2-8 Develop guidelines for piloting the upgraded CMA with the BSMs in the core and buffer zones of LB-BR.

Based on the draft implementation procedure developed for the trial of the upgraded CM / BSM activities,

draft guidelines for trialing the above activities was formulated and shared with forest owners, CPCs and PFES groups concerned, which were agreed upon by them. The guidelines were revised and finalized through the trial in the second period.

Activity 3-2-9 Obtain approval from LB-BRMB for the guidelines on piloting the CMA/BSMs.

The draft guidelines developed in 3-2-8 for the trial of the upgraded CM/ BSM activities were proposed to and approved by the LB-BRMB in its 2nd meeting. In addition, the MOU on the smooth implementation of the CM/ BSM activities was concluded and exchanged for their effective conduct among the LB-BRMB, BNBPNMB, DNWPFMB and DPC which have jurisdiction over the CPC concerned and target villages the PFES groups belong to. Based on the guidelines and the MOU, the trial of the upgraded CMA/BSM was conducted as written in the following 3-2-10.

Activity 3-2-10 Make a trial run of the CMA with the BSMs including FFSs on the potential crops and/or CBET in the target/pilot villages.

(1) The trial of the upgraded CMA/BSM activities was made as follows.

- 1) A selection criterion for the upgraded CMA/BSM trial site was developed, and a CM/ BSM site was selected from forests under the jurisdiction of each forest owner based on the criterion and the approval on the selected sites was obtained from the forest owners.
- 2) Review was made on all cultivators in existing farmlands within the CM/BSM sites, including customary ones, and based on its result reorganization of the PFES teams was made in a way to involve as many cultivators in the above farmlands as possible so that they could engage in PFES patrol in forests surrounding their farmlands.
- 3) Upgraded CM Agreements (three-party agreement) containing the implementation plan developed in the above 3-2-7, roles/ responsibilities of each party (the reorganized PFES teams, BNBPNMB, DNWPFMB and CPC concerned), and the benefits to the team, etc. were prepared, which was agreed upon and then signed by the parties.
- 4) In collaboration with the PFES team, the boundary lines between the target forests and farmlands were delineated with paints, etc., coordinate data was collected through GPS, and the target forest was illustrated on aerial photograph. In addition, trees including fruit trees were planted along the boundary lines of existing farmland to the extent possible for contributing to the improvement of livelihood as well as raising awareness on the boundary lines. After conducting training on the use and the management of GPS and cameras for strengthening forest conservation, they were loaned to the team. In addition, rain gear and first aid kits were provided from the viewpoint of raising awareness and safety in the protection activities.
- 5) In order to raise effectiveness of PFES patrols and to reduce the burden on the team, the patrol was decided to be conducted with focus on high-risk areas with encroachments through multiple patrol routes set up based on instructions from rangers.
- 6) The report system was improved so that the patrol results are reported early and appropriately to forest owners, and information sharing system using Google Drive was developed to ensure that the status of forest conservation is properly shared with relevant organizations based on the results of the patrol, and after conducting training on the above tools, trials were conducted on them.
- 7) The drone monitoring was adopted and tried for the early detection of land use changes and the evaluation on PFES contracts with villagers, and its hands-on trainings for forest owner staffs/ rangers were conducted. (See 3-3-9 and 3-3-10)



Forest patrol activities by PFES teams

In the second period, as mentioned in 3-2-7, based on the result of the workshop on the evaluation CM/BSM trials in the 1st period activities, some activities evaluated as effective for forest conservation such as PFES team reorganization, the delineation of boundaries between forests and farmlands and the drone monitoring were conducted in collaboration with the parties which were aimed to further improve them and to revise (create) / finalize their guidelines for the sustainable development of the CM/ BSM

model in the LB-BR after the Project termination.

(2) BSM Trials were made as follows.

With reference to the implementation of BSM (EFLO), its basic policy was to improve the profitability of the coffee farming and the diversification of agricultural productions/ livelihood options as described in the above 3-2-3, and the cooperation with relevant provincial government organizations that have agricultural dissemination as official duties such as DPC and DARD was set as an implementation strategy for the sustainable livelihood improvement activities even after the Project termination, thus, collaborative activities among relevant organizations were conducted based on the agreement in the CMP. The realization of the above collaboration requires developments of small-scale initiatives by key farmers as a first step which should be scaled up to the livelihood improvement projects representing a region. And it is extremely important to provide increased number of villagers with benefits as well as to give various benefits to those supporting organizations, for instance, designing their supporting activities in a way to achieve policy goals of provincial organizations in their sectors and to provide private companies with further business opportunities, in order to secure the sustainability of collaborations among stakeholders including villagers, provincial organizations and private companies.

Examples of livelihood improvement activities (EFLO) based on collaborative works among stakeholders including villagers and relevant organizations are shown below. (See 3-2-3 as a reference)

1) Increase the profitability of coffee farming by reducing production cost with application of compost made of cow manure collected through improved cowshed

The objective is to improve coffee farming profitability by reducing coffee production cost and increasing its productivity through composting with cow manure collected and its fertilizing (reduction of chemical fertilizer purchase costs and soil improvement for increased coffee production and raised quality of coffee) and to conserve forest/ crop fields by controlling free grazing of cow.

This collaborative work were conducted as follows.

■ Collaborative activities on cowshed Improvement among stakeholders including 17 key farmers

Implementation: Based on the CMP agreement, organic fertilizer production and improvement of negative effects brought in by over-use of chemical fertilizers etc. through the cowshed improvement were collaboratively carried out among the stakeholders from March 2018 until August 2019 for 17 key farmers selected from seven target villages.

The issues and support fields/ stakeholders for the solution are as follows.

Issues	Support fields by stakeholders
Excessive dependence on chemical fertilizers <ul style="list-style-type: none"> Cow manure required for making organic fertilizers is expensive (unit price: 800,000 VND/m³) and economically difficult to purchase. The adverse effects of free grazing on forests and crops. Contamination of water sources by chemical fertilizers and the grazing in the water source area. 	<ul style="list-style-type: none"> Guidance on the improvement and construction of cowshed / District Agriculture Center Pasture seedlings provided 1.5 ha / DPC Bio-bed / Floor materials / DONRE Galvanized iron, floor construction materials / SNRM project Other materials /Construction workforce / 17 key farmers

Results: The results were significant as follows.

Project.	After implementation (before implementation)	Complement.
<ul style="list-style-type: none"> Number of participating households: Increase in the number of breeding heads: Increased breeding area: Increased grass cultivation: Increase in the acquisition of cow manure Reduced grazing time: 	17 HHs 113 heads (81 heads) /17 HHs 680 m² (140 m ²) /10 HHs 10,600 m² (0 m ²) / 13 HHs 3m³ (1m ³) / cowshed/month 3-5 hour (8-10 hour) /day	- 0.48 m ³ /head, At most 1m³ /head of manure is collected-

■ Cowshed improvement collaborative activities for 28 HHs in Da Chais commune

Implementation: Da Chais CPC decided to provide cows to 28 HHs including poor HHs through allocating a part of the budget of the Poverty Reduction Program at the end of 2018. The CPC and the beneficiaries (villagers) requested to support those poor HHs without cowsheds to the Project and DPC after confirming

very good results of the above collaborative cowshed improvement activities based on the CMP, the cowshed improvement activities in collaboration with relevant organizations were implemented between December 2018 and March 2020.

Challenges	Support (2018.12~2020.3) by stakeholders
Same as the issues in the 17 Key Farmers with severe situations brought in by their poverty.	Guidance on the improvement and construction of cowsheds ; District Agriculture Center Provision of cow (1 head/HH) ; Da Chais CPC Galvanized iron, floor construction materials; the Project Other materials and construction labor; 28 households

As shown in the evaluations by the HHs participated in the above two activities, the cowshed improvement activities were successfully conducted for the contribution to their livelihood improvement and mitigation of negative impacts on the environment.

Subject of survey: 44 HHs among those participating in the compost trainings		
Evaluation items	After implementation (before implementation)	Supplementary information
Reduced grazing time Increase in cattle dung recovery Increase in the area of grass cultivation	44/44 HHs responded that it was shortened 44/44 HHs responded that it was increased . 14/44 HHs responded that it was increased .	From an average of 8-10 hours to 3-5 hours More than 2-4m ³ /month of cow dung were recovered. Those HHs negatively responded did not have suitable land for grass cultivation.

■ Composting of coffee pulp causing environmental pollution and its application

Implementation: An attempt to make a compost with coffee hulls discharged in large quantity from coffee processing plants, which is a source of environment pollution, was conducted in cooperation with DONRE and private companies. In addition to the contribution to the mitigation of the pollution, the compost was applied to coffee fields of participating villagers to reduce the coffee production cost for increased profitability of the coffee farming, thus encouraging to reduce dependence on chemical fertilizers.

The identified issues and countermeasures are shown below.

Issues	Implementation and supported measures
• No measures were taken for recycling coffee pulp which is a source of pollution (DONRE asked the Project to transfer related techniques for composting)	• On-the-job trainings on compost making using coffee pulp with DONRE • On-the-job trainings on it with private companies • On-the-job trainings on it for villagers in target each village

As shown below, composting with organic matters including coffee pulp and its application was highly appreciated by the participated villagers as 1) easy to apply 2) effective 3) good in cost cutting of the coffee production,

Evaluations of some villagers participated in the above trainings are shown below.

Subject of survey: 30 households among those who took compost training		
Evaluation items	Results.	Complement.
• Application of composting techniques • Intention to continue composting • Composting reduce fertilization cost • The effect of coffee pulp on fertilization	• 26/30 confirmed as easy • 28/30 intended to continue • 23/30 replied it reduce. • 28/30 replied as effective	Including cow manure compost and compost production in general

Since the achievements on the above cowshed improvement and use of organic matters were fully confirmed by the stakeholders through the above activities and they are consistent with policies of the provincial organizations concerned, they are **becoming the district-wide policy** in the agriculture field.

2) Livelihood improvement by introducing profitable shiitake cultivation

Background and purpose: Based on the diversification of agricultural production/livelihood options, which is another basic policy of the EFLO, paying attention to shiitake mushroom as a profitable and eco-friendly crop, the Project made a decision on trials for the development of a small-scale shiitake production model between key farmers and Nguyen Long company (NLC), which produce shiitake mushrooms using shiitake fungus growing naturally in the LB-BR. Furthermore, the shiitake production can contribute to solving local issue in the target areas where a land-dependent agriculture such as coffee farming is commonly practiced, in which raising agricultural revenue generally requires farmland expansion, thus, becoming one of the drivers for deforestation. Shiitake cultivation, on the other hand, requires a tiny cultivation facility of 50-100m² next to farmer's houses for careful treatment /management. Therefore, farmland expansion leading to the forest destruction is not accompanied in case of the shiitake cultivation. In addition, pesticide/ chemical fertilizer is not used for the shiitake production, even waste/used mushroom beds are supplied for the compost making as a useful organic matter. Thus, the shiitake is a right crop for the LB-BR.

After confirming good result of the above small-scale shiitake production model including its profitability and based on the agreement in the CMP, support for the expansion of shiitake mushroom production model was collaboratively implemented among stakeholders including DPC, DoNRE and villagers from June 2018 until March 2020 as follows.

[supporting organizations/ persons]		
	Market development	Improvement of production / post-harvest
Issues	<ul style="list-style-type: none"> • Branding of shiitake mushroom needs differentiation in terms of "relationship with the LB-BR" • Supply chain of shiitake is necessary to stabilize demand and its prices. 	<ul style="list-style-type: none"> • Cost reduction of the facility construction/ equipment is necessary. • Humidity / temperature management, which is very important for stabilizing shiitake production, was inappropriately made. • Processing/use of production data collected was insufficient
Major activities	<ul style="list-style-type: none"> • Creation of a Photo Book to promote understanding on the relationship between the LB-BR and shiitake mushrooms [project] • Promotion of the shiitake in cooperation with HCMC's restaurant (4Ps) and AEON MALL [private companies, project] • Establishment of a supply chain [DARD, DPC, project, NLC] • Improve production/ distribution for better quality of shiitake. [DPC, DoNRE, NLC, project] • Building a cold chain with a refrigerated car [project, private companies] • Conduct of eco-tours on visits to shiitake farming and trekking in the LB-BR [private company, BNBPNMB, project] 	<ul style="list-style-type: none"> • Guidance to villagers on building the facility with reduced cost. [NLC, project] • Introduction of a monitoring equipment using USAID program [project, DPC] • Development of a system to share between villagers and NLC reports showing relationship between yield and data on humidity. [NLC, project] • Conduct of demonstration production with humidifiers and conduct of related training. [key farmers, project] • Conduct of trainings on sorting of harvested mushroom. Provision of carts for selection of mushrooms. [project, NLC] • Preparation of a plan for possible production adjustment with roles/ responsibilities of the players [NLC, private company, key farmers, project]

As a result of the above collaborative activities among the stakeholders including relevant provincial organizations and private companies, an expanded model of continuously producing shiitake mushroom with invested villagers in the target villages was established. Shiitake production requires relatively high techniques and certain level of experiences especially on suitable environment (humidity/ temperature) for shiitake production, which none of minority villagers did have in the villages. In response, easy-to-use equipment were introduced to check and maintain suitable environment for shiitake production, resulting in easily achieving relatively high productivity. Furthermore, a supply chain between producers (villagers) and end-users in HCMC such as AEON supermarket was built for the stable demand and prices of the shiitake. In addition, the establishment of a cold chain was made to stabilize the quality of delivered shiitake. The major achievements of the collaborative activities are shown below.

Market development	Improvement of production and post-harvest
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<ul style="list-style-type: none"> • Branding of shiitake was conducted as an agricultural product of the LB-BR and pesticide -free and contribute to forest/ biodiversity conservation. • Through a supply chain establishment sales of shiitake was made to restaurants, retail stores, supermarkets, and the individual HHs. • Establishment of a cold chain stabilized the quality of shiitake delivered to HCMC. 	<ul style="list-style-type: none"> • A good cycle was created in which villagers with experiences of the construction of facility and the use of the equipment supported the late-comers in the production, thus contributing to reducing the initial cost. • Keeping suitable humidity for shiitake production through monitoring using an equipment provided was demonstrated to improve its productivity to the villagers. Thus, humidifiers was spread among villagers through investment by the villagers, leading to improved growth and productivity of the shiitake. • A convinced shipment of A-class package with big size shiitake directly boxed as soon as harvested and another class shipment packages with different size directly boxed were developed for delivery to end-users in HCMC, resulting in making it possible to buy the mushrooms at higher prices from the villagers.
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New issues: Since the beginning of 2020, the demand from HCMC such as restaurants decreased significantly due to the spread of the new pneumonia caused by the COV-19, sales volume dropped accordingly, production adjustments were forced, resulting in a steep decline in profits for the stakeholders including villagers. Under the circumstances, some villagers stopped its production at least for a while. Thus, it is strongly hoped that collaborative efforts among stakeholders should be made to develop new markets such as Hanoi for securing its demand.

■Encouragement of ethnic minority young people to work for local agriculture companies to reduce pressure on forests

Despite of achieving good results in terms of forest conservation through the development of upgraded CM / BSM model, the minority HHs generally have many children, some of who clear forests for coffee farming to become financially independent in many cases, which is one of the drivers of deforestation. Under the situation, the employment of the ethnic young people in local agriculture companies is considered to help curb deforestation, the Project team worked on promoting employment among the young minority people as follows. Through grasping the current situation and issues through interviews with organizations concerned, insufficient information provision on the employment to HHs from CPCs concerned was found out as a factor preventing the employment. Therefore, two facilitation trainings were conducted for 97 CPC staff, forest owner's rangers, village heads in total to ensure continuous information provision on employment to individual HHs in an appropriate and timely manner. With effects of the above support, it was confirmed that some villagers were employed by some local companies. However, due to the recent agricultural economic slump, bankruptcies were taking place among the local companies. Under the circumstances, job information is rarely provided from CPCs to HHs due to very limited opportunities for employment in local companies. Nevertheless, it is suggested that under the leadership of the LB-BRM the following activities should be made in order to reduce the pressure on forests; the promotion of employment of the minority young people to local companies, wider application of the upgraded CMA with BSM in the LB-BR for strengthening forest protection / livelihood improvement and encouragement of the HHS to participate in the shiitake production model which is not dependent of lands.

Activity 3-2-11 Monitor and evaluate the results of the trial run

Through regular on-site monitoring, it was confirmed that the forest conservation was strengthened by the upgraded CM/BSM activities through improvement of PFES patrols, taking into consideration (1) no encroachment/ violation in the CM/BSM sites and (2) prompt handling of problems taking place in the CM/BSM sites for solution by forest owners.

In the second period, as explained in 3-2-6-1, those activities evaluated as effective for the forest conservation including the reorganization of the PFES team and the drone monitoring were conducted on a small scale at forest sites where forest conservation issues occurred in order to further improve the activities and to revise/ finalize guidelines on them. These activities were continuously monitored, and their results were reported to the regular PPMU meeting, where countermeasures were discussed and taken immediately for solving the issues, if any. The monitoring results of the CM/BSM (EFLO) trials were evaluated and summarized as CM/BSM activity evaluation report, EFLO evaluation report, and CMP evaluation report. In addition to the policy documents in 3-2-14 and the guidelines in 3-2-13, those reports will be used for the application of the CMA with BSM activities including CMP and EFLO in the LB-BR toward the conservation of the LB-BR after the Project termination.

Activity 3-2-12 Conduct Off-JT and OJT-type training courses on CMA, BSMs, CBET, and EFLO for the staff of the relevant organizations to collaborative management.

Please refer to Chapter II, 1. Inputs of the Project, Table 6: Domestic Training in Vietnam (5. Biodiversity Monitoring) for the training courses conducted.

Activity 3-2-13 Revise the existing guidelines /manuals or develop new ones on the topics described in 3-2-12

The guidelines formulated at Activity 3-2-8 on upgraded CM/BSM activity, CMP and EFLO were revised/ finalized through the trial of the above activities. These draft guidelines are expected to be proposed and approved by the LB-BRMB in its 9th meeting as an attachment to the policy documents as described at Activity 3-2-14 below.

Activity 3-2-14 Develop a legal document on introduction/promotion of the CMA with the BSMs in the core and buffer zones of LB-BR and submit it to the BR management board for its endorsement to the PPC.

In order to sustainably conserve forests and biodiversity in the LB-BR the wider application of the upgraded CM/BSM model in the LB-BR is very important considering the results of the CM/ BSM trials. Therefore, draft policy documents were developed with the contents necessary for the replication of the CM/BSM model including 1) Introduction of the CM/BSM model in a small scale at first and then its gradual expansion by 2025, 2) Application of the model in two districts including Lac Duong district with 8 communes where some local organizations/ people were capacitated to a certain level through the participation in the model activities are available and 3) Roles and responsibilities of the relevant organizations in terms of introduction / expansion of the model. With the agreement on their contents from the PPMU, the draft policy documents are expected to be discussed with and endorsed by the LB-BRMB in its 9th meeting toward their approval by the PPC. The guidelines referred at Activity 3-2-13 are going to be attached to the policy documents for the application of the model in easily understandable manner, including CMP and EFLO in the LB-BR after the Project termination.

Activity 3-3 Promote utilization of the results of forest and biodiversity monitoring for the management of the core and buffer zones of LB-BR.

Objectively Verifiable Indicators	Achievement
3-3-1 A set of biodiversity data of the BNNBP is shared with MARD for FORMIS and stored in the NBDS as a terrestrial pilot case of the NBDS.	1. Existing biodiversity related data on the BNNBP and all the data collected through the Project activities were stored in the NBDS and shared with MARD through Component 1. The data collected in the Project was also stored in a database management software (BRAHMS) managed by the BNNPMB.
3-3-2 Forest and biodiversity conditions are monitored annually.	2. Regarding forest monitoring, PFMS was introduced, targeting rangers of BNNPMB and DNWPFMB, then the drone monitoring system and improved forest patrol activities were conducted to complement it, and continuous monitoring with them was carried out. As for the biodiversity monitoring, its implementation system was set up through inventory surveys conducted and various trainings following the established Biodiversity Monitoring System (BMS). Its implementation started with monitoring of mammals and birds using camera traps and the data was continuously collected approximately quarterly.

Activity 3-3-1 Review the current monitoring systems of forest and biodiversity.

Information was obtained from the BNNPMB, DARD, etc. regarding the forest monitoring and biodiversity monitoring system in BNNBP, and confirmed its implementation status as follows.

Monitoring Type	System	Division in charge in BNNPMB
Forest Monitoring	◆ Monthly patrol plan is prepared at each ranger station, and once the plan is approved at the BNNPMB monthly plenary meeting, forest patrol activities are conducted by rangers, and the data is submitted from each ranger station to the ranger division weekly. The ranger division compiles as monthly report and submits to the BNNPMB headquarters monthly.	Data management: Ranger division Data collection: Forest rangers
	◆ Based on the PFES scheme, forest protection contracts between BNNPMB and groups of local villagers (10-15 people/ group) are concluded and following the contracts, the groups carry out patrol activities about 2 to 3 times per month in the area of the forest land as stipulated in the contract. Every quarter, BNNPMB reports to the Lam Dong Provincial Forest Protection Development Fund (FPDF), which has jurisdiction over PFES implementation. Among the 59,810 ha targeted of PFES in BNNP (2016), 48,300 ha, which is 80.7%, is protected by the forest protection contracts, and a total of 1,482 HHs are paid for PFES.	Data management: Headquarters (technical division) Data collection: PFES contracted villagers/ rangers
	◆ With the support of DOST in Lam Dong Province, pilot activities related to automatic extraction of forest area changes using satellite images of Landsat 8 (free/ updated every 16 days) were conducted (until June 2018)	Research center (ICHTER)
Biodiversity Monitoring	◆ Biodiversity monitoring was not implemented as a regular task, and biodiversity surveys were conducted only when the budget was secured in collaboration with external research institutes. Currently the implementation of the BMS established is conducted with monitoring of mammals and birds using camera traps	Research center (ICHTER)

Activity 3-3-2 Review the existing forestry inventory data covering the core and buffer zones of LB-BR.

As a result of investigating the data of inventory so far conducted on forests and biodiversity in the BNNP by various donors/ research institutes, more than 2,000 species were confirmed and those data were summarized. Some of the compiled biodiversity data was stored in the NBDS through the activities related to the NBDS in Component 1.

Activity 3-3-3 Analyze the baseline data of forest vegetation in the core and buffer zones of LB-BR and develop the vegetation map.

Satellite images (SPOT 1-5 / Landsat 5-8) taken from 1990 to 2014 and available NFIS data for that period were obtained and based on the classifications followed by FAO's Land Cover Classification System (LCCS), forest vegetation maps (1: 250,000) in the core and buffer zones of LB-BR were prepared in four time series: 1990, 2000, 2010, and 2014. Based on these time-series data, vegetation changes from 1990 were analyzed. In addition, ultra-high resolution satellite images (Pleades, 2014) were procured to identify the survey sites in the biodiversity basic survey, and a detailed vegetation map (1/ 10,000) was prepared in which evergreen broadleaf forests / broadleaf and coniferous mixed forest / coniferous forests distributed in the core zone of LB-BR. In the process of its finalization, the draft vegetation maps were shared with the forest owners, and opinions and comments were collected and reflected.

Activity 3-3-4 Conduct biodiversity basic surveys and collect data on fauna and flora, especially on endemic and threatened species in the core and a buffer zone of LB-BR.

Biodiversity basic surveys which include forest vegetation surveys were implemented in BNNBP, the core zone of LB-BR, at three times in total, during the rainy season, dry season and transition period, namely July-August 2016, December 2016-January 2017 and May-June 2017. As a result of the survey, a total of 1,019 species were collected, including endemic and endangered species (plant species: 745 species, mammals: 38 species, birds: 127 species, amphibians: 25 species, reptiles: 21 species, insects: 53 species, and fish: 10 species) Also, the collected data was stored in the database management software called BRAHMS, which is an international standard, so that BNNPMB can manage and utilize the collected data of the surveys as well as the existing data. A new species of snake (scientific name: *Oligodon rostralis*) was discovered from the data collected in this basic survey as shown above, and this result was officially recognized in the international journal (PeerJ - the Journal of Life and Environmental Sciences) In addition, several plants that may be new species were also confirmed. The data collected was stored in the NBDS as well as used to identify indicator species necessary for the biodiversity monitoring system.



Activity 3-3-5 Analyze the data collected by the basic surveys and identify indicator species and their habitat for biodiversity monitoring in the core and the buffer zone of LB-BR.

A draft framework for implementing biodiversity monitoring was prepared through the analysis on the data of flora and fauna collected by the biodiversity basic surveys mentioned in activity 3-3-4, and sorting out candidate species that might be appropriate as indicator species, such as rare species and species that are sensitive to the changes of the ecosystem. Then a workshop was held with the participation of experts/ researchers on biodiversity, MONRE, MARD, forest owners, etc., and discussions and examinations were made for narrowing down of candidate indicator species and finalizing the draft implementation framework. The finalized implementation framework was approved at the LB-BR MB 4th meeting.

Based on the above approval, in consultation with BNNPMB as the main implementing body on biodiversity monitoring, Biodiversity Monitoring System (BMS) and a draft implementation plan for the period of 2018-2019

was drafted based on the framework. In BMS, indicator species that can be easily recognized by the ranger were selected and the monitoring methods and locations with less financial burden to BNNPMB were proposed. Specifically,



Evergreen broad-leaved forest



Broadleaf and coniferous mixed forest



Coniferous (pine) forest

considering the forest patrol routes by the rangers in the BNNBP, the vegetation classifications, and the selected indicator species, 6 transects (200m x 5m) were selected (two locations each from evergreen broadleaf forest / broadleaf and coniferous mixed forest / coniferous forest), which enable rangers conduct the monitoring activities through forest patrols. In addition, one permanent plot (1 ha) was identified in the evergreen broadleaf forest, which contributes to long-term monitoring of ecosystem changes.



Locations of Biodiversity Monitoring Surveys (Transects and a Permanent Plot)

Activity 3-3-6 Develop a methodology/survey manual to collect biodiversity data (indicators) of terrestrial ecosystems for monitoring in reference to SMART/FORMIS and the guidelines developed by the JICA NBDS Project.

Referring to the guidelines developed by JICA NBDS project, and based on the discussions with BNBCPMB and rangers, a draft manual for BNBCPMB managers to conduct the monitoring and a draft handbook for rangers to collect biodiversity data on-site were drafted. The draft manual and draft handbook were finalized through the implementation of BMS (see 3-3-11 for details)

Activity 3-3-7 Conduct a biodiversity monitoring survey to collect biodiversity data using the methodology developed in collaboration with DONRE and other stakeholders.

Based on the draft biodiversity monitoring manual formulated in 3-3-6, the Project supported the implementation of BMS by BNBCPMB. From May to June 2018, installation of permanent plots and 6 transects, and inventory surveys of fauna and flora were conducted through OJT/ Off-JT training for related organizations including BNBCP, and its baseline data was prepared (See 3-3-10 for details) Based on the results, capacity building training on biodiversity monitoring activities in the field was held for 7 days in September 2018, targeting mainly rangers. In order to ensure its sustainability after the training and the Project termination, the training was conducted in a way to divide rangers into groups of plants/ birds/ mammals/ amphibians/ insects, considering ranger's interests, abilities, affiliation (which ranger stations he belongs to), etc. Through the training, 35 camera traps were installed at the permanent plot and transects so that monitoring data for mammals and birds could be collected. BMS also targets forest and vegetation monitoring, which will be described in 3-3-9 and later.

The implementation methods, frequency and implementation status of each monitoring activity based on BMS are summarized below.



Inventory survey at a transect

Activities		Method	Frequency	Implementation Status
1. Monitoring of forest and vegetation covers		Forest monitoring/ patrolling including the data from drone	Regularly	Regularly conducted by BNNPMB
2. Establishment of long-term monitoring plot/ 6 transects		Conducted through OJT/ Off-JT Training	N/A	Completed
3. Baseline survey of transects/ plot		Conducted through OJT/ Off-JT Training	N/A	Completed
4. OJT/ Off-JT Training on BMS including database management		OJT/ Off-JT Training	N/A	Completed
5. Regular monitoring of the key indicator species in the transects				
5.1	Plant	Observation through the route walking	Once 3 months	Not yet
5.2	Birds	Line census (visual encounter/ playback)/ camera trap	Once 3 months	Partly conducted (by camera traps only)
5.3	Mammals	Visual encounter Camera trap	Once a month	Partly conducted (by camera traps only)
5.4	Herps (amphibian)	Visual encounter	Once 3 months	Not yet
5.5	Insects	Light trap	Once 3 months	Not yet
6. Recording, database management, and reporting		Record: use formats in BMS Database: BRAHMS	Upon necessities	Conducted as required by BMS

Due to budgetary constraints of related organizations (BNNPMB/ DONRE / DARD, etc.), every activity described in the BMS and implementation plan is not carried out as regular monitoring activities of indicator species in transects and the permanent plot, but data collection from camera traps was implemented four times in total on mammals and birds. The results are shown below.

Item	Implementation Period	Results of Data Analysis
1 st Data Collection	Apr 2019	Identified 33 species in total (mammal: 13 species, birds: 20 species)
2 nd Data Collection	Jul - Aug 2019	Identified 25 species in total (mammal: 12 species, Birds: 13 species)
3 rd Data Collection	Dec 2019	Identified 25 species in total (mammal: 12 species, Birds: 13species)
4 th Data Collection	Mar - Apr 2020	Identified 24 species in total (mammal: 17 species, Birds: 7 species)
5 th Data Collection	July 2020	Identified 24 species in total (mammal: 15 species, Birds: 9 species)

Among the collected data, many species registered in the IUCN Red List and Vietnam Red Data Book were confirmed. Among them, the finding of a critically endangered species on the IUCN Red List from the first data collection is one of the remarkable achievements, and in response to this result, a mammal survey by the Leibniz Wildlife Research Institute in Germany was started in BNNP. The results of these surveys were also reported at the LB-BR MB 8th meeting held on 7th November 2019, and contributed to deepening the understanding of related organizations on the biodiversity abundance in LB-BR / BNNP. The results of the above information collection for the biodiversity monitoring were submitted to LB-BRMB through its secretariat for the management of the LB-BR.

The followings are some of the rare species identified through the camera traps (all species registered on the IUCN Red List)



Large-antlered muntjac
(*Muntiacus vuquangensis*)



Stump-tailed Macaque
(*Macaca arctoides*)



Leopard Cat (*Prionailurus bengalensis*)



Masked Palm Civet (*Paguma larvata*)



Silver Pheasant (*Lophura nychemera*)



Black-hooded Laughingthrush
(*Garrulax milleti*)



Black Giant Squirrel (*Ratufa bicolor*)



Cambodian Striped Squirrel
(*Tamiops rodolphii*)

Activity 3-3-8 Submit the biodiversity data of the BNBPN to VNFOREST and store them in the NBDS of MONRE in coordination with DONRE.

Through the activities related to the NBDS of Component 1, the following sets of data were stored in the NBDS and submitted to the VNFORESR through the component 1.

- Data collected from the biodiversity basic survey
- Data collected from inventory surveys in transects / a permanent plot
- Data collected from camera traps (4 times in total)

Activity 3-3-9 Review the existing method for monitoring the status/condition of forests under the forest protection contract and revise it to enable BNNP-MB/DWPF-MB to validate the results of the contract together with communities in the target/pilot villages.

Through interviews with BNNPMB and DNWPFMB staff, many issues on current forest patrol / monitoring practices under the forest protection contract were identified such as the difficulty of acquiring objective data to evaluate the performance of the contract, difficulty of early detection of land use changes, etc. Thus, in the trial of the improved CMA (see (1) (3) (4) (5) (6) in 3-2-10), efforts were made to improve the effectiveness and efficiency of PFES patrols with villagers in target villages so that forest owners can verify the results of the contracts (see 3-3-12 and 3-3-13)

Activity 3-3-10 Conduct Off-JT and OJT-type trainings on forest monitoring, biodiversity monitoring, database system management for the staff of the relevant member organizations.

The following training activities related to forest monitoring, biodiversity monitoring, and database system management were conducted in Off-JT and OJT types. Of the above trainings, the staff of the Cat Ba Biosphere Reserve and Phong Nha Ke Bang National Park also participated in the training on biodiversity monitoring and information sharing/ field visit on drone monitoring respectively. (See Activity 3-3-11 for details)

Item	Target	Implemented Date	Participated number
Trainings on forest monitoring	(PFMS) Staff and rangers from BNNPMB/ DNWPFMB	1 st training: 19 th - 21 th Sep 2016 2 nd training: 26 th - 28 th Oct 2016 3 rd training: 20 th - 22 nd Mar 2017	1 st training: 26 2 nd training: 26 3 rd training: 25
	(Data logger/ Data management) Staff and rangers from BNNPMB/ DNWPFMB	1 st training: 11 th - 12 th Apr 2019 2 nd training: 9 th - 10 th Oct 2019 *including data management through Google drive	1 st training: 25 2 nd training: 34
Trainings on drone utilization for forest monitoring	Headquarter staff from BNNPMB/ DNWPFMB	1 st training: 6 th , 7 th , 11 th , 12 th , 15 th Dec 2017 2 nd training: 16 th - 18 th Mar 2018 3 rd training: 11 th - 13 th Apr 2018 4 th training: 24 th , 29 th , 30 th May 2018 Capacity evaluation test: 29 th May 2019 *In addition to the above trainings, continuous technical on-site support was provided in after the equipment is handed over.	1 st training: 7 2 nd training: 7 3 rd training: 12 4 th training: 6 Exam: 10
	Rangers from BNNPMB/ DNWPFMB	1 st training: 31 st Jan - 2 nd Feb 2018 2 nd training: 20 th , 23, 24 th Apr 2018 3 rd training: 8 th - 9 th Nov 2018	1 st training: 38 2 nd training: 17 3 rd training: 19
Information sharing/ field visit on drone monitoring activities	Staff from Lam Dong DARD, Provincial PFES fund office	Information sharing: 30 th Mar 2018	8
	Staff from above two organizations, other national park, and MONRE (BCA)	Training observation: 11 th Apr 2018	45
	Staff from Phong Nha - Ke Bang National Park	Field visit and information share: 6 th - 7 th May 2019	1
Training on biodiversity monitoring	Rangers from BNNPMB	Baseline survey: 19 th Jul 2016 (Off-JT) Baseline survey: Jul-Aug 2016, Dec 2016- Jan 2017, May- Jun 2017 (OJT) Plot establishment: May 2018 (OJT) Transect establishment: 7 th 13 th Jun 2018 (OJT)	23
	Headquarter staff and rangers from BNNPMB/ DNWPFMB, Ha Long Bay MB/ Cat Ba biosphere reserve/	On-site training on BMS implementation: 24 th - 30 th Sep 2018	29

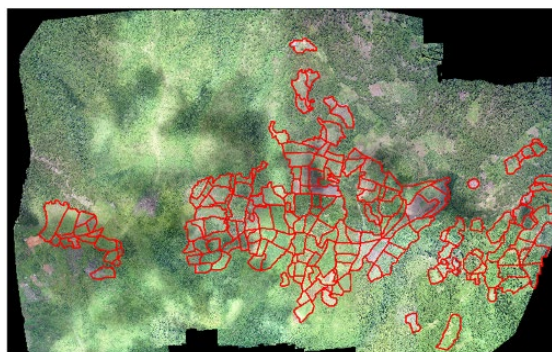
Item	Target	Implemented Date	Participated number
	Don Duong forest company, etc.		
Training on biodiversity monitoring database	Staff in BNNPMB/ DNWPFMB/ Lam Vien PFMB, etc.	1 st training: 4 th - 5 th Oct 2018 2 nd training: 22 nd - 24 th Jan 2019	1 st training: 11 2 nd training: 4
Training on NBDS data input	Staff in Lam Dong DONRE, BNNPMB/DNWPFMB, other national parks, etc.	10 th Apr 2018	40

As for the implementation of the biodiversity monitoring the role of each player in the BNNPMB is as follows. Information collection in fields is mainly conducted by rangers whereas inputting the collected data on the database (BRAHMS and NBDS) is primarily conducted by the ICHTER. And it is recommended that NBDS should be upgraded to be functioned to automatically capture data from other database systems because the current NBDS does not have such functions, causing to additional burden of directly inputting data by staffs of the ICHTER.

Activity 3-3-11 Revise the existing guidelines/manuals or develop new ones on the topics described in 3-3-10.

Regarding biodiversity monitoring, as described in the 3-3-6, the draft manual for BNNPMB managers and the draft handbook for rangers who collect biodiversity data in the field, were finalized through the discussions with BNNPMB and feedbacks from the training participants in 3-3-10. The manual is structured to cover a wide range of topics such as an overview of BMS, methods for setting up the transect and the permanent plot, indicator species in each vegetation / mammal / bird / amphibian / insect, monitoring and recording methods in the field, data analysis methods, data management/ reporting, etc. On the other hand, the biodiversity monitoring handbook, which is supposed to be carried by rangers who are in charge of surveys, focuses on data collection methods, identification of indicator species, data recording methods, etc., with full use of figures and illustrations for easy understanding as possible. Regarding forest monitoring, a manual on forest monitoring using drone (Phantom 4 pro) (hereinafter referred to as the drone monitoring system) was drafted and finalized based on the feedback from the training participants in 3-3-10. Since this is the first case in Vietnam to introduce drone to forest monitoring, there is a great deal of interests from not only the C/P, but also other Vietnamese government officials such as DARD/ FPDF office, Phong Nha Ke Bang National Park where registered as a World Natural Heritage Site, etc. and upon their requests, the Project shared the relevant information. The FPDF secretariat informed that they procured two drones with its own budget and that Phong Nha Ke Bang National Park submitted a proposal to obtain the budget, and this manual would be useful for those relevant organizations. Also, in order to secure its organizational commitment to the implementation of the drone monitoring system, the Project supported the formulation of management and operation regulations, and a decision document on the regulation was issued from BNNPMB / DNWPFMB respectively.

Activity 3-3-12 Conduct the participatory forest monitoring using the revised method in 3-3-9.



The method revised in 3-3-9 was firstly implemented in trials of the upgraded CMA in 2 PFES contracted areas, and as a result, it was confirmed that the above two PFES contract target forest areas (1,047 ha in total) were properly conserved. Furthermore, the Project conducted a participatory evaluation on each measure implemented among local villagers, CPCs, rangers, and other related organizations that participated in the trial activities, and extracted important and widely adaptable measures for forest conservation. Based on the above results, in order to further develop/ expand the activities, BNBPNMB took more drone images and processed the collected data by themselves which exceed 3,100 ha of forest area in total, and selected three PFES contracted forest area (1,377 ha in total) where guidance on reorganization of member composition stipulated in the contracts, improvement of patrol activities based on the latest land use situation, updates of map data by the technical division in BNBPNMB were implemented.

Identification of the agricultural land use status (user attributes, area, etc.) in the national park based on drone images and field surveys

3-3-13 Use the results of the participatory forest monitoring for evaluation and validation of the forest protection contract (PFES contract)

The data obtained from the activity 3-3-12 was managed by the technical division of BNBPNMB and used for the evaluation and the verification for quarterly payments under the PFES contract. Specifically, before the Project supports, only reports submitted by each ranger station and field verifications in limited area were the basis of the payment, but now, they can utilize the data from drones, improved report formats on patrol activity, etc. to support the activities.

Issues and Challenges

- The LB-BRMB secretariat which plays very important roles in the sustainable conservation/ development of the LB-BR, to which a staff is placed who is concurrently working as the secretariat and BNBPNMB. The secretariat is to work on various important LB-BR related matters such as the organization of the LB-BRMB meeting, the development/ implementation/ monitoring of the AAP of the LB-BR's Management Plan, development /implementation of CMA/BSM and preparation/organization of the CMP, which cannot be done by 1 member secretariat. And the development of the BSM/CMP requires agriculture knowledge/ know-how and its experiences for livelihood improvement. Therefore, the role of secretariat cannot be fulfilled by the secretariat whose specialty is related to forests/ national park management without any knowledge and experiences on the livelihood improvement/ agriculture. Thus, a permanent (additional) staff with the knowledge and experiences on agriculture development and livelihood improvement should be placed for the secretariat.
- Importance and effectiveness of collaborative works based on the CMA/BSM and CMP were understood and recognized to certain level among provincial organizations concerned, however, considering vertically divided administration which persistently remained, it is strongly advised that the PPC/ DPC should encourage collaboration among provincial organizations on solving local issues.
- Wide application of the upgraded CMA in the LB-BR requires the provision of effective benefits to villagers participating in CMA. Strengthening of coordination capacity of the LB-BRMB and of technical extension capacity of relevant organizations is important for sustainable conduct of activities such as the development of profitable crop production models and their sales promotion through their supply chain establishment.
- Sustainable and effective forest and biodiversity monitoring requires awareness raising, capacity development among implementers (forest owners and their staffs including rangers) as well as supports including the allocation of related budgets by the government/ provincial government.

(4) Component 4

Component objective	The knowledge and lessons learned from Outputs 1 - 3 are synthesised and shared with government agencies and other key stakeholders at national and international level.
Outputs	4-1 The forest resource data and information generated from the Project are integrated into FORMIS. 4-2 The achievements and lessons learned from the Project are shared with relevant stakeholders at national and international level. 4-3 The results of the Project are widely publicized.
Objectively Verifiable Indicators	1. Forest resource data/information collected by PFMS is utilized for the official forest cover statistics. 2. Approaches and methods developed by the Project are utilized by other projects/initiatives. 3. Project activities are broadcasted by several medias.
Means of Verification	1. MARD Decision on Forest Cover Statistics 2. Report of other projects/initiatives 3. Project reports
Summary of progress	All planned activities were completed.

Activity 4-1 Assist in linking and/or integrating data and information on forest resources generated from the Project into FORMIS.

Indicator	Achievement level
1. Forest resource data/information collected by PFMS is utilized for the official forest cover statistics.	- Tablet PC utilization forest monitoring was stated in the Circular No.33 (33/2018/TT-BNNPTNT) - Forest monitoring data collected by PFMS was integrated into FORMIS.

Activity 4-1-1 Assist in identifying data and information on forest resources generated from the Project to be linked and/or integrated into FORMIS.

FORMIS II project and SNRM project reached mutual understanding that forest monitoring data collected by PFMS is suitable to integrate into FORMIS.

Activity 4-1-2 Assist in linking and/or integrating the data and information of 4-1-1 into FORMIS.

Integration between forest monitoring data collected by PFMS and FORMIS was completed. Parameters of FRMS Mobile Application and FROMIS server and FRMS Desktop Application were unified. The monitoring data collected by PFMS is saved in the FORMIS server and used for annual forest change report.

Activity 4-2 Share the achievements and lessons learned from the Project with relevant stakeholders.

Indicator	Achievement level
2. Approaches and methods developed by the Project are utilized by other projects/initiatives	- Methods and achievements related to livelihood improvement and forest management generated under Components 2 and 3 have

	<p>been utilized by other donors, such as KfW and SNV.</p> <p>- PFMS has been utilized by other donor's projects, such as FCPF, UN-REDD and VFD.</p>
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Activity 4-2-1 Compile achievements and lessons learned of the Project.

Activity 4-2-2 Identify means of sharing the information of 4-2-1 with relevant stakeholders.

Activity 4-2-3 Assist in sharing the information based on 4-2-2.

Achievements and lessons learned of SNRM were well shared with others through workshops and meetings. In addition, SNRM made effective use of JICA and MBFPs websites, TV, newspapers and other mass media to disseminate project related information to the general public.

SNRM also published the casebook on good practices of the Project and distributed to the relevant organizations of the central and local governments and other donors.

Furthermore, SNRM's activities were internationally shared through the side-events organized at UNFCCC and UNCBD COPs.

Activity 4-3 Publicize the Project results.

Indicators	Achievement Levels
3. Project activities are broadcasted by several medias.	SNRM's activities and achievements were widely disseminated through several means, such as TV, newspaper and SNS.

Activity 4-3-1 Compiling the result of the Project.

Activity 4-3-2 Identify means of publicizing the information of 4-3-1.

Activity 4-3-3 Assist in publicizing the information based on 4-3-2.

SNRM proactively carried out a wide variety of public relations activities as follows.

- Producing project posters and pamphlet
- Publishing a photobook to introduce rich culture and biodiversity in LB-BR
- Assisting Japanese and Vietnamese TV channels to produce SNRM related programs.
- Disseminating SNRM related information through JICA and MBFPs websites and SNS.

Issues and Challenges

Integration of forest change information into FORMIS

As stated in the challenge of component 1, FRMS operation relies on FORMIS, funded by Finnish Government, which operation is done by VNFORST, and this system should be stable including server maintenance in the first place. It is difficult to clearly mention that the server is fully secured its safety and stability since the system is physically managed by VNFOREST's staff although the maintenance should be outsourced to IT expert. It is necessary to work on securing budget for outsourcing server maintenance and management works.

2-2 Project Purpose and Indicators (Target values and actual values achieved at completion)

The achievement of the indicators of the Project Purpose in the Project is summarized below based on the final evaluation report.

Project Purpose: National capacity for sustainable natural resource management is enhanced.

The Project has been very successful in enhancing the national capacity for sustainable natural resource management, and has satisfied most of the indicators of the Project Purpose. Several legal documents related to natural resource management were developed, contributing to the strengthening of the legal framework in the forestry sector. The notable achievements of the Project include the institutionalization of PFMS with the use of table computers, the effective measures undertaken at the field level, and the replication of this measure in other areas. Furthermore, the Project has enhanced the provincial capacity for sustainable natural resource management, particularly in the target provinces of Dien Bien, Son La, Lai Chau, Hoa Binh and Lam Dong. In these provinces, the Project took over and upgraded the outputs generated through previous JICA technical cooperation projects. Then, it made considerable efforts to institutionalize the frameworks for pursuing the sustainable management of natural resources, and balancing forest and biodiversity conservation with the incentives of communities/villagers to participate in conservation activities.

Objectively Verifiable Indicators	Achievement Levels
1. Policy and legislative frameworks developed/upgraded by Sustainable Natural Resource Management Project are officially approved by the GOV.	<p>The following policies and laws for natural resource management, which the Project helped to improve, have been officially approved.</p> <ul style="list-style-type: none"> • The Law on Forestry No. 16/2017/QH14, dated 15 November, 2017. • Decree No. 156/2018/ND-CP dated 16 November, 2018, on the enforcement of a number of articles of the law on forestry. • Circular No. 33/2018/TT-BNNPTNT dated 16 November, 2018, prescribing forest survey, inventory and forest transition monitoring. • Circular No. 30/2018/TT-BNNPTNT dated 16 November, 2018, on a list of major forest tree species, recognition of cultivars and cultivar sources, and the management of major forest tree cultivar materials.
2. The target set by the National REDD+ Action Program (NRAP) is achieved.	<p>The NRAP is a national program, and various forest management initiatives have been undertaken across the country to achieve the targets. On the other hand, since the Project's efforts are limited and MARD is currently reviewing the achievement of the 2017-2020 targets, it is not appropriate to look at the contribution and achievement of the Project in Indicator 2, but the achievement of each NRAP target is described below.</p> <p><i>a) Contribute to reducing greenhouse gas emissions through REDD+ activities; expand forest coverage to 42% and reach 14.4 million hectares of forest by 2020</i></p> <p><i>Contribute to reducing greenhouse gas emissions through REDD+ activities</i></p> <p>The “Report of the Calculation of National Emissions Reduction and Removals Enhancement from REDD+ Activities in the period 2014-2018 (note: still under revision)” prepared by MARD explains that the annual emissions in the period of 2010-2018 was 38.301 million tCO₂e, while the annual emissions in the reference period was 59.961 million tCO₂e. Thus, the reduction in annual emissions in the period 2010-2018 was 21.660 million tCO₂e. It should be noted that these are provisional figures and may be revised in the future.</p> <p><i>Expand forest coverage to 42% and reach 14.4 million hectares of forest by 2020</i></p>

According to the forest coverage statistics of MARD, the forest area and forest coverage in Vietnam have increased year by year, and the target of 14.4 million hectares of forest had already been achieved in 2018.

b) Meet the requirements of REDD+ readiness, ensuring there is capacity to access financial resources for results-based payments as per international requirements.

- As described earlier, in collaboration with various donors, a draft national roadmap for Vietnam to apply for the Green Climate Fund (GCF) REDD+ result-based payment pilot programme has been developed (as of June 2020, Version 9 is prepared) As of June 2020, the MRV report has already been prepared and has been elaborated for submission to UNFCCC. A concept note for results-based payments for GCF was also developed and will be submitted to UNFCCC through JICA as an Accredited Entity (AE) Simultaneously, a draft proposal of the pilot programme for REDD+ results-based payment is in preparation.

- In this respect, Vietnam has completed the REDD+ readiness phase and is shifting to the next phase, "Phase 3 - Results-Based Payments". To date, Vietnam has fulfilled the requirement of REDD+ readiness, including the development of the national REDD+ strategy, FREL/FRL, forest monitoring system/NRV, and safeguard information system.

c) Improve the quality of natural forests and planted forests to increase carbon stocks and environmental forest services; replicate effective models of forest plantation; and the sustainable management, protection and conservation of natural forests.

- As explained earlier, it is difficult to examine the extent to which the SNRM has contributed to achieving this indicator. In this respect, this section solely refers to the activity data for the 2010-2018 period in the northwest region of Vietnam (note: since the same type of data for the target communes or even for the four target provinces is not available, reference is made here to the data for the northwest region) and looks at the forest changes within evergreen forests to simplify the examination. The area where forest quality improved is 10,532 ha, while area where forest quality degraded is calculated to be 30,293 ha. Thus, among forest categories, it is likely that the quality of forest based on the forest categories has degraded in the northwest region. However, reference should be made to the official assessment of MARD, which is to be issued.

- Through Project implementation, the effective models of REDD+ related activities have been replicated as described under Component 2 and the PPMU showed the intention to replicate these models in other communes and districts.

- The State Steering Committee Office for Target Program on Sustainable Forest Development for 2016-2020 and REDD+ Implementation (SSCO) /VNFOREST mentioned that forest management, protection and conservation have been improved in Vietnam; on the other hand, these were not sustainable because REDD+ results-based payment was only piloted on a small scale for a short term.

d) Contribute to improve forest governance, create jobs, improve the living conditions of the people associated with the New Rural Programme and ensure security and national defense.

- SSCO/VNFOREST described that the REDD+ program implemented in

	<p>Vietnam has improved forest governance by shifting its focus from an increase in forest coverage to improving forest quality, looking for opportunities for a new financial mechanism of results-based payments for CO2 storage and reducing deforestation and forest degradation. Moreover, in collaboration with various donors, Vietnam has made efforts to improve forest governance, including the enhancement of policy/legal institutional and regulatory frameworks, and promoting stakeholder participation and transparency of decision-making.</p> <p>- The issues of improving the living conditions of the people associated with the New Rural Programme and ensuring security and national defense are beyond the scope of the SNRM Project. Thus, it is difficult to examine the connection with the effects of the SNRM Project and its programme. MBFPs recognized the contribution from SNRM, as more jobs have been created. The income of approximately 9,000 households was improved through 32 livelihood development activities, and their quality of life was improved through the increase in income.</p>
3. A road map to sustainable management of forest and biodiversity of the proposed LB-BR is in place for further expansion together with the upgraded CM agreement with BSMs.	<p>The draft policy document prepared for the sustainable implementation of the improved CMA/BSM activities in the LB-BR, including related guidelines, is expected to be proposed to the 9th LB-BRMB meeting for approval by the termination of the Project period.</p>
4. Results generated and data collected by the Project are shared and used by MARD and other related agencies including MONRE for enhancement of sustainable management of forests and biodiversity.	<p>- MARD annually issues the National Forest Cover Statistics utilizing the forest monitoring data collected through PFMS with the use of table computers.</p> <p>- BCA/MONRE utilized the NBDS in the preparation of the “Sixth National Report (2014-2018) to the United Nations Convention on Biological Diversity,” and submitted it to the Secretariat of the Convention on Biological Diversity (CBD) in 2019. This report is supposed to be submitted to CBD every five years. Therefore, the NBDS will be continuously utilized for report preparation. In addition, BCA utilized the NBDS for the preparation of the report of a roadmap to join the GBIF.</p>

3. History of PDM Modification

The current Version 5 of the PDM has been reached through revisions made five times since Version 0, which was attached to the R/D. The changes made in each revision are shown below.

1st Modification of PDM (February 19, 2016)

After six months had passed since the Project was started and prepared for full-scale operation, the PDM was carefully examined and reviewed based on the current situation. The main changes are as follows.

Version 0	Version 1	Reason for Modification
Component 1		
	<p>1-1-5 Provide technical support to Provincial REDD+ Action Plan (PRAP) formulation and necessary technical support to pilot provinces under FCPF in collaboration with FCPF.</p> <p>1-1-5-1 Assist in formulating PRAP of TT Hue.</p> <p>1-1-5-2 Support in applying Provincial Forest Monitoring System in the pilot provinces under FCPF.</p>	<p>[Addition] New activities were added that were not planned at the time the R/D was agreed.</p>
<p>1-2-1 Assist MONRE in operating NBDS</p>	<p>1-2-1-1 Support in preparing publications and manuals relating to NBDS.</p> <p>1-2-1-2 Assist in linking NBDS to Global Biodiversity Information Facility (GBIF)</p>	<p>[Refinement and Addition] The contents of support for NBDS were refined and GBIF-related support was added as a new activity.</p>
<p>1-2-2 Assist relevant provinces in accumulating data on biodiversity</p>	<p>1-2-2-1 Assist in organizing training workshops to promote data accumulation in NBDS.</p>	<p>[Refinement and Addition] The contents of support for NBDS were refined.</p>
Component 2		
<p>Objectively Verifiable Indicators (Output 2-2)</p> <p>3. By the 36th months of the Project, PRAPs in three (3) provinces (Lai Chau, Son La and Hoa Binh) are finalized and approved by PPCs.</p>	<p>Objectively Verifiable Indicators (Output 2-2)</p> <p>3. By the 30th months of the Project, PRAPs in three (3) provinces (Lai Chau, Son La and Hoa Binh) are finalized and approved by PPCs.</p>	<p>[Partial revision] A revision was made to the number of months needed for this task in line with the actual start date of the Project.</p>

Version 0	Version 1	Reason for Modification
-	<p>2-1-5 Revise Provincial REDD+ Action Plan (PRAP)</p> <p>2-1-5-1 Develop revised PRAP based on the recommendation from SUSFORM-NOW and other aspect including financial analysis and/or revised NRAP, and consultation with stakeholders.</p> <p>2-1-5-2 Submit the revised PRAP to PPC for official approval.</p>	<p>[Refinement and Addition] As the Dien Bien Province PRAP needed to be revised, the activities related to the revision of the PRAP were described in detail.</p>
Component 3		
<p>Objectively Verifiable Indicators (Component Objective)</p> <p>1. More than (At least) xx villagers located in the core and buffer zone of the proposed LB-BR can manage forest ecosystems according to the CMA exchanged among communities, CPC concerned, BNBPN-NB, and DWPF-MB (in case of the buffer zone)</p>	<p>Objectively Verifiable Indicators (Component Objective)</p> <p>1. Integration of PFMS, developed by the Project, into FORMIS is officially approved.</p>	<p>[Partial Refinement] To specify the use of PFES.</p>
-	<p>3-0-4 Prepare TORs of entrusted works for local consultants.</p>	<p>[Addition] New activity was added based on the work plan.</p>
-	<p>3-2-2 Conduct a village profile survey in the target villages including study on financial conditions.</p>	<p>[Addition] New activity was added based on the work plan.</p>
-	<p>3-2-6-2 Consider and propose a financial service in relation to PFES.</p>	<p>[Addition] New activity was added based on the work plan.</p>
-	<p>3-2-7 Develop implementation plans on EFLO, CBET and CM.</p>	<p>[Addition] New activity was added based on the work plan.</p>

2nd Modification of PDM (January 1, 2017)

As a year and a half has passed since the start of the Project, the contents were carefully examined and revised based on the current situation. The main changes are as follows. This version was approved at the first Project Steering Committee (PSC) meeting.

Version 1	Version 2	Reason for Modification
Component 1		
Output 1-2 The utilization of database system (s) related to biodiversity, such as the Forest Management Information System (FORMIS) and the National Biodiversity Database System (NBDS) is facilitated among the relevant stakeholders.	Output 1-2 The utilization of the National Biodiversity Database System (NBDS) is facilitated among the relevant stakeholders.	[Deleted] As it was found that FORMIS does not include biodiversity data, part of this task was deleted.
Objectively Verifiable Indicators 2. The guidelines on quality seed/seedling production and supply and on high-quality timber production are developed.	Objectively Verifiable Indicators 2. The guideline (s) /legal document (s) on quality seed/seedling production and supply, and on high-quality timber production are issued.	[Revision] With regard to deliverables as indicators, not only guidelines but also legal documents were included.
Objectively Verifiable Indicators -	Objectively Verifiable Indicators 3. The legal document standardizing the Provincial Forest Monitoring System at national level is issued.	[Addition] An indicator on the standardization of PFMS at national level was added.
Means of Verification -	Means of Verification 3. Legal documents on the standardization of PFMS at national level.	Same as above
-	1-1-5-3 Support in applying the Provincial Forest Monitoring System in the pilot provinces under other donors.	[Addition] With regard to the expansion of PFMS to other Provinces, activities were added aiming to expand PFMS to other provinces not covered by the FCPF.

Version 1	Version 2	Reason for Modification
1-2-2 Assist relevant provinces in accumulating data on biodiversity.	1-2-2 Assist relevant provinces and organizations in accumulating data on biodiversity.	[Revision] This revision was made because not only the Ministry (DONRE) but also conservation area management boards (e.g. national parks) and research institutes play an important role in collecting biodiversity data.
Component 2		
Objectively Verifiable Indicators (Component Objective) -	Objectively Verifiable Indicators (Component Objective) 1. In the pilot communes in four (4) Provinces (Dien Bien, Lai Chau, Son La and Hoa Binh), net forest change is positively increased for the period 2015-2020 as compared to the average net forest change for the period 2010-2015. 2. More than 90% of the existing natural forest area is protected (remaining), and the area designated for regeneration and afforestation is at least equal to the reduced natural forest area, by the end of the Project as compared to 2015 in the pilot communes in four (4) Provinces.	[Revision] Indicator 1 was changed from "pilot site" to "pilot commune" in order to standardize the notation. Indicator 2, which can be more simply measured than Indicator 1, was added.
Means of Verification (Component Objective) -	Means of Verification (Component Objective) Project monitoring report	[Addition] Means of Verification were defined.
Means of Verification (Output 2-1 and 2-2) 2. In Dien Bien Province, PFMS (Provincial Forest Monitoring System) is disseminated to the area, which is not pilot area of the Project.	Means of Verification (Output 2-1 and 2-2) 4. In Dien Bien Province, PFMS (Provincial Forest Monitoring System) is replicated in all communes with forest. In other three (3) provinces, PFMS is employed 50% of PRAP and target communes with forest.	[Refinement] Modified and added as an indicator to clarify the achievement of PFMS's support to the four northwestern provinces.

Version 1	Version 2	Reason for Modification
Means of Verification (Output 2-1 and 2-2) 3. By the 30th months of the Project, PRAPs in three (3) provinces (Lai Chau, Son La and Hoa Binh) are finalized and approved by PPCs.	Means of Verification (Output 2-1 and 2-2) 1. By the 24th month of the Project, PRAPs in three (3) provinces (Lai Chau, Son La and Hoa Binh) are finalized and approved by PPCs.	[Revised] As a result of discussions with MBFPs and long-term experts, a suggestion was made to proceed with a shorter period for PRAP development, and the indicator was revised to match the revised period.
Means of Verification (Output 2-1 and 2-2) -	Means of Verification (Output 2-1 and 2-2) 2. By the end of 2016, pilot activity plans for the selected pilot communes of the four (4) provinces are approved by the respective CPCs. 3. At the end of the Project, more than 90% of implemented pilot activities, which are included in the plans approved by CPC, continue in the pilot communes.	[Refinement and Addition] Indicators for REDD+ pilot activities were clarified in detail.
2-1-2-12; 2-2-3-12 Monitor village forest management and livelihoods improvement activities by forest rangers/forest management board staff and extension workers.	2-1-3-12 Monitor village forest management and livelihoods improvement activities by facilitators/extension workers.	[Partial Revision] The description of the person who conducts the monitoring was changed to be more concise.
2-1-2-13; 2-2-3-13 Support villagers to improve financial accessibility.	-	[Deleted] The Project had to focus on supporting the implementation of forest management activities and livelihood improvement activities within the limited project period.
2-2-5-14 Submit the final draft PRAP to PPC for official approval.	2-2-3-14 Submit the final draft PRAP to VNFOREST for official appraisal and then to PPC for official approval.	[Refinement] To clarify the support for PRAP approval.

Version 1	Version 2	Reason for Modification
Component 3		
<p>Objectively Verifiable Indicators (Component Objective)</p> <p>1. Integration of PFMS, developed by the Project, into FORMIS is officially approved.</p> <p>2. Biodiversity monitoring data indicate that the ecological status of LB-BR is stable</p>	<p>Objectively Verifiable Indicators (Component Objective)</p> <p>1. The data obtained through PFMS is continuously used for the sustainable management of LB-BR.</p> <p>2. Biodiversity monitoring system developed is continuously used for the monitoring of ecological status of LB-BR.</p>	<p>[Revision]</p> <p>1. Integration of PFMS into FORMIS was not a task of Component 3.</p> <p>2. It was difficult to confirm whether the LB-BR ecosystem is stable or not with the biodiversity data obtained in the limited period of the Project, and continuous monitoring activities are required in the future.</p>
<p>3-2-5</p> <p>Develop a marketing strategy (including the label of MAB) for local products in LB-BR.</p>	<p>3-2-5</p> <p>Develop and make a trial on a marketing strategy (including the label of MAB) for local products in LB-BR</p>	<p>[Addition]</p> <p>The decision was made to add activities related to the marketing strategy.</p>
<p>3-2-9</p> <p>Obtain approval from the PPC for the guidelines on piloting the CMA/BSMs.</p>	<p>3-2-9</p> <p>Obtain approval from LB-BRMB for the guidelines on piloting the CMA/BSMs.</p>	<p>[Partial Revision]</p> <p>A revision was made so that the approval process by the government was appropriate.</p>
<p>3-3-4</p> <p>Conduct biodiversity basic surveys and collect data on fauna and flora, especially on endemic and threatened species in the core zone.</p> <p>3-3-5</p> <p>Analyze the data collected by the basic surveys and identify indicator species and their habitat for biodiversity monitoring in the core zone.</p>	<p>3-3-4</p> <p>Conduct biodiversity basic surveys and collect data on fauna and flora, especially on endemic and threatened species in the core and a buffer zone of LB-BR.</p> <p>3-3-5</p> <p>Analyze the data collected by the basic surveys and identify indicator species and their habitat for biodiversity monitoring in the core and the buffer zone of LB-BR.</p>	<p>[Partial Revision]</p> <p>The buffer zone of the LB-BR contains a part of the BNNBP where valuable fauna and flora exists, so a decision was made to include it in the survey.</p>

Version 1	Version 2	Reason for Modification
Component 4		
Objectively Verifiable Indicators (Component Objective) 1. Integration of PFMS, developed by the Project, into PORMIS is officially approved.	Objectively Verifiable Indicators (Component Objective) 1. Forest resource data/information collected by PFMS is utilized for the official forest cover statistics.	[Refinement] To clarify the achievement of activities in a more concrete and precise manner.
Means of Verification (Output 4-1) FORMIS report	Means of Verification (Output 4-1) MARD Decision on Forest Cover Statistics	[Refinement] Means of verification were defined.

3rd Modification of PDM (April 1, 2018)

Towards the latter half of the Project, the PDM were carefully examined and reviewed based on the current situation. The main changes are as follows. This version was approved at the 2nd Project Steering Committee (PSC) meeting.

Version 2	Version 3	Reason for Modification
Component 1		
-	1-1-4-4 Assist in applying for the pilot GCF REDD+ result-based payments	[Addition] In the second half of the Project (Phase 2), the stakeholders, including the Vietnamese side, agreed to support the application for GCF Results-Based Payment, and this was added as a new activity.
Component 2		
-	2-1-2-3, 2-2-3-15 Monitor the implementation of PRAP and report to the PPC.	[Addition] The stakeholders agreed to conduct PRAP monitoring in the second phase of this Project.

Version 2	Version 3	Reason for Modification
Component 3		
Objectively Verifiable Indicators (Component Objective) 3. Legal documents on the result of CMA trial in the target villages are approved and issued by the PPC with the commitment for expansion.	Objectively Verifiable Indicators (Component Objective) 3. Policy documents on the result of CMA trial in the target villages are endorsed by the BR management board with the consideration for expansion.	[Partial Revision] A revision was made to the approval process so that it was appropriate. In addition, the term "documents" was changed to an appropriate expression, since documents only become legal when they are approved.
Means of Verification (Component Objective) Legal document	Means of Verification (Component Objective, Output 3-2) Submission letter to LB-BR MB with policy documents	[Refinement] Means of verification were defined.
Objectively Verifiable Indicators (Output 3-1) 3-1-3 Regular meetings of the BR management board are periodically convened with more than xx2 % of attendance rate of the members.	Objectively Verifiable Indicators (Output 3-1) 3-1-3 At least 80% of relevant provincial organizations listed in the management plan implement and monitor the activities following the approved plan.	[Refinement] To clarify the achievement of activities in a more concrete and precise manner.

4th Modification of PDM (December 17, 2019)

The PDM were carefully reviewed and revised in line with the current situation at the annual meeting. The main changes are as follows. This version was approved at the 2019 Annual Meeting.

Version 3	Version 4	Reason for Modification
Component 2		
Objectively Verifiable Indicators (Component Objective) In the pilot communes in four (4) Provinces (Dien Bien, Lai Chau, Son La and Hoa Binh), net forest change is positively increased for the period 2015-2020 as compared to the average net forest change for the period 2010-2015.	-	[Deleted] This indicator was similar to Indicator 2 of the component objective, and the Achievement Levels of the target can be measured by measuring Indicator 2. In addition, there is a lack of satellite imagery for measurements based on this indicator, and an additional input is required.
Component 3		

Objectively Verifiable Indicators (Component Objective)	—	[Delated] Some neighboring provinces do not agree with the expansion of LB-BR.
5. A road map to enlarge the Biosphere reserve is endorsed by the BR management board for approval of the PPCs of Lam Dong and the neighboring provinces.		
3-1-11 Develop a road map (including a proposed five years management plan) to enlarge LB-BR to cover the adjacent protected areas of the neighbouring provinces.	—	[Delated] Some neighboring provinces do not agree with the expansion of LB-BR.

5th Modification of PDM (29 July 2020)

The Project duration was modified due to the extension of the Project period.

Version 4	Version 5	Reason for Modification
Project Period: 2015 - 2020 (5 years)	Project Period: 17/8/2015 - 31/1/2021	[Revision] The Project duration was modified due to the extension of the Project period.

4. Others

4-1 Results of Environmental and Social Considerations (if applicable)

In the REDD+ pilot activity in Son La Province, a public consultation was held in Tong Bua Village (a village in the resettlement area of the dam), where grazing was affected by afforestation activities promoted by neighboring villages. The village agreed to the afforestation activities and the Project was to support the cultivation of fruit trees, fodder grass and compost.

4-2 Results of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)

In the pilot communes in the four northwestern provinces, when village forest management/livelihood development committees were established in each village, the Project encouraged them to include female members with respect to the importance of women's participation in decision-making and project management. As a result, women comprised about 30% of the members in Hoa Binh Province and Son La Province and about 20% in Dien Bien Province and Lai Chau La Province, and the women's opinions were reflected in the decision-making.