Japan International Cooperation Agency (JICA)
Sustainable Natural Resource Management Project (SNRM)

NARRATIVE REPORT

ON THE FINAL (4th ROUND) MONINTORING AND EVALUATION OF REED+ PILOT ACTIVITIES OF SNRM PROJECT IN SON LA PROVINCE

(Internal assessment – Final version)

Pham Van Hung. Wataru Yamamoto, Yumiyama Daisuke

Son La Province, June 2020

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Acknowledgements

The 4th round of monitoring and evaluation on REED+ pilot activities of SNRM project was prepared by Son La provincial consultant's Office in coordination with the Son La PPMU and was undertaken in May 2020.

The team would like to thank Quynh Nhai district and Muong Gion Commune leaders and authorities and staff of district and commune implementation agencies for meeting with the team during their field survey and supporting the evaluation.

We would especially like to thank beneficiaries and related stakeholders of the project in Muong Gion commune for meeting the team and sharing their views so openly.

Finally, we would like to thank the Japanese Experts/Consultants for sharing their views and reviewing this report.

All queries should be addressed to:

Pham Van Hung
Provincial Coordinator in Son La province
SNRM Consultation Project Office in Son La province
No. 40. Lo Van Gia street, Chieng Le ward. Son La City, Son La province, Vietnam
Tel: +84-2126572665

ABBREVIATION

CPC	Commune People's Committee
CPMU	Central Project Management Unit
DPC	District People's Committee
FM	Forest Management
M&E	Monitoring and evaluation
GHG	Green House Gas
HH	Household
ICS	Improved Cooking Stove
JICA	Japan International Cooperation Agency
KAP	Knowledge Attitude and Practice
KIP	Key Information Person
LD	Livelihood Development
M&E	Monitoring & Evaluation
MBFMLD	Management Board for Forest Management and Livelihood Development
MBFPs	Management Board of Forestry Projects
NTFPs	None Timber Forest Productions
PFES	Payments for Forest Environmental Services
PFMS	Provincial Forest Monitoring System
PMU	Project Management Unit
PPC	Provincial People's Committee
PPMU	Provincial Project Management Unit
PRAP	Provincial REDD+ Action Plan
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SNRM	Sustainable Natural Resource Management
Sub-FPD	Sub-Forest Protection Department
VMBFMLD	Village Management Board for Forest Management and Livelihood Development
VFPT	Village Forest Patrolling Team
VFs	Village Funds

I. Summary

After the project kick of workshop was held on July 28, 2016 in Son La Province. The SNRM Project in Son La Province has selected 13 target villages (Bo, Cha Có, Co Líu, Cút, Giôn, Huồi Văn, Huồi Ngà, Kéo Ca, Xanh, Khóp, Xa, and Tông Bua village) in Muong Gion Commune, Quynh Nhai District to develop action plan for pilot activities on forest management and livelihood development for 2 years 2017 and 2018 and 5 years from 2016 to 2020, and then it was implemented through VMBFMLD as the first half of project term.

In the second phase, REDD+ pilot activities give a priority on the monitoring of pilot activities to aim contributing/ enhancement of SNRM project achievement and outcome including capacity development on SFM, increased forest cover/carbon stock through feedbacks from monitoring and evaluation results (incorporating adaptive management)

Monitoring were conducted monthly and every six months. Based on the result of monitoring, achievement, issues and solutions will be identified and action plans were prepared with additional and supplemental training input.

Based on the results, the project encourages applying those good practices to the Vietnamese government program in forest management and livelihood improvement. The action by the government was also monitored.

This report as last mission was written for the 4th round M&E (January – May 2020), described more the result of M&E such as project inputs, outputs, achievement, prospective/issues, lesson leant and recommendation. Due to this is last round M&E repost with the recommendations for project second phase (SNRM2).

Main findings

Through the 4nd round monitoring, there are following findings:

- Most project activities supported have been continuing by beneficiaries (4 of FM activities and 15 of LD activities, except only one activity (mushroom production). Mushroom productions not continued; however they are strong committed to restart when they have enough conditions.
- Some activities were expanded without project supports such as ICS, NTFP (Sa Nhan), Agroforestry, grass, vegetable, compost organic fertilizer, fruit tree grafting.
- The project activities are well relevant to each other because all activities was planned and implemented to be based on beneficiaries' needs in project intervention and objective.
- The project activities are expected be sustainable due to institutional (ToR for VFPTs, charter for VMBFMLD, commitment signed) and financial aspects (VF from PFES) facilitated by the project
- Allocation for FM activities from VFs/PFES is lower than last round monitoring (6,79%)
- Awareness of community on the forest resources management was improved through their participation and contribution to the project implementation.
- Through the participation in the project implementation, the capacity of facilitators was improved; some of them was promoted to the high position for economic –social fields in general and natural recourses management in particular
- The project organized a workshop in June 2019 to share the results (See agenda in the annex 1). The workshop was good opportunity to share the result with other neighbor

province, districts and communes. After the workshop, pilots sites received several visitors to share the results in the fields.

In general, the REED+ pilot activities have reached the objectives under the component 2 of the SNRM project; most REED+ pilot activities implemented in line with the solution packages in the PRAP approved. As achievement of the project, some activities (agroforestry, ICS, afforestation, regeneration models) were documented as good model, best practice or successful stories. There are many visits of local authorities/other projects to the project area, and TV program broadcasted for project achievements (Annex 2).

II. Monitoring methods

2.1. General methods

Collect qualitative and quantitative data based on monitoring and evaluation survey for REDD+ pilot activities.

2.2. Specific methods

- Collect secondary data from relevant local offices at the all levels such as provincial/ district Sub-FPD, Fund for forest protection and development of Son La, Muong Gion CPC and targeted villages of the project area.
- Developed and use of 19 questionnaires for each topic: 2 questionnaires for FM activities and 15 questionnaires for LD activities and 2 others for CPC and DPC (Agricultural extension)
- Key information person (KIP) interview was used as district/commune ranges, head of interest groups and interviewed 671villagers of each activity monitored
- Group discussion
- Use available results of 1st, 2nd and 3nd round M&E, especially case studies and successful stories implemented.

III. Monitoring results

3.1. Forest management

3.1.1. Forest protection

Brief description

According to the results of forest inventory in 2015, natural forest area in Muong Gion commune is 18,710.3ha. Of which:
+ Large forestry area, which occupies 16,065 ha (equivalent to 86% communal natural area);
+ Protection forest area (5,144 ha, 32%);
+ Production forest area (10,392 ha, 65%);
+ Allocated forests and forestry land: 97%;
85% of areas are community forests: 13% of forests managed by households, 2% of forest managed by CPC;
Forest status: 67% of extreme poor forests, 33% of poor forests;

Photo 1: VFPT training in Cut village

- Rates of forest coverage are different, particularly, in Long Muc, it is 18%, Huoi Teo, it is 89%, and 70% in Keo Ca.
- Land area without forests are large with 56%;
- PFES area of the entire commune in 2016 was 7,003.83ha.


Photo 2: VIPT of Huoi Teo village is on the way patrolling

Forests and forestry land in 12 project villages and in Muong Gion commune have been under pressure. This is a challenge for forest protection and development work.
At the end of 2016, 12 villages in Muong Gion Commune were selected to be pilot areas of the SNRM Project. After the selection, FPTs of villages have been established too with list of members, operational regulations, work plans, provision of tools, and technical trainings.
Therefore, forest protection and development should be paid with great attention and support.
By the end of May 2020, patrolling village forest area in cooperation with commune forest ranger(s) is 5.349.94 Ha, of which: (1) PFES: 4.709.63 Ha; (2) Natural regeneration: 170.56 Ha; and (3) Afforestation: 94.85 Ha.

Inputs

With the support of the SNRM project; 12 VFPTs was established and well operated with 155 members, there is coordination with the agencies (district ranger) on patrolling. Under village forest patrolling plans (VFPPs); VFPT received budget support from PFES (VFs).

From 25/2/2017-28/2/2017, the SNRM Project organized 1 technical training (3 classes) for members of the VFPTs and provided tools/equipment for forest patrolling including protective clothing, machetes, flashes. 2019 and 2020, 5 of VFPTs workshop was held to develop annual plan with the approval from CPC.

In order to support effective forest patrolling, project also supported to develop the village on patrolling routes and hazard map

The SNRM project also supported institutional setup by the establishment of village forest protection regulation and the regulation for VBFMLDs. These regulations were discussed among village community with the approval of CPC.

In order to improve implementation results of forest protection and development, awareness raising for the local people play a very important role. The Project was installed signboards as following: 18 signboards of demonstrated models; 12 PFES area signboards and 12 pcs and 92 warning signboards.

The results of forest patrolling of 12 villages was recorded on the diary patrolling book, provide information for commune/district rangers to prepare monthly reports and commune patrolling monthly report was shared/submitted.

Outputs

12 VFPT was established with 155 members, necessary equipment set for forest patrolling was provided. 1 training and 5 workshops were held. Annual village patrolling plans by the use of 12 of patrolling routes and 12 of hazard maps was developed and approved CPC. 134 of signboards were installed for communication purpose in all targeted villages. 12 of village regulation on forest protection and VBFMLD were established with the approval of CPC. Monthly report on forest protection are using of inputs of patrolling record books.

Impacts

The number case of violation in forest designated for protection was reduced. As result of the 4th round M&E, there were 7 case of violation in the forest was found by VFPT from 2017 to May 2020, with 3 of case regarding to other villages (See table 1)), especially there were no any case violation in forest for conversion to agricultural land (burning for cultivation), illegal logging/hunting and harvesting of timber and NTFPs, and other incident (e.g. mass bamboo flowering, land slide, infrastructure).

Comparison with the before project implementation was about 17 of case/year and the project intervention period (2027-May 2020) was 1,75 case/year, reduced 15,25 of case/year, that means the forest protection was improved clearly, impacted to FM in general and forest protection in particular.

Despite of VFPTs member changed every year but the VBFMLDs plays an important role for FM and LD, capacity of VFPTs and VBFMLDs was improved and will be maintained after project end.

Table 1: The number case of violation in forest designated for protection (2017-2020)

No.	Cases found by VFPTs to monthly reports	2017		2018		2019		3. 2020	
		Targeted villages (case)	Other villages (case)	Targeted villages (case)	Other villages (case)	Targeted villages (case)	Other villages (case)	Targeted villages (case)	Other villages (case)
1	Forest fire	0	1(1)	1(2)	2 (3)	0	0	1 (4)	0
2	Encroachment by animal	0	0	2 (5)	0	0	0	0	0
3	Forest conversion to agricultural land (burning for cultivation)	0	0	0	0	0	0	0	0

4	Illegal logging/hunting	0	0	0	0	0	0	0	0
5	Illegal harvesting of timber & NTFPs	0	0	0	0	0	0	0	0
6	Other incident (e.g. mass bamboo flowering, land slide, infrastructure)	0	0	0	0	0	0	0	0

The SNRM project supports with multi activity is not only for the capacity building and change awareness, also institutional sustainability (village regulations) and financial (PFES/VF) for FM. 100% responses that they would continue project activities for FM and LD.

With integration, community based, sharing and communication approaches of the SNRM project from planning, implementation, M&E the awareness of local people was improved through ready participation, financial sharing and labor contribution.

By the impact of the local partner's policies to project intervention for FM, in February 2020 Sub-FPD (Forest protection and development programe) provided 178.392 kg of rice for 553 HHs' participation in natural regeneration, afforestation in targeted villages of the SNRM project (322.77kg/HH). The villagers enjoyed for participation in project activities, also received other supports from local authority (see table 2). This support is strong committed of the local partner for integration that make strong impacts to the awareness of the local people for forest protection as well as benefits of the forest in their life.

Table 2: The rice quantity provided by Sub-FPD for FM activities of SNRM project

No.	Village	No. of HHs	Quantity (kg/HH)	Total (kg)
1	Co Liu	34	294	9996
2	Xa	119	308	36652
3	Huoi Teo	27	308	8316
4	Cut	107	140	14980
5	Cha Co	59	350	20650
6	Huoi Van	27	636	17180
7	Huoi Nga	91	560	50960
8	Others	89	222	19758
	Total	**553**	**322.77**	**178.492**

Prospect/Issues

However, it still lacks of close collaboration/sharing on VFPT and forest change monitoring from District sub- FPD, commune and VFPTs and other villages. VFPT establishments is not applied for all villages of commune. Budget support for VFPT is different among commune, the member of VFPT was changed or absent for VFPP due to they get other job from cities, and then Some VFPT recode not enough data/information on the patrolling book or report is not submitted timely.

The Red book certificate is not full for all forest owners. Forest planning 2016-2020 was approved at the provincial level. The big changed areas of the forest protection and forest protection is not informed to the villagers, not updated in the red book of forest owners. And then VFPPs is not updated and members of VFPTs is changed.

VBFMLDs committed to continue project intervention supported such as VFPTs, PFES/VFs, regulations maintenances however it is still needed to have full integrated support/supervision from local authorities.

Lessons learnt and recommendations

It is needed to have close collaboration/sharing on VFPT and forest change monitoring from District sub- FPD, commune and VFPTs and other villages. Budget support for VFPT should be given and adjusted annually for VFPTs. The member of VFPT should be updated annual. District/commune range should support and supervise the implementation of plans of VFPTs. Besides, the CPC should to conduct the updates and deliveries the red book certificate for all forest owners. Lastly; capacity building for VFPTs should be refreshed annual.

Local authorities (CPC) should have full integrated support/supervision for effective operation VBFMLDs.

3.1.2. Payment of PFES

Brief description

PFES have been introduced in Vietnam since 2008 aiming to incentivize individuals and communities to sustainably manage and protect their forests by providing compensation for their efforts. According to Provincial REDD+ Action Plan (PRAP) in Son La Province, PFES is the only budget of forest protection, suggesting the significant role of PFES in forest management. Son La PPC issued a guideline to use 40% of PFES fund for forest management. However, since PFES buyers and sellers are hardly connected, the impacts of PFES on actual forest management is unknown. SNRM project funded by JICA supported to form a village authority to promote forest management and livelihood development, establishing village fund and demonstrating sustainable resource use models. The objective of the paper is to assess impacts of PFES on enhancement of forest management based on the

Photo 3: Sub-FPD checks afforestation design in Xa village

experience of SNRM project in Muong Gion Commune, Son La Province. SNRM found that a village-based authority functioned well when it is implemented

Prospects/ issues

PFES area (2018)*:* 7,016ha/16,065ha (43.68 % of the forest land), that means that the payment of PFES on production forests and protection forests to villages PFES are paid to less than 50% of the forests. PFES area owner: Main is community owner (6,268 Ha, 89.34%), HHs owner (781 Ha, 10,66%). PFES area potential is checked annually for payment procedure. Amount of 2018 PFES of all forest owner is VND 2,431,277 billion (VND 1,761 billion of 12 targeted villages)**.** PFES of 12 targeted villages is allocated to VFPTs, however, the amount is different between villages. As agreement, mostly community villages committed to allocate 40% of PFES fund for forest protection and development through VF regulation as decision No.1853/QD-UBND of Son La PPC on PFES management and use, dated on August 18, 2018.
Some amount of PFES is utilized for VFPT, forest fire prevention and livelihood development

The survey results show that PFES (VF) management/use is different among villages. VMBs lacks of knowledge/skill on VF management. It is lacks of micro-financial activity for LD activities and village development plan (VDP) for the use of PFES fund (VF). Due to some reasons, thee payment is not timely: 2018 PFES was paid 30%; 70% remaining was paid in October 2019. Up to May 2020, PFES 2019 is not yet paid. It also investigated that the percentage of PFES uses for village forest management is very low as 40 % committed.

PFES/VFs now and future will play an important role to provide finance for village in socio economic development in general and FM in particular so its management and uses is needed to have transparency, CPC should supervise through VDPs.

Lessons learnt and recommendations

PFES is as important roles for social economic and development of villages in general, and forest management livelihood development in particular. It is recommended that it continues to support VMBs on effective management of PFES (VF) for forest management and livelihood development. The CPC should support to develop village development plan (VDP) by the use PFES (VF). The commune/village planning for afforestation/regeneration should be conducted for PFES area extension. In order to make convenience for forest owners, the payment procedures should be improved and paid by bank account.

3.1.3. Natural Regeneration
Brief description

Photo 4: Regeneration training for villagers

Regeneration of forests is the process of taking full advantage of the natural regeneration capacity with reasonable human intervention to accelerate the regeneration process through silvicultural techniques to ensure the survival of the forest. There is a tendency to expand the forest area, provide a stable source of timber, reduce investment costs for afforestation and promote forest protection. This is an important solution for forest restoration in the forested areas and post-harvesting forest land with various methods of regeneration, namely, natural forest regeneration and assisted forest regeneration.

Inputs

The SNRM Project supported to implementation of 310.26 ha for forest regeneration, of which, 303.31 ha were for natural forest regeneration, and 6.95 ha were for assisted forest regeneration (replantation), The design document was based on current Sub-FPD regulation. Sub-FPD also paid field trips to check before approval on design document, and then the project organized technical trainings for 678 villagers of 10 villages (female 14,11%).

Photo 5: Regeneration training and practice for villagers

Project output

Forest regeneration was designed at 10 villages for 310,26 ha (100% of forest land belongs to village community owners). 10 of designed documents was approved by Sub-FPD and delivered for local partners and villages. 10 of techniques training were conducted for 678 of villagers.

After technical trainings; 295,39 ha had technical intervention works with 4.095 man-day contribution of villagers (see table 2). As a result of the project support, by the end of 2017, there are 124,83 ha to get PFES fund (42,26% of area intervention (Table 2).
There was 3.58ha regeneration areas with additional tree planting; (730 Canarium tramdenum and 2,830 Michelia mediocris seedlings)

Table 3: Project inputs and output for natural regeneration

Village / Item	Huoi Van	Huoi Nga	Keo Ca	Cha Co	Cut	Gion	Bo Xanh	Khop	Huoi Teo	Total
Area designed	6.02	102.84	8.22	30.85	52.62	19	42.55	28.34	19.82	310.26

Labor contribution	180	1520	160	300	760	275	280	360	260	4095
PFES received 2017	0	67.1	2.25	0.86	9.21	1.74	13.96	15.71	14	124.83

As explained before the Project also integrated in to government program/projects to receive financial supports for village fund and rice for HHs (Table 2). The VMBFMLD and rangers checks regularly area potential to receive PFES fund or change in forest conditions is monitor annual. However, less than 50% has changed into forest categories or no significant changes in current forest category (DT2).

There is no any case of violation in forest regeneration designated for protection happened in the period of reporting such as forest conversion to agricultural land, forest fire, encroachment by animals, illegal hunting, illegal harvesting of timber and NTFPs, etc.

Impacts

As the impact of the local partner's policies to the project interventions, provided 178.392 kg of rice for 553 HHs' participation in natural regeneration, afforestation in targeted villages of the SNRM project (322.77kg/HH). This support is not only strong committed of the local partner for integration, also make strong impacts to the awareness of the local people for forest protection aa well as benefits of the forest in their life.

After 2 years of the project implementation, there was 124,83 ha to get PFES fund (42,26% of area intervention), that mean that the villages can get amount of money more for VFs. Nearly 100% villagers through that the project approaches for FM activities is best way to change context of the FM activities in general and natural regeneration in particular. They are ready to participate and contribute labor and satisfy with the project policies.

Prospects/ issues

A lot of works for regeneration for cycle, so the village always lack of human resources for regeneration, in fact, these works sometime is not prioritized by the villagers. By the project support approaches, it is not easy to be integrated in to governmental program/project for natural regeneration. In order to monitor annual forest change by the regeneration, the villagers still lack of full guiding/tool set for monitoring forest changes for community.

Muong Gion pilot commune still have big potential for natural regeneration so its prospects would be developed more from project approach.

Lessons learnt and recommendations

124,83 ha to get PFES fund after 2 years (42,26% of area intervention), this is good model and best practices for regeneration. This is recommended that the VMBFMLD continue to protection and intervention for remaining areas of natural regeneration (170,56ha). It also should integrate in to governmental program/project for model replication and receive financial support as current regeneration regulation. Sub-FPD should support to compose guiding/tool set for monitoring forest changes for community.

3.1.4. Afforestation

Brief description

Afforestation is an important task of the forestry sector to develop forests that will sustain forest resources, contribute to environmental protection; meet the people's needs of wood, firewood and other special forestry products for domestic consumption and export; create jobs, increase income for the local people, especially to farmers in the mountainous areas. The SNRM Project has support to design 114.39 hectares for afforestation in 4 villages with the Pinus plantation. These areas were checked and approved by Son La Sub-FPD. As project policies, project will support design, technical training and delivers seedlings (1600 seedling/ha),

Photo 6: Afforestation training/practice in Huoi Teo village

Inputs

To be based on current regulation for designed afforestation, the SNRM project hired consultancy service to conduct field survey and prepared designed document. It was like regeneration design process, Sub-FPD conducted field trips to check before approval. Afforestation was designed at 4 villages as 125,44 ha of 334 forest land owners in 2017 and 2018 (Table 3).

Technical guideline/training for plantation, caring and protection was conducted for 4 villages.

Pinus species was identified for plantation, 183,184 Pinus seedling was delivered free for forest owners. Project staffs visited regularly for techniques supports.

Outputs

4 of designed document for afforestation was completed, and approved by Sub-FPD. The design document was shared for 4 villages, and then 4 of techniques training for 678 participants was conducted.

Table 4: Project inputs and output for afforestation

Afforestation timing	No. Village	No. of owner and area designed		No. of owner and area implemented		No. of seedling
		Community	HHs	Community	HHs	
2017	4 (Huoi Teo, Xa, Khop, Co Liu)	03 with rhe 11.66 Ha:	177 with 102.73ha	03 with rhe 11.66 Ha:	177 with 59.64ha	135,184

2018	2 (Xa, Co Liu)	01 with rhe 11.05 Ha:	44 with 12.5ha	01 with rhe 11.05 Ha:	44 with 12.5ha	48,665
Total	4 (Huoi Teo, Xa, Khop, Co Liu)	03 with 22,71ha	221 with 115,23 Ha	03 with 22,71ha	221 with 72.14ha	183,849

As a results of the project supports and villager's effort, 94,85 Ha of Pinuts was planted; villagers contributed 4,008 man-days for plantation.

Survival of planted trees rate is over 99,2%.

12 June 2019, the SNRM workshop on catchment protection by forest restoration, agroforestry, livelihood development and payment of environmental services was held in Son La with the participation of delegates 4 provinces. Case study on SNRM afforestation to compare with the FPDP was presented with many good lessons and recommendations.

Impacts

As the impact of the local partner's policies to the project interventions mentioned above. Sub-FPD provided 178.392 kg of rice for 553 HHs' participation in natural regeneration, afforestation in targeted villages of the SNRM project (322.77kg/HH). This support is not only strong committed of the local partner for integration, also make strong impacts to the awareness of the local people for forest protection and development as well as benefits of the forest in their life.

Through the villager interview, afforestation expansion expectation is not only most villagers of 4 village plantation to continue afforestation models, also other village is expected to follow up demonstration. They are also ready to participate and contribute labor and satisfy with the project policies.

SNRM afforestation enhanced the awareness of the peoples by the decentralization and empowerment for people as well as the community based approach of the project.

Up to now, there are many visits of CPMU, PPMU, local partners, other project (KFW10). Especially after the SNRM workshop on catchment protection by forest restoration was held in Son La in June 2019, provincial leaders paid concerns for project process for afforestation.

Afforestation, agroforest, and regeneration models was officially selected by VNFOREST for documentary film to talk about desertification from the changed result of natural changes in climate or by human activity, it also regards closely to REED+ as well as forest restoration by plantation.

Prospect/Issues

Although villagers of 4 afforestation villages received rice support from Sub-FPD but there is big gap between financial support of government support and project support per one Ha of afforestation.

The dissemination of the model still faces with the current afforestation policies (refer to the analysis of competitive case study on SNRM afforestation to FPDP). The communication and advocacy activities is needed for revision of afforestation policies.

Lessons learnt and recommendations

The afforestation design should consider resources of the village to ensure that all area design approved will be carried out as planned. Project approach is community based with the low investment for high survival rates. It also is integrated in to governmental program/project to receive financial supports. The villages and CPC should continue supervision and protection these areas. Sub-FPD should consider project model for the dissemination purposes.

3.2. Livelihood development

3.2.1. Vegetable cultivation

General information

In order to improve nutrition and reducing by the NTFPs in the forest for HHs; SNRM project aimed to provide to the local HHs with technical guidance on cultivation, tending of some kinds of vegetable in safety manner. In addition, the Project also provided them with vegetable seeds/seedlings to cultivate by seasons which are safe for human's use and friendly with environment.

Photo 7: Vegetable training/practice for villagers

Inputs

To be based on the villager's needs and the results of the potential survey, the project plans for trainings of 12 villages and provides seeds/seedling for practices at the home gardens.

Outputs

In the collaboration with the Quynh Nhai district agro-extension station, the training materials was prepared. 9 trainings of 12 villages for 404 participants (female 58%) was held in December 2017.

Besides, the project delivered 38,335kg vegetable seeds (Cai lan, Kohlrabi, Glebionis coronaria) for villagers to practice at the home gardens

Project impacts

As results of survey; 96.12% of HHs is enough vegetable for self –consumption all time. There was 8.40% of HHs to sell vegetable to market and had income from VND 3-5 million and 96.73% of HHs confirmed to continue cultivating vegetable in home garden.

98,2% responses that vegetable cultivation at home garden will reduce pressure on the forest, they would not need to go to forest for forestry vegetable and NTFPs collection.

Awareness of the villagers on techniques vegetable cultivation was improved, most of interview responses that they continue this activity.

Prospect/Issues

Photo 8: Training on fruit tree caring

Seeds are not available in the local markets so most villager uses available vegetable seeds for next season. Water irrigation is not enough in the dry season. The villager lacks of still uses chemical pesticide to control diseases and pets for vegetable. The quantity selling for market is limited

Vegetable cultivation is popular among rural community, although the project just only supported winter vegetable cultivation but they would follow up to grow for all season in the year.

Lessons learnt and recommendations

Vegetable cultivation is very familiar to the local HHs and it does not require to apply complicated techniques. Thus, this activity of the Project is to provide more information and technique equipment to the local people. Integration in to others program/project to provide seeds/techniques trainings for HHs

3.2.2. Fruit tree cultivation and grafting

General information

In Muong Gion commune, fruit cultivations are popular but quality and value are low due to uncontrolled source of seedlings. On the other hand, the local people just planted fruit trees without application of techniques so the trees soon be degraded and reduced its values. SNRM project has provided technical assistance and quality seedlings to the local people for their cultivation. This expects to provide product diversification and income generation for the local people.

Project inputs

To be based on the villager's registration and the results of the potential survey, the project plans for trainings of 12 villages and provides seedling for practices at the home gardens. Most fruit tree species are grafted Longan, Taiwan mango, Lychee, Plum, Docynia indica, Peach, Canarium tramdeum, and Lemon.

3 of grafting training also supported to improve quality of trees in the home garden/

The project policies were agreed in the village meetings to be signed on the commitment agreement; Each participating HH can receive maximum ten (10) fruit tree seedlings for free. If the households need more than 10 seedlings, they have to contribute 50% cost of fruit trees to village fund.

Project outputs

The SNRM project collaborated with the Tay Bac university to prepare training materials. 11 of technical trainings with the participation of 431 villagers (female 27%) was held in 11 villages. 3 of grafting training also supported to improve quality of trees in the home garden for 39 HHs, 119 fruit trees were grafted.

Photo 9: Training on grafting for fruit trees in Cut village

12,104 fruit seedlings HHs was delivered for 557; including Longan, Taiwan mango, Lychee, Plum, Docynia indica, Peach, Canarium tramdeum, Lemon.

The survival rate of fruit seedling is over 77.50%.: 80% (Peach, Logan, mango, plum, and decennia indicia). The survival rate of grafted branch of trees is not so high (40%).

As committed, the villagers contributed VND 88.915.750 to the VFs. The VFs is managed and used to be based on regulation that's agreed by villagers and approved by CPC.

The mango could be harvested first time in May 2020, but it was unlucky for them by the 2 heavy hails in March for most villages, most babe fruit was dropt down, besides the hails affected larger to other trees in general and fruit tree in particular.

Project impacts

As result of the survey, 94.16% of HHs confirmed to continue cultivating fruit trees in home garden and 100 % of HHs confirmed to be confident continuing for grafting fruit trees in home garden

96,27% responses that fruit trees cultivation at home garden will have high income.

Awareness of the villagers on techniques fruit tree cultivation was improved, most of interview responses that they continue this activity.

Some villagers in Cut, Co Liu, Huoi Teo, Bo villages now can graft well to improved quality of fruit trees in their home garden, also helps other HHs. One villager in Huoi Teo planned to graft Son Tra and some fruit seedling for business purpose.

Prospect/ Issues

Grazing control is as big problem, the main reason affects to the survival race coming from animals. Most HHs did not use fertilizer for fruit trees plantation while the manual of animal is available. Some HHs did not consider for caring. Most fruit tree is not having irrigation in the dry season. The villager is also lack of knowledge for diseases and pets control. For the grafting, it is not easy for village to control on quality of grafted branch from mother trees.

With the awareness of the local people, other policies of local authorities, and especially good lessons from successful locations in Yen Chau, Mai Son, Moc Chau districts, fruit trees will be developed in other locations in general and pilot commune in particular,

Lessons leant and recommendations

Species, quality of seeding, techniques and cares training are important for the success. Each villages and HHs should have grazing areas. The villagers are requested to invest (labor, material inputs more for fruit trees plantation. The integration in to others program/project to provide seedlings/techniques trainings for HHs

3.2.3. Mushroom cultivation

General information

Mushroom production is off-farm activity to use available local materials (straw), generate income for HHs.

Photo 10: Mushroom production in Co Liu village

Inputs

The SNRM project supported technical training/study tour (March to April 2018), for 4 of village registry (Huoi Nga, Khop, Bo, Co Liu) and supported inputs to establish one demonstration in Co Liu village.

Outputs

In the collaboration with the Tay Bac university, the training materials was composed, In March to April 2018, 3 of techniques trainings was conducted in Co Liu village with the participation of 7 HHs of 4 villages (Huoi Nga, Khop, Bo, Co Liu).

One mushroom production demonstration was established in Co Liu village.

Impacts

At the time survey, no any HHs continues activity, however the owner of the model has a strong commitment to continue this activity when they have enough necessary conditions.

Prospects/Issues

Mushroom production is not continued due to high cost/investment and technical request. It is also is unclear market for selling. The weather condition is not convenient for production and not easy to caring. And then seedling of mushroom is not available in the commune

Recommendations

In order for this activity development it is needed to have integration in to others program/project for production. Due to mushroom production have high cost/investment and technical request sso this activity should have collaboration through establishment of a cooperative or group.

4.2.4. Agro-forestry

General information

Muong Gion commune has more than 90% of the land on a steep slope; it is difficult for agriculture production. Although the population is increasing, soil is getting to be more degraded, leading to a decline of both available land per capita as well as agriculture production per hectare. Muong Gion commune is located in the Da river watershed of Son La hydropower dam. Increasing soil erosion makes the life of dam shorter. The farming system of local people are not diversified. The products produced from sloping cultivation has low value, failing to meet the essential needs of indigenous peoples and markets.

Agroforestry is a productive land use system having deliberate association of woody perennials with annual crops. With a proper design, it can reduce soil erosion while increasing and maintaining


Photo 11: Agroforest owner interview in Cut village

per unit production over the time. Plants on hedgerow slow the speed of stream flow when intensive rainfall occurs.

Since 2015, Son La province has conducted a series of surveys, projects, workshops, field trips, and model visits to find the best way to convert shifting cultivation on slope to other production systems. In Muong Gion Commune, farms are engaged in livestock production as main income source and low productive annual crop cultivation on the degraded slope. Fruits are hardly produced for sales. On farm trials were carried out by Agroforestry for Livelihoods of Smallholders Farmers in Northwest Vietnam (AFLI) project. However, it was a limited scale and actual impact on farm economy and farmer's acceptance were unknown.

Agroforestry has been practiced for a long time in Vietnam. However, widespread adoption remains limited. Muong Gion commune is a high mountainous commune with poor terrain, and most of the land for agricultural production is steep slopes with high slopes and strong soil erosion. In addition, the climate is not suitable for agricultural production, which all leads to difficulties in agricultural cultivation and the exchange of goods between villages and communes with the outside market.

From June 2017, the SNRM project has developed agroforestry models at 9 villages with many varieties of fruit trees, coffee and grass for livestock, aiming at managing and using sloping land effectively, reducing erosion and protecting the catchment of the Da River. A study tour to AFLI project in Mai Son district was held before agroforest training for villagers.

Inputs

In collaboration with the Center for Forest Science in Northwest (CFSN), supporting to introduce agroforest and field survey for design.

The technical trainings also conducted for 8 village agroforest designed in 2017 and one village in 2018. After training project also deliveries seeding/cutting (grass, coffee, fruit) for HHs demonstration.

Outputs

Survival rate

After nearly 3 years of the implementation, fruit and forage cultivation on slope models have certain successes. The survival rates were high for Son Tra (both grafted and non-grafted), longan and mango (97-100%), while medium (74-80%) for Lychee and plum, and low (54-62%) for Tam hoa Plum and coffee.

Situation of growth and development:

- Son Tra (grafted and non-grafted) showed good growth, no pests, plants with over 2m height, and most of them having flowers. They can be harvested in September 2020.

- Lychee and plum: Average growth, some plants are destroyed by pests, and insects.
- Tam Hoa plum: slow growth and development (reasons: newly planted in 2018, a place far away from home, with poor caretaking and protection; limited fertilizer cultivation, lack of irrigation water and being destroyed by cattle).
- Coffee: developed fairly evenly, but some plants have disease (blackened leaves). Households sprayed chemical 3 times. This disease will be reduced when the rainy season comes.

Fruit harvest

Fruit trees from grafted seedlings mostly flower after 1 to 2 years of planting. Except for Lychee, they will bear fruits from 2020 after 3 years of planting.

Table 5: SNRM Fruit and forage cultivation model

No.	Village	HH No.	Model area (ha)	Model/HH (ha)	Planted species
In 2017		***31***	***12.86***	***0.41***	
1	Huổi Tèo	4	2.58	0.86	Son Tra + Ghinea grass + Corn
			0.48	0.48	Grafting existing plants (Peach, orange, and Son Tra); Son Tra + Ghinea grass + Corn
2	Xanh	1	1.63	1.63	Late-ripened longan + Black plum + Ghinea + Corn
3	Bo	1	0.12	0.12	Grafted longan+ Ghinea grass
			0.67	0.67	Late-ripened longan + Pomelo + soybean
4	Xa	7	1.13	0.16	Late-ripened longan + Taiwan mango + plum + casava
5	Gion	1	0.56	0.56	Planting Ghine grass along the field banks
			0.36	0.36	Trám đen + Taiwan Mango + Ghinea grass + Banana + Soy bean
6	Co Líu	1	0.52	0.52	Grafted existing lychee*; Planting Thieu lychee + Late ripened longan + Ghinea grass + Cassava
			0.46	0.46	Plant Guinea grass around the pond
7	Cut	8	2.09	0.30	Long-ripened longan + Taiwan mango + Ghinea + Corn
			0.21	0.21	Trám đen + Ghinea grass + Corn
8	Cha Co	8	2.05	2.05	Lychee + Taiwan Mango + Late ripened longan + Ghinea grass+ Corn
In 2018		***39***	***7.08***	***0.18***	
1	Tong Bua	2	0.78	0.39	Tam hoa plum + Coffee
		37	6.3	0.17	Tam hoa plum
Total		**70**	**19.94**	0.28	
*Integration with the district's agricultural extension program					
Son Tra (Docynia indica), Trám đen (Canarium tramdeum)					

As of March 2020, (except for Tam Hoa plums planted in 2018), fruit trees planted in 2017 have flowers, will bear fruits (mango trees bear young fruits), and will be harvested in months. Based on the observation of flowering branches, or small fruits, the total estimated income is about VND 36.3 million. The income generated from each tree estimated was higher for Late-ripened longan (72,000 VND/tree), Taiwan Mango (68,000 VND/tree), and grafted Son Tra (30,000 VND/tree). Other fruits are too young to figure out at 3 years old (Table 6).

Forage Harvesting

Forage harvest was estimated that the total forage yield is 11,290 kg, with a frequency of 7 harvests / year (usually from May to November), an average of 868 kg/household /year. A half of the forage was used for buffalo (Table 6)

Table 6: Production and sales of annual crop and coffee

No.	Inter crop	Number of households	Area (ha)	Investment					Harvest					
				Seed (VND)	Fertilizer (VND)	Plant protection drugs (VND)	Total (VND)	Per ha (VND)	Quantity (kg)	Consumption (kg)	Sales (kg)	Price per kg (VND)	Sales (VND)	Sales/ha (VND)
1	Corn	8	1.94	4,190,000					12,100	4,900	7,200	2,800	33,880,000	17,463,918
2	Casava	6	0.73	857,000					12,200	12,200	0	1,700	20,740,000	28,410,959
3	Peanut	3	0.05	300,000	14,402,500	1,577,000			165	50	115	20,000	3,300,000	66,000,000
4	Soybean	1	0.01	20,000					10	10	0	20,000	200,000	20,000,000
5	Coffee	4	1.56	6,600,000					70	0	70	6,000	420,000	269,231
	Total	22	4.29	11,967,000	14,402,500	1,577,000	27,946,500	6,514,336	24,545	17,160	7,385		58,540,000	

Source: Pham Van Hung, Vu Van Tuan, Yamamoto W., Yumiyama D. Report 2nd monitoring and evaluation on agroforestry model. SNRM. 2020. Interviews from 17 households.

Intercropping crops and its profit

Maize, cassava, peanuts, soybeans, and coffee were planted as intercrops). Maize has the largest area: 1.94 ha (accounting for 45.2%), then coffee: 1.56ha (36.4%), cassava 0.73 ha (17.0%), the rest are peanuts and soybeans: 0.06ha (1.5%).
The amount of profit after paying for the cost including seeds, cuttings, seedlings for planting, NPK/organic fertilizer, pesticides, lime powder, etc. was estimated as approximately 58 million VND in total with 22 households, 26 million VND/HH/year (Table 6). On average the total number of working days per households in the models was 387 man days.

Impact

The district, commune, and villagers are interested and eager to learn and apply in other areas; this is also an opportunity to raise the awareness about agroforestry, the benefit of permanent plants, and income and contribute to supporting better forest protection. Many delegations visited and studied the models in Cut, Co Liu and Huoi Teo villages.

Recommendations

SNRM project has developed agroforestry models of fruit and forage contour cultivation on slope in nine villages of Muong Gion commune in Son La province.

Contour fruit and forage cultivation not only contributes to crop diversification, increases product value per area, but also contributes to the reduction of production risks, and soil erosion prevention. It is an important activity for reduction of emission from deforestation and forest degradation and contributes to the protection of catchment of the Da River basin.

There is a great potential for applying the models in Son La province in general and in Muong Gion commune in particular, where villagers are currently largely cultivating monoculture crops on slope.

The project results should be handed over to local partners for further study, incorporating the model in the overall development strategy of agriculture and forest sector.

Specific recommendations based on the results are:

- Review and evaluate the SNRM fruit forage contour cultivation models and incorporate them in other programs / projects in the province
- Sensitize extension workers on selection of suitable crops and their practices of each locality
- Provide financial support to villagers to undertake fruit forage contour cultivation on slope
- Establish model farms of fruit forage contour cultivation as extension services of the village
- Facilitate CPC to create communication mechanism for inter village/commune for grazing control
- Set up Village Management Board in each village to control grazing in the village
- Establish interest groups in the village to share technical and market information and support each other
- Support producing high quality seedlings with proper standards
- Promote fruit forage contour cultivation with compost making, and grafting techniques to improve fruit production

3.2.5. NTFP plantation (Amomum longigulare - Sa Nhan)

General information

Amomum is precious herb growing under forest canopy which is below 60%.

Photo 12: Sa Nhan in Huoi Nga village

There are many kinds of amomum and amomum longigulare is the one which bring high economic value as it not only generates incomes and helps improve living standard of the local people but also contributes to prevention of soil erosion, creation of diverse vegetation, forest protection, and flood risk mitigation. Amomum longigulare tree share land with forest trees as it planted under forest canopy to increase income generated from a unit of land. Fruit will be ready for harvesting 2-3 years after planting and available for harvesting for 5-6 consecutive years. Each ha of amomum longigulare can produce 150-250kg of dry fruit/year that costs VND 100,000 – 150,000 /kg (VND 15 million to 30 million per year).

In Muong Gion commune, there are natural amomum trees scatter planted in some villages such as Cha Co, Huoi Van, Huoi Nga and Co Liu which mainly are Amomun xanthioides Wall with low economic value. The local are only used to exploit from nature without care and protection leading to very low productivity. Meanwhile, Muong Gion has allocated forests and forestry land

to communities and households. In order to increase income from the allocated forests and forestry land that motivate the villagers to be more active in forest protection and development, through discussion with the villagers during village meetings, the Project has decided to grow amomum longiligulare under forest canopy in Huoi Nga village.

Project inputs

The SNRM project supported design, training, and establishment 01 demonstration (provided 244 cutting in 2017 and 20 cutting in 2018 for replantation); the training/study tour for selected village was hell in 2019.

Project outputs

Survival rate: 100%, Sa Nhan is grown up well now and can multiply to other area. There are 7 villages to plant with over 12 thousand cuttings (Huoi Van, Keo Ca, Noong Muong, Nong Muc, Co Liu, Cha Co, Xa). There are some successful models in Quynh Nhai district for villager' references.

Some villagers of Keo Ca used PFES fund for cutting payment, and planted around home and near forest area.

Impacts

The SNRM project just supported only one model in Huoi Nga village/ As a result of the project model, villagers neighbor visited this model and themselves bought cutting to planted around home and under forest canopy.

In the first 5 months of 2020, CPC informed that the San Nhan area planted as 2 ha. Muong Gion farmer association organized a workshop to introduce Sa Nhan and take responsibilities for cutting services.

Prospect/Issues

The quality of the cutting/seedling is not controlled with different varieties and supply services. Up to now, there is no any agencies supports to check quality of the cutting/seedling.

Because of this model is new and not evaluated on cost/benefit analysis, it also is not studied on value chain. In fact, the villagers still lack of techniques plantation and quality of cutting monitoring.

Lastly, the price depends on market changes, the area plantation is not planned in the village/commune.

Recommendation

It is needed to organize the farmer filed school (FFS) workshop on NTFPs to share cost/benefit analysis and others for all targeted villages. Techniques training more for villagers in the project area. In the near future, the value chain should be conducted including planning for Sa Nhan development in village/commune.

The integration in to other program/project for Sa Nhan development should be included.

4.2.6. Fodder grass cultivation

Photo 13: Thai women harvest grass for cattle raising

General information

Fodder grass cultivation activity is one that selected by the Project to support the local HHs to grow high nutrition fodder grass species which are suitable with soil conditions and climate in the locality. The activity aims to develop livestock by the local HHs and mitigate negative impacts of free grazing that contribute to protect forests.

According to Report No. 33/BC-UBND dated September 13, 2016 of Muong Gion CPC on socioeconomic development, and national security and defense during the first 9 months of the year and implementation plan for the last three months in 2016 of Muong Gion commune, until September 1, 2016, there were 2,663 buffalos, 2,824 cows, 2,700 goats, and 67 horses were raising in the commune. The number of cattle was huge that required a huge pasture area to meet demand of grazing. However, due to agriculture production demand, the area has been narrowing so the local people have to graze their cattle in young forests that destroy community/household forests. In fact, it is necessary to identify solutions to not only develop livestock but also well protect forests in the commune. In the recent years, some of the commune HHs have been growing some fodder grass species like VA06, elephant grass, etc., but they are not drought-tolerant plants and easily grow old in winter (high grass demand season). The Project, through discussion with the local people during village meetings, has decided to support them with fodder grass cultivation by providing them with good grass seedlings that does not have issues of the current grass species in order to promote development of livestock in the commune.

Project input

The SNRM project organized 9 technical trainings for 264 villages of 9 villages (Bo, Cha Co, Co Liu, Cut, Huoi Teo. Keo Ca, Khop, Xa and Xanh). One study tour also was integrated with the agroforest activity. After training, the project also supported grass cutting for plantation.

Table 7: No. of participants of technical training on fodder grass cultivation

No.	Village	Participants				Total
		Male	%	Female	%	
1	Bo	10	43%	13	57%	23
2	Xanh	39	78%	11	22%	50
3	Xa	50	81%	12	19%	62
4	Huoi Teo	24	77%	7	23%	31
5	Keo Ca	37	84%	7	16%	44
6	Khop	32	78%	9	22%	41
7	Co Líu	18	60%	12	40%	30
8	Cha Co	16	84%	3	16%	19
9	Cut	38	64%	21	36%	59

No.	Village	Participants				Total
		Male	%	Female	%	
	Total	**264**	**74%**	**95**	**26%**	**359**

Project output

9 technical training was held with the participation of 264 villagers (26% female), 272 kg of Guatemala Grass, and 1.720kg of Ghine grass cuttings contributed for 248 HHs of 9 villages.

Table 8: Results of provision and receiving grass seedlings/seeds

No.	Villages	No. of HHs	Quantity of Guatemala grass (Kg)	Quantity of Ghine cuttings (Kg)
1	Bo	16		128
2	Cha Có	34		272
3	Co Líu	12		96
4	Cút	41		328
5	Huổi Tèo	18	144	
6	Kéo Ca	16	128	
7	Khóp	16		128
8	Xa	50		400
9	Xanh	46		368
	Total	**249**	**272**	**1,720**

Project impact

As results of the 4th round monitoring showed that the current survival rate is near 100%, the grass is grown up well now and can multiply to other area. About 75.71% of grass demand of the villagers to have cows and buffalos. 89.61% of HHs confirmed to continue cultivating grass

Issues

Grass seedlings/seeds were provided to the local HHs at the time rice cultivation so the local HHs have to focus on rice cultivation to ensure food security that led to low survival rate of the grass. Therefore, the Project had to work with seed suppliers to purchase and provide additional grass seedlings to the local HHs for supplemental planting. At the same time, the Project has requested the local farmers to care more about the planted grass to create source of seedlings for supplemental planting.

Ghine and Guatemala grass species grow fast and it requires to have enough fertilizer after each harvesting time to maintain quantity but this has not got attention of the local HHs. The project has provided technical support to the local HHs to help them understand the importance of applying fertilizer after harvesting to maintain productivity of the grass.

Recommendation

Select suitable grass species for specific condition of each village (high, medium, and low elevation of village). The integration in to others program/project for grass species plantation and the development of cattle heads should be considered.

4.2.7. Compost fertilizer production

General information


Photo 14: Training and practice on compost fertilizer production in Xa village

Organic composting allows households to utilize crop residues, animal manure and other available plant residues to create organic fertilizer for the crops, reduce costs of pesticides and chemical fertilizer, and utilize free time of the local people. This method helps degrading the germination of weed, destroying the pathogens found in manure, especially when it discharged by sick animals, decomposing organic compounds and turning it from difficult into easy form to digest by plants. Organic fertilizer is very good for soil improvement, especially, for degraded soils. Organic fertilizer is particularly good for crops on dry land as it helps increasing soil porosity, keeping soil moisture, and mitigating soil washing. It is safe for plants, animals and humans. It helps limiting residue of toxic substances in plants like NO_3-, spreading of microorganisms that carry diseases, reducing the use of chemical fertilizers and pesticides, contributing to environmental protection and limiting affection to human's health. In addition, organic fertilizer also helps to increase productivity and quality for crops. Time for composting is short and it is more convenient for transportation of composted organic fertilizer compared to the un-composted one.

The livestock practices of the people in Muong Gion commune are one of the polluting factors as manure discharged freely, crop leftover often be burned that create smoke. On the other hand, people have been using chemical fertilizers for agriculture cultivation, which is harmful for soil and water sources. Organic composting was selected as one of project activities in Muong Gion commune in order to change bad habits of the local people, which is good for the environment and helps reducing the cost of purchasing fertilizers.

Project input

The first, the SNRM project organized a study tour to Tay Bac University and Thuan Chau district to see the coffee organic composting in April 2017.

Table 9: Results of study-tour

No.	Date	Venue	Number of participants				
			Total	Male		Female	
				Number of people	%	Number of people	%
1	April 17, 2017	Tây Bắc University, Son La City	42	37	88%	5	12%
2	April 18, 2017	Muổi Nọi commune, Thuan Chau District	42	37	88%	5	12%

In collaboration with the Tay Bac University, 8 techniques training for 10 villages was held (Bo, Cut, Tong Bua, Co Liu, Cut, Huoi Teo. Huoi Nga, Khop, Xa and Xanh). After training, the project supported necessary material inputs for 10 villages practices.

Table 10: Technical training on organic compost

No.	Date	Venue	No. of participants				
			Total	Male		Female	
				No. of male	%	No. female	%
1	19/04/2017	Bo + Giôn Village	25	16	64%	9	36%
2	20/04/2017	Khóp Village	27	23	85%	4	15%
3	21/04/2017	Xa Village	62	38	61%	24	39%
4	22/04/2017	Huổi Teo Village	23	17	74%	6	26%
5	23/04/2017	Xanh Village	34	15	44%	19	56%
6	24/04/2017	Cút Village	27	10	37%	17	63%
7	25/04/2017	Co Líu + Huổi Ngà Village	27	18	67%	9	33%
8	13/10/2017	Tông Bua Village	37	27	73%	10	27%
Total			**262**	**164**	**63%**	**98**	**37%**

One study tour for 36 villagers was held, and 8 trainings for 262 villagers ((37% female) of 10 villages also was held. The project provided necessary equipment, including 239 kg of Bio-fermentation (1kg/HH) and some tools for composting.

Project Output/Impact

As result of the survey, there was 27 HHs to continue this activity, over 80 % of HHs confirmed to continue this activity for improvement of productivity

Issues

Change the practice of the local people is difficult and it shall take long time. The project has organized training courses and study-tours to learn basic knowledge on organic fertilizer production. After the series of the input, the local people became to be able to draw benefits of organic fertilizer so they can produce and use themselves.

Bio-fertilizer production which uses Trichoderma HP4 has just newly introduced to the local people by the Project so it is not easy to buy Trichoderma HP4 for their own production. In order to solve this issue, the project has provided address of the suppliers so the local HHs can buy it themselves, when needed.

Plastic cover is easy to be rotten due to heat generated during the production process. The solution to this problem is to use old tanks, or dig pits where is drainable, or use alternative materials similar to plastic cover to produce the same quality product.

The compost fertilizer production belongs to seasonal crops

Recommendation

The communication for compost fertilizer production should be strengthened for villagers more.

CPC should take account as Bio-fermentation service agency in Muong Gion.

3.2.8. Improved cooking stove

General information

In order to reduce fuelwood consumption as well as to reduce burden for women and children to collect firewood in the forest, SNRM supported to disseminate Improved Cooking Stoves (ICS) in a pilot commune. It is expected that ICS supports reducing a pressure on forest degradation and to support health of women and create more time for children's education. Dissemination of ICS is a REDD+ activity proposed in the PRAP.

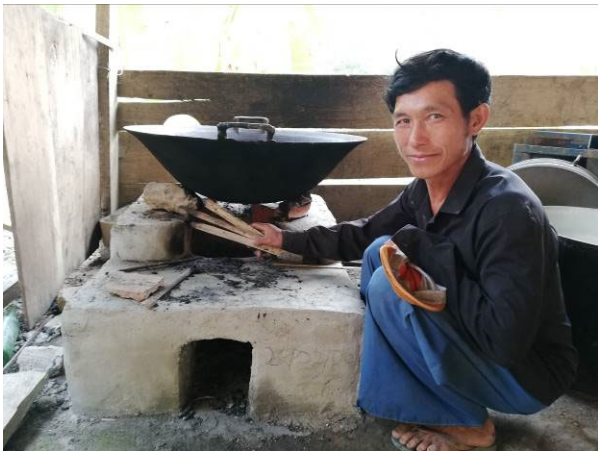
Photo 15: H' Mong man wuth ICS with big size

Project input

Dissemination of ICS was undertaken by the following 9 steps.

Step 1: Village meeting for project planning
SNRM project organized a village meeting for ICS beneficiaries to sensitize them regarding the role of forests in people's lives, use of ICS for health and environment, and relation with forest protection and development.

Step 2: Knowledge Attitude Practice (KAP) survey
SNRM staff made interview survey regarding existing improved stoves, evaluation by villagers regarding capacity to save firewood, suitability and acceptability by villagers for cooking habits and culture of ethnic groups.

Step 3: Study available ICS
SNRM team studied available ICS in the market and found that one ICS producer in Quynh Nhai center was producing ICS with three holes made from concrete.

Step 4: Participatory assessment and finalization of ICS design (March 2017)
SNRM organized a design workshop to assess existing ICS (six models) with three ethnic groups (Thai, Khang, and Hmong) and obtain feedbacks to design proper models. The design was finalized .

Step 5: Agreement with participants (May 2017)
Participating households signed an agreement to undertake the responsibility.

Step 6: Technical training (June 2017)
The project organized 13 technical training workshops for 618 villagers (of which women account for 30%) of the 12 target villages of the project and 1 resettlement village.
After each training session in the villages; an action plan was discussed and agreed on subsequent activities, timeline of implementation, the responsibilities of the project (providing ICS molds, materials and training) and the villagers (labor input, contribution to village fund and use of the ICS in the household). The project committed to support necessary inputs and villagers contributes 50% value of the ICS cost.

Step 7: Provision of materials

Based on registration and agreement, the project supports necessary input materials to villagers. SNRM provided 21,850 kg of cement, 579 iron kit and 16 stove molds.

Step 8: Villagers' Contribution to Village Fund

Based on the agreement signed with the project, households contributed 50% of the value of ISC cost (80,000 VND/unit) to the village fund managed by Village Management Boards of Forest Management and Livelihood Development; a total fund collected was VND 46,320,000. This fund was used for forest management and livelihood development of the villages.

Step 9: Redesigning of ICS design for larger cooking stove for alcohol distilling:

ICS not only enhances the traditional cooking with acceptable cost, but also considers total cultural elements of ethnic groups. Most of the households use a larger stove to cook cattle feed or alcohol distillation. Villagers were traditionally using ICS for larger pans. Some villagers also initiated making larger ICS incorporating an idea of ICS provided by SNRM. Responding to the village needs, in August 2018, the project organized a training to introduce a large size improved cooking stove with a fire-clay core (brought from Vinh Phuc) and delivered 13 samples to the target villages (villager contribution of 46.32 million VND to village funds.

Project output

Up to May 2020, 774 households is using ICS for daily cooking (579 households SNRM beneficiaries, 161 households self-purchase without support and 34 HHs outside the target villages: Na Mat, Loong Muong, Loong Muc, Bang Khoang, Phieng Mut).

Project impact

Dissemination of ICS design to other provinces and another project

In March 2018, SNRM team in Lai Chau province visited and studied in Muong Gion commune, got 2 sets of ICS molds, inheriting training materials and lessons learned to make 43 ICS for villagers of Phuc Khoa pilot commune. Pa Khoang pilot commune in Dien Bien province also visited Muong Gion to use the same ICS molds to make 181 ICSs. The molds from Lai Chau was transferred to Dien Bien.

In addition, a number of relatives of Cha Co village in Tan Uyen and Than Uyen district, Lai Chau province also visited Muong Gion and borrowed the mold to make the ICS samples.

In addition, PPMU and beneficiaries from Hoa Binh, Lai Chau, and Dien Bien provinces and KFW10 project have been visited and paid strong interests in this type of ICSs.

Communication through multimedia channel, and visits of other stakeholders

According to Muong Gion Commune People Committee, TV channel of the National Assembly of Permanent Resident in the Northwest made a shooting on the ICS of the project in the Cut village. The interviewed households had good assessments of both types (smaller one for daily cooking and larger one for animal feeds).

Dissemination of ICS to students of ethnic minority of boarding school

Combined with the Grassroots Grant Project (GGP) to support cooking buildings to a boarding school funded by Embassy of Japan in Vietnam, the project also supported 48 ICS (2 large and 46 small ones) for students of ethnic minority. An extra-curriculum training on natural resource management, and awareness on hygiene and environment was conducted to the students.

Result of Beneficiary interviews in the 4th round monitoring

The interview of 60 HHs (about 10% of total participants) undertaken as the in September 2019 showed the following results.

- ICS saves about 45% of firewood on average using 35 kg/day/household. It means that in one day 740 households save 11,655 kg of firewood (equivalent to 12 m3/day, 4,380 m3/year of firewood).
- Interval of firewood collection in each household was become longer (from 7 days to 10 days' interval).
- All the households provided the ICS materials by SNRM are using ICS for daily cooking.
- 98.2% of households are satisfied with the current ICS
- 36% of households want to make more ICS for second house in the field.
- 92.5% of households are aware that ICS saves firewood, reduces the time for women and children to collect firewood, and reduces fire risk during the dry season.
- Five households (3 in Xa and 2 in Khop villages) made a new larger size ICS with their design for alcohol distillation and cooking cattle feed based on the principle of ICS provided by SNRM.

Lesson Learned

SNRM REDD+ pilot activities to disseminate ICS was successfully implemented. 774 households is using the ICS, 25% of which are not beneficiaries suggesting the value of the ICS was well accepted by villagers in the target commune. The ICS was designed with villagers and made by villagers; participatory approach of SNRM through the workshops and trainings was acceptable for the culinary culture of different ethnic groups.

One reason that the ICS was well accepted by villagers is it is quite low cost (160,000 VND) and 50% supported by the project. It was possible because it is only material costs and the ICS was made by villagers. In Muong Gion commune, most villagers are accustomed to masonry.

Regarding the design of SNRM ICS, fuelwood is placed on upper part separated from nd hole. This design is common in small ICS and was based on the consultation with villagers who use ICS in their daily life. It is quite different from other permanent-setting ICS as seen in Nepal with one hole for both fuelwood and air entrance at the bottom[1]. Regarding energy efficiency this design may not be as efficient as other permanent setting ones since fire is close to open space. However, it is similar to traditional open cooking to use, easier for villagers to control fire since burning firewood is visible. It is also easy to burn the bottom of firewood since air is coming from another hole in the bottom. Also since two stoves are dividable, it is possible to move to other places. ICS should be used by villagers and this is their preference. In fact, villagers use many different size and shape of pans and stoves for cooking.

Villagers are accustomed to use cement but quality are varied. Cement is used as low cost material but durability is not as good as fire clay. After three years of operation, deterioration of cement is visible. In order to ensure the quality of the ICSs, it was possible to set up ICS interest groups with some members who have good skill, and make them support other members in the group by the labor exchange.

The weight of SNRM's ICS is too heavy for stilt houses with bamboo floor of Thai and Khang people. To overcome the problem, the ICS is often used as a single stove (SNRM ICS is dividable) or the kitchen floor was strengthened by additional woods or used in the ground floor.

[1] National ICS Program in Nepal disseminated about 125,000 ICS from 1999 to 2005. http://www.inforse.org/asia/pdf/Nepal_ICS.pdf

Utilization of ICS saves fuelwood, but villagers do not care much since fuelwood is still available in Muong Gion Commune. In order to disseminate ICS in such areas, ICS should be easy to use and inexpensive. Capacity building to encourage villagers to use the ICS is more important. In this sense, SNRM approach designed and made with villagers brought their interests in ICS and gave them opportunity to make it by themselves. Some villagers showed interests to make it by themselves with their own idea.

Cements were delivered to each household to make ICS by themselves. Since one ICS mold was provided to each village, villagers had to wait for a while to make the stove. As a result, cement was not properly used for making ICS at some houses, which deteriorated the ICS quality. It was better that villagers purchase cement with their own money and the project reimburses it later.
Benefit and responsibility should be clearly understood by villagers with signed agreement in order to ensure their participation and contribution.

Using effective training materials (e.g. short video clips made by Vietnam Agriculture Extension clips and large A0 sheets with visual samples) in local languages are important. It is also important to have a practice immediately after the training in order to keep villagers' interests and enhance their participation and effectiveness of operations.

The project facilitator team plays an important role in supporting and promoting activities as well as building capacity for local partners to ensure the success and sustainability.
Through integrating with GGP project, SNRM provided a training to a school to enhance awareness on natural resource management, hygiene and environment for many students.

Conclusions and recommendations

Participatory dissemination of ICS carried out by SNRM was successfully implemented in Muong Gion Commune in Son La province through the approach designed and produced by villagers. Although it may not as durable as defined commercial products, SNRM ICS was low cost and convenient for village custom. It is being used at many households showing expansion to other villages.
The dissemination of ICS is one of the activities planned in the PRAP. Local authorities can consider replicating the model to other villages in the commune, other districts, and other projects.

4.2.9. Biogas plant construction

General information

Photo 16: Cooking by biogas plant in Xa village

A biogas plant is an anaerobic digester of organic material for the purposes of treating waste and concurrently generating biogas fuel. ... Other feedstock which can be used includes plant material, non-meat or grease food-wastes, and most types of animal dung. The SNRM project supported some HHs to construct biogas plants as looking for alternative energy from fire wood collection in the forest, and then improvement of hygiene and sanitation condition for HHs.

Project inputs

At the village meetings in the planning process, there was 24 HHs registration to participating biogas activity. In the implementation process, there was 2 HHs to have enough conditions for participation (enough head of cow, buffalo, pigs and budget contribution).

As commitment signed with the HH; the SRNM project supported VND 5 million for each and the HH paid about VND 10 million.

Project outputs

As result of the commitment implementation; 2 biogas plants were constructed in Xa village. Currently (May 2020), both of them are working well for daily cooking and animal food processing.

Project impacts

Through interviews of 2 HHs, they had good responses, confirmed that biogas use reduced daily fire wood consumption, improved hygiene and sanitation. Other villagers visited this model and expected to install in their family when they have enough conditions,

Issues

In order to construct biogas plants, the family is needed to have enough specific heads of animal and then the cost investment of this activity is high (about VND 15 millions), so it is not easy to expand to others villagers. It also lacks of integration in to other program/project in the village/commune

Recommendations

In fact, there are being some project to support biogas plant construction, so it is needed to have outlook for integration in to other projects (for example the slow carbon agricultural project in Son La and others. The communications for expanding to other HHs also would be considered more.

3.3. Village fund

General information

Village fund as a tool to promote forest management. SNRM facilitated to establish village fund under VMBFMLD. As of 2019 village funds are used for new development, social work; thus use for activities of forest management is limited. These spending are currently done by ad hoc basis lacking village level planning. Neither village leaders/households do not have a clear good idea for spending the PFES funds. In order for efficient and effective PFES fund utilization for both development and environment, preparation of village development plans with household livelihood options based on village funds is recommended. Village needs to be a legal entity in order to organize these activities at village level.

In addition, bookkeeping records of village fund should be shared with villagers at village meetings and monitored in order to maintain transparency. It is recommendable to have knowledge and skill training on fund management.

VFs now and future will play an important role to provide finance for village in socio economic development in general and FM in particular so its management and uses is needed to have transparency, CPC should supervise through VDPs.

PFES payment and Village Fund in SNRM target villages was monitored in the last round as following:

Up to May, 2020; 2019 PFES is not yet paid for forest owners. However, VFs of 12 villages is VND 200,080,579 million (the point time of survey, see table 9), of which:

+ Cash kept at the VMBFMLD: VND 583,166 million
+ Bank deposits: VND 250 million
+ Loan for the poor and very difficult HHs: VND 13million

In general; VFs is operated according to VFM regulation, approved by CPC. Amount of expenditure for VFPTs and Relevant activities for forest protection activities: VND 101,700 million (6,79%). Amount of expenditure for livelihood development distribution (8 villages): VND 795,886 million. Amount of expenditure for new rural models: VND 426,850 million. Amount of expenditure for Social activities: VND 169,277 million, and other expenditure: VND At the point time of survey; the amount of expenditure for forest protection and development and VFPT account for 6.79%, lower 40% as committed.

Prospect/issues

VF Expenditures are primarily decided by the VMB' decision and then next villagers. The commitment spends 40% of PFES for FPD, however the rate is only about 13.55%. Capacity of VF management is different from village, some time staff turnover.

Although the VF management regulation was signed with CPC but it still lacks of monitoring mechanism system for manage and utilizes.

VFs now and future will play an important role to provide finance for village in socio economic development in general and FM in particular so its management and uses is needed to have transparency, supervision of CPC and village community.

Tale 11 : Revenue and expenditure of Village Fund by Target Villages (31/12/2019 – May 2020)

Unit: VND 1000

Village / Village Fund	Huoi Van	Huoi Nga	Keo Ca	Cha Co	Mac Liu[2]	Cut	Bo Xanh[3]	Gion	Khop	Xa[4]	Huoi Teo	Total
Revenue total	**270,000**	**182,000**	**552,000**	**150,000**	**58,000**	**57,298**	**282,999**	**186,282**	**155,000**	**131,000**	**56,000**	**2,080,579**
Transferring from 31/12/2019	270,000	182,000	552,000	150,000	58,000	57,298	282,999	186,282	155,000	131,000	56,000	2,080,579
Revenue 31/12/219-May 2020	-	-	-	-	-	-	-	-	-	-		-
Expenditure 31/12/ 2019-5/2020	**235,500**	**392,000**	**158,600**	**119,800**	**34,005**	**57,298**	**150,528**	**136,232**	**39,200**	**120,000**	**54,000**	**1,497,163**
HHs distribution	220,000	92,000	144,000	44,800	-	18,098	150,528	91,260	35,200	-	-	795,886
VFPTs	5,500	-	9,600	5,000	10,000	13,600	-	10,000	4,000	5,000	20,000	82,700
Relevant activities for Forest protection	-	-	5,000	-	-	10,000	-	-	-	-	4,000	19,000
Society activities	10,000	-	-	70,000	24,005	-	-	20,722	-	40,000	5,000	169,727
New rural models	-	300,000	-	-	-	15,600	-	14,250	-	62,000	25,000	416,850
Loan	-	-	-	-	-	-	-	-	-	13,000	-	13,000
Others	-	-	-	-	-	-	-	-	-	-	-	-
Bank deposits	**0**	**200,000**	**0**	**0**	**0**	**0**	**-**	**50,000**	**0**	**0**	**0**	**250,000**

[2] Co Liu village united with the 2 other villages and its names is Mac Liu,
[3] Bo and Xanh villages united by 1 village and its names is Bo- Xanh
[4] Tong Bua and Xa villages united by 1 village and its names is Xa

Impact
VFs now and future will play an important role as sustainable financial aspect for socio economic development of the villages in general and forest protection and development in particular.

SNRM found that a village-based authority functioned well when it is implemented with village fund, incorporating the PFES as a core fund of the operation. Although the PFES mechanism is still premature, there exists a potential of having much larger impacts of PFES on forest management.

Recommendation
In order to have greater impacts of PFES/VFs on forest management, enhancement of forest status assessment, regular PFES payment, intimation of PFES mechanism to villagers, and demonstration of low cost, high valued, and short rotation land use practices are recommended.

Firstly, it should have capacity building for VMBs. CPC should have specific monitoring mechanism system for management and utilizes.

Secondly, it is needed to have transparent the management and utilizes with the villager's supervision.

CPC should support villages to prepare VDP by the use of VF to ensure this uses foe socio-economic in general and 40% for forest protection and development.

3.4. Village institutional set up

General information

The VMBFMLD establishment was first mentioned during the communal kickoff workshop on September 23, 2016. It was brought to the table of discussion again during the first village meeting and completed (being established) after the third village meeting.

The objective of the VMBFMLD is to sustainably manage the area allocated to villages and households through the promotion of forest management and livelihood development activities.

Members and their term of office: The members of the VMBFMLD of the 12 target villages were 69 members (selection by nomination and voting by hand in village meetings), of which 44 men and 25 women (account 36.25%), each VMBFMLD has from 4 to 10 members, including, one Head, one deputy Head, one secretary cum accountant and members. In order to ensure gender equality issues, the number of involved women should be 30% (see Table 1). VMBFMLD term of office is one year.

The main function/task of the VMBFMLD is to coordinate with the project staff and facilitators to carry out the project activities. Their specific tasks are as following:

1. Promote the implementation planning and monitoring of forest management and livelihood development in villages
2. Develop regulations on forest use in the villages
3. Promote public awareness of forest management
4. Ensure that all villagers will follow the village forest management regulations
5. Establish community-based village forest patrol teams who will monitor the activities

6. Development of livelihood development activity groups by activity (for example, fruit trees cultivation, vegetables cultivation, etc.)
7. Ensure that livelihood development activities are implemented as in accordance with current plans and regulations as well as with the technical requirements.
8. Establishment, management and operation of village funds for forest management
9. Coordinate with FPTs and CPC to handle violations as in accordance with the rules and regulations on forest management or livelihood development.
10. Coordinate with forest rangers and CPC to carry out forest management and village livelihood development activities.

Operational regulation of the VMBFMLD has been discussed during the village meetings and issued with 4 chapters, 12 articles that approved by the CPC (see appendix 2 attached)

After nearly 4 years of implementation, the VMBFMLDs have well implement activities in the villages, such as calling for participation in villagers in meetings, organizing training courses, study-tours, mobilization of villagers' labor contribution and available materials. Some key finding more:

+ At least once VMBFMLD meeting a month was held or it is integrated in to other content/topic of village meeting

+ The VMBFMLD meeting proposed that it should have specific agenda and make minutes of meeting

Prospect/some concerned issues:

- ✓ Sustainability of the VMBFMLD: This can be considered a community-based organization, whose members are primarily village leaders, community organizations with a common mandate which is similar to project's one. The establishment of this organization will have a number of overlapping functions with current village management boards and the project activities can still be carried out without establishment of the new VMBFMLD.
- ✓ Village meetings have not been organized on a regular basis due to the difference among support activities carried out in each village. The project staff and facilitators will only meet when the season for the supportive activities comes.
- ✓ Some remote villages like Huổi Văn, Huổi Ngà, Kéo Ca, Cha Có, Huổi Tèo are very difficult to access during rainy season, and no stable mobile phone signal that do not facilitate coordination of the VMBFMLD, Project staff, and facilitators.
- ✓ Some VMBFMLD did not have enough fund to pay allowances for its members so some them were not really active.
- ✓ There is no new nomination to the VMBFMLD members as most of them requested to remain the same as before.
- ✓ Some of members of the VMBFMLD replaced by others as they could not fully participate in the project work.
- ✓ Capacity of the members of the VMBFMLD is below project requirements.

Recommendations:

- ✓ Share with other stakeholders about the role of the VMBFMLD as a community-based organization, which work on a voluntary basis and for the benefits of the community
- ✓ Organize trainings for capacity building for the members of the VMBFMLD

- ✓ The two-year PFES (paid for 2016 and 2017), asset sales, and contribution of the local people will be effective and sustainable sources of funding for forest protection and livelihood development. Therefore, there should be regular meetings of the VMBFMLD to ensure the effective and sustainable use of this fund.
- ✓ The regulation of the VMBFMLD should be updated and monitored regularly.

IV. General evaluation

This is the last round M&E, so this narrative report is also as the final project evaluation report. In general, the REED+ pilot activities have reached objectives statement under component 2 of the SNRM project; most REED+ pilot activities implemented in line with the solution packages in the PRAP approved.
In general, the REED+ pilot activities have reached the objectives under the component 2 of the SNRM project; most REED+ pilot activities implemented in line with the solution packages in the PRAP approved. As achievement of the project, some activities (agroforestry, ICS, afforestation, regeneration models) were documented as good model, best practice or successful stories. There are many visits of local authorities/other projects to the project area, and TV program broadcasted for project achievements
Some key evaluation aspects of the REED+ pilot activities are as below:

Relevance

With the technical support approach of the SNRM project, most project interventions are based on project objectives, needs assessment of the local people, socio-economic of the commune/village, forest planning, current regulation of the forest protection and development as well as PRAP approval of Son La, so the project activities were planned and implemented to be very relevant to reach general project objectives in general and Component 2 in particular.

All the REED+ pilot activities were planned annually, and also implemented with the effective fund expenditure.

Sustainability

The SNRM project is kind of technical supports. The project interventions are considered to sustainable aspect. Although, the project implementation period is not so long for natural resources management project, however, project sustainability could be mentioned as below: (1) The awareness of the local people on forest protection and development was improved through community based approach, the villagers participated from communication, planning implementing and M&E process as well as development management empowerment; (2) Capacity of the local staff (facilitators) was improved through their participation and support, most facilitators now promoted with the higher position; (3) Good models and best practices (agroforestry, ICS, PEF/VF, plantation and regeneration) was considered to disseminate to others communes in PRAP ; (4) PFES/VF is a special aspect of sustainability of financial institution mechanism, VBFMLDs will be active to use fund for socio economic development of village in general and forest protection and development in particular; (5) Village regulation for VFPTs, forest protection and development also were maintained annual as sustainability of institutions.

Efficiency/effectiveness

With the project approach/regulation, efficiency is as ability to avoid wasting materials, energy, efforts, money, and time to implementation of any project activities. Before project implementation of FM or LD activities; the activity plan is developed in details to use effective resources (human and financial) as well as use effective inputs for better output/outcome, for example commitment

signed with relevance to clear responsibilities of the parties, financial contribution (villager contributed 50% cost of ICS, fruit tree seedlings...).

Participatory

Project implementation has active participation of the stakeholders. The CPMU, PPMU sometime visits project area or have meetings to take project progress and have supports timely. Provincial/district Sub-FPD assigned staffs to support directly or as facilitator. Although Quynh Nhai DPC has no member representative of PPMU so they often update project progress and ready to attend any project workshop/meeting. Muong Gion CPC is as key stakeholder to support and coordinate the implementation of project activities in the targeted villages, the deputy chairman of the CPC also is working as the leader of facilitator team.

Beneficiaries of the project (VBFMLDs, VFPTs, head of interest groups, villagers) mobilized to participate the full project implementation process (communication, planning, implementation and M&E). Many village meetings were held for village planning, survey to sign commitment before project activities implemented, also during 4 round monitoring.

In the project implementation, project have full supports of Japanese experts, sharing lessons and experiences from other provinces (Lai Chau, Dien Bien, and Hoa Binh).

Finally, the SNRM project also have active supports of Tay Bac University, center for forest science in the northwest Viet Nam, communication agencies, international organizations and relevant provincial departments.

V. Recommendations

The 4th round M&E was prepared to be based on general project guideline, this is last round M&E of the project; this narrative report is as final evaluation for REED+ pilot activities. Some recommendation is as below:

(1) Cases studies, best practices, successful stories should be documented and shared through mass organization medias.

(2) Project achievements should be share in the international/national conferences/workshops

(3) Encourage local authorities to integrate/disseminate project achievements in to other project/program, especially expand good models and best practices to other commune/village in the 6 districts of PRAP area priorities (Song Ma, Thuan Chau, Van Ho, Quynh Nhai, Muong La and Sop Cop).

(4) Sone good lessons and recommendations should be discussed more for advocacy to adjust policies for FM activities (afforestation regeneration and agroforestry)

The project duration is not so long for a natural resources management project, so it is recommended that the second phase of the project should be implemented with the other local location that is prioritized in the PRAP.

VI. Annex

Annex 1:

SNRM WORKSHOP
On Integrated Catchment Protection by Forest Restoration, Agroforestry, Livelihood Development
and Payment of Environmental Services
Pilot Implementation of Provincial REDD+ Action Plan (PRAP) in Muong Gion Commune, Quynh Nhai District, Son La Province
Agenda

Time: 7:30 AM, 12/06/2019
Venue: Meeting room of Hanoi hotel, 228, Truong Chinh, Son La city

Time	Content	Responsible executive	Responsible institution
08h00'-08h15'	Participant and agenda introduction	Ms. Pham Thi Thim	
08h15'-08h30'	Opening remarks	Ms. Pham Thi Thim	Mr.Tran Dzung Tien – Deputy head of Son La DARD, Director of SRNM project in Son La
08h30'-09h50'	**Theme 1: Catchment protection by forest management**		
08h30'-08h50'	Overview of PRAP Pilot implementation in Son La	- Leader of CPMU - Leader of PPMU	SNRM, W.Yamamoto
08h50'-09h20'	SNRM afforestation/restoration: Comparison with FPDP, and mapping technology for FM		SNRM, Forest Management Officer, Vu Van Tuan
09h20'-09h50'	Panel discussion 1: Village Forest management for catchment protection		All participant
09h50'-10h05'	Tea break		
10h05'-10h25'	**Theme 2: Livelihood development for catchment protection, sustainable forest management**		
10h05'-10h25'	Dissemination of improved cooking stoves	- Leader of CPMU - Leader of PPMU	SNRM, Provincial Project Coordinator, Pham Van Hung
10h25'-10h40'	Agroforestry and catchment protection		SNRM, Forest Management Officer, Vu Van Tuan

10h40'-10h55'	Village fund management and PFES payment		SNRM, Provincial Project Coordinator, Pham Van Hung
10h55'-11h15'	Panel discussion 2: Livelihood support and use of PFES for Village forest management		All participant
10h15'-11h30'	Way forward and closing remarks	Mr.Tran Dzung Tien – Deputy head of Son La DARD, Director of SRNM project in Son La	
11h30'	Lunch		All participant

Annex 2: List of visitor to SNRM project in Son La province

No.	Visitor	Purpose	Timing	Location	Remarks
1	"Event and comment" program of VTV1	Evident video for good models and best practice for reducing emission from deforestation and forest degradation (REED +) and solutions to combat desertification, soil degradation and climate change.	18 June 2020	Cut, Huoi Teo, Co Liu villages	https://www.youtube.com/watch?v=HBIp6wUluVk
2	CPMU/PPMU working and visit on project area	Updates of project progress and discussion on SRNM2 orientation	8-10 Jun 2020	Huoi Nga, Co Liu, Xa, Toong Bua, Huoi Teo villages	Quarter II meeting was integrated
3	One-day field trip of the workshop on catchment protection by forest restoration, agroforestry, and payment of environmental services - Knowledge & Experience Sharing in Son La	Knowledge & Experience Sharing for catchment protection by forest restoration, agroforestry, and payment of environmental services	10-12 June 2019	Son La city and Muong Gion commune	One-day field trip and one-day workshop

No.	Visitor	Purpose	Timing	Location	Remarks
4	Hoa Binh study our	Sharing FM/LD activities	5-7 December 2017	Cut. Co Liu, Huoi Teo villages	
5	CPMU/PPMU visit	Updates of project progress	27 July 2018	Co Liu, Xa, Xanh, Gion, Huoi Teo viillages	
6	CPMU/PPMU visit	Updates of project progress	7-9 September 2018	Co Liu, Xa, Xanh, Gion, Huoi Teo viillages	
7	KFW10 project	Learning/sharing on FM/LD activities	26 September 2018	Huoi Teo, Cut, Co Liu, Xa, villages	
8	Lai Chau study tour	Learning on ICS	23 March 2018	Cut. Bo, Gion villages	
9	The visit of Son La Provincial Committee for Agricultural and Forest Development (PCAFD	Visit project activities in Muong Gion commune	8 November 2017	Co Liu, Cut, Xa village	
10	Hoa Binh study our	Sharing FM/LD activities	5-7 December 2017	Cut. Co Liu, Huoi Teo villages	
11	The visit of Son La DARD and Sub-FPD, Quynh Nhai DPC	Visit project activities in Muong Gion commune	17 October 2017	Cut, Huoi Teo, Xa villages	
12	Son La PRAP approval and its action plan	Announcement PRAP approval and action plan	7 November 2027	Ha noi hotel	
13	Son La PRAP approval and its action plan	Announcement PRAP approval and action plan	28 November 2027	Ha noi hotel	
14	SNRM Annual Review Meeting 2017	Review project activates implemented in 2027, plan for 2018	27/28 September 2017	Son La project office and Cut, Bo, Huoi Teo, Xa,villages	