Attachment-A: Project Document

AFoCO Project Document

Project code	[AFoCO/031/2022]

Project Profile			
Project title	**Rehabilitation of degraded and potentially deserted forest land in the Northwest region of Viet Nam through application of integrated technical measures**		
Project duration	Estimated start date: May 2022 Estimated end date: December 2026		
Implementing Agency	Research Institute for Forest Ecology and Environment		
Participating countries	Viet Nam		
Project site	4 provinces of the Northwest region (Hoa Binh, Son La, Lai Chau, Dien Bien)		
Main objective	To rehabilitate, sustainably manage and use degraded and potentially deserted forest land in the Northwest region of Viet Nam through application of integrated technical measures and advanced science and technology to contribute to implementation of the United Nations Convention to Combat Desertification, Sustainable Development Goals, and climate change adaptation and mitigation.		
Target Area	Primary Target Area: Initiating customized restoration & reforestation models Secondary Target Area: Strengthening institutional capabilities, diversifying resources, & promoting regional actions.		
Budget and source of finance	Total: US$ 919,680 - AFoCO: US$ 799,680 - National: US$ 120,000		
Proponent Profile			
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ABBREVIATION

AFoCO	Asian Forest Cooperation Organization
AFoCO RETC	AFoCO Regional Education and Training Center
CSO	Civil Society Organization
DARD	Department of Agriculture and Rural Development
FY	Fiscal Year
IA	Implementing Agency
LPA	Landscape Partnership Asia
MARD	Ministry of Agriculture and Rural Development
M&E	Monitoring and Evaluation
NGO	Non-government Organization
NTFP	Non-timber Forest Product
PMU	Project Management Unit
PSC	Project Steering Committee
Q	Quarter
RIFEE	Research Institute for Forest Ecology and Environment
SALT	Sloping Agricultural Land Technology
SDG	Sustainable Development Goals
UNCCD	Convention to Combat Desertification
VAFS	Vietnamese Academy of Forest Sciences
VNFOREST	Vietnam Administration of Forestry

Summary

The project will be implemented in the Northwest region (including the four (4) provinces of Hoa Binh, Son La, Lai Chau and Dien Bien), the hot spots in Viet Nam suffering forest land degradation. Limited awareness and application of science and technology in cultivation, coupled with the pressure of population growth and the limited availability of agricultural land have forced people to take unsustainable cultivation on forest land to ensure their food security and livelihoods. In many localities of the Northwest region, the practice of monoculture of short term crops on sloping land, especially maize and cassava without application of soil protection measures, has resulted in heavy leaching of soil surface, reduction in soil fertility, and even the soil has degraded and faded, leading to a decrease in crop productivity and an increase of cultivation investment cost. These circumstances have resulted in the decrease of forest area in the region, and an increasing of risk of flash floods, landslides, soil erosion, leaching and land degradation. In addition, the traditional shifting cultivation method on high sloping land without any fallow period, no soil protection measures, no fertilization or very little use of fertilizers are the causes of increasing nutrient depletion and land becomes difficult to recover unless there are appropriate technical measures and management methods.

Recognizing the negative impacts of land degradation and desertification on the environment, economy and society, in 2006, the National Action Program to Combat Desertification in Viet Nam identified four (4) regions at risk of desertification, of which the Northwest was a high priority area. However, due to limited investment resources, the application of integrated technical measures and the application of scientific and technical advances combined with indigenous knowledge to restore, manage and sustainably use degraded forest land, and land in danger of potential desertification in the Northwest, has not been implemented synchronously. The consequences of land degradation and desertification are poverty, food insecurity which has become particularly severe in the context of climate change, flash floods, pipe floods and landslides in the last three (3) years. Despite this situation, the extensive area of degraded forest land, especially in the Northwest region is yet to see a set of criteria to evaluate its degradation and the map of degradation level classification of forest land that has been developed and published in a comprehensive way. Because the degraded forest land is yet to be classified, and the rehabilitation models chosen and established in the Northwest are thus, mainly based on the forest status.

To address the aforementioned problems and limitations, the project goal is to sustainably rehabilitate, manage and use degraded and potentially forest land in four (4) project provinces of the Northwest in terms of ecology, environment and livelihoods. The specific objectives set under the project include the following:

(1) To develop integrated technical measures corresponding to different degradation levels of forest land classified in the Northwest;

(2) To establish and evaluate effectiveness of four (4) models of degraded forest land rehabilitation in four Northwest provinces through application of integrated technical measures in combination with advanced scientific technology;

(3) To compile technical guidelines on degraded forest land rehabilitation and policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region;

(4) To transfer techniques and awareness of project model establishment to relevant stakeholders.

To achieve objective 1, the level of forest land degradation in the four provinces in the Northwest region should be classified based on a set of criteria for evaluating the level of degradation and survey results. Four (4) maps of current state of degradation degree show the area distributed according to the degree of degradation (degraded forest land area, nearly degraded forest land area, and potentially degraded forest land area) for the four (4) project provinces should also be built. The map is built on the basis of a digitalized map of the forest status for the Northwest region (inherited from the results of "National forest investigation and inventory for the period 2014 - 2016" and the application of new technologies (e.g. remote sensing, GIS and UAV spatial imagery). An integrated measure to rehabilitate degraded forest land and nearly degraded forest land are also proposed, along with the utilization of evaluation results of degradation status, literature review and consultation.

To achieve objective 2, four (4) rehabilitation models on degraded forest land in the four (4) project provinces in the Northwest region will be established, including: 7 ha of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province; 7 ha of forest natural regeneration promotion on nearly degraded protection forest land in Lai Chau province; 3 ha of agro-forestry on sloping land of degraded production forest in Dien Bien province; and 3 ha of agro-forestry on sloping land of degraded production forest in Son La province. Such models will be built using integrated technical measures focusing on planting techniques, soil treatment and soil erosion control to ensure sustainable restoration of forest land for short-term and long-term. Of which, the following planting techniques will be included:

- Species selection: Species selected are highly appropriate with specific site conditions of planting sites. Species should be indigenous and the selection should consider multipurpose species (timber and non-timber) to support local livelihood.
- Species composition and planting design: For the enrichment and natural regeneration promotion model, both indigenous species + high value non timber species are needed. For the agroforestry model, species composition is indigenous species + non-timber species + fruit trees are needed. Proportion of species will depend on forest status, site condition, especially slope, species composition and planting design will be correspondingly determined to ensure the effective use of space for nutrient uptake and soil erosion control.

For soil treatment and soil erosion techniques:

- On sloping land, the Sloping Agricultural Land Technology (SALT) is a mixture technique of forest trees (60%) with crop trees (40%) with different proportion on contour lines for soil erosion control.
- Green banks planting with fast growing *Fabaceae* species (nitrogen fixing ability) is applied to improve soil fertility;
- Application of probiotic product "AM - *Arbuscular mycorrhiza*" innovated by RIFEE for creative technological advances. These products can help facilitate root growth, increase the absorption of nutrients, especially phosphorus absorption on arid land, and enhance water-holding capacity and drought tolerance of plants. This product is affordable and available to be provided by RIFEE.
- Application of super absorbent polymer particles (AMS-1) for soil water maintenance. This product is also affordable and available to be purchased in the market.

All activities of model establishment involve the engagement of RIFEE's staff, representatives of

VNFOREST and VAFS and all relevant stakeholders including forest owners, local farmers, local communities, line agencies (local authorities at district and commune level, on-site research centres, forest protection management boards…) and the Civil Society Organization (CSOs) (at the local level) from site selection, model design, planting, tending, protecting and project M&E.

Evaluation indicators of project model should focus on changing the erosion rate, crop productivity, natural regeneration, forest structures, soil properties, and livelihood of forest owners from cultivating degraded production forest land. Local forester, local people, local communities, local authorities and other line agencies are all invited to the evaluation process through in-depth interviews and group discussions.

To achieve objective 3 and 4, twelve (12) training courses are held in the project locations to transfer the awareness of the selection of rehabilitation models associated with different degradation levels of forest land (4 courses), soil reclamation & soil erosion control measures (4 courses) and techniques of forest rehabilitation (planting, tending and protecting) on degraded forest land (4 courses) for forest owners, local farmers, local communities, local authorities and other line agencies. To facilitate the project replication and scaling-up, project achievements, technical guidelines, policy brief are presented in workshops and communication and media products (film, video, brochures, posters, banners, etc.) are verified and approved for a wide publication to ensure the efficiency and suitability of communication to many different audiences. Project products should be additionally introduced in the overseas workshops, conferences and so on, with similar topics, to address the regional and global issues of forest land degradation and desertification.

The project will be implemented to mobilize the participation of many stakeholders from the central to local levels. In particular, RIFEE is the Implementing Agency that will work closely with the Viet Nam Administration of Forestry (VNFOREST), the Project Steering Committee (PSC) in the implementation process to ensure compliance with the current regulations of the Government of Viet Nam and of the AFoCO. Project Management Unit (PMU) established by RIFEE is responsible to work in collaboration with specialized organizations, local authorities and other stakeholders to carry out project activities to fulfil project schedules, the quality required, the objectives set of and reporting arrangements according to the relevant regulations.

The project's successful models are expected to enable replication and scaling-up of the project in local and other areas to lessen the degradation problem of forest land and combat desertification in Viet Nam.

Section A. Project Context

1. Background

Desertification and land degradation are global issues that have enormous and serious impacts on sustainable development, ecological safety, social security and food security. By 2017, desertification and degradation has affected 163 countries with 1.3 million people and 27% of the land area was degraded[1]. Recognizing the serious effects and impacts of desertification and land degradation, countries all over the world, including Viet Nam, agreed that measures to combat desertification and land degradation should be taken through control and regulation of factors leading to desertification

[1] Workshop on sustainable forestry development - A fundamental solution to combat desertification and land degradation in Viet Nam held in Ha Noi in June 13, 2019.

and good management of ecological environment protection factors.

The United Nations Convention to Combat Desertification (UNCCD) was formulated in 1992[2] and the official participation of Viet Nam to the Convention in 1998 was an important milestone, demonstrating Viet Nam's high sense of responsibility and demanding Viet Nam to take specific actions to manage and prevent land degradation. Fulfilling its member obligations after joining the Convention, Viet Nam has issued the national action program to combat desertification in the 2006 – 2010 period and orientations toward 2020 (Decision No. 204/2006/QD-TTg, dated September 2, 2006 of the Prime Minister)[3]; developed "Proposal on voluntary land degradation neutrality targets in Viet Nam for the 2017-2020 period with a vision to 2030 (Decision No. 5081/QD-BNN-TCLN, dated December 6, 2017 of the Minister of Agriculture and Rural Development)[4] and periodically reported to the Secretariat of the Convention the results of its implementation. In addition, Viet Nam has also applied numerous comprehensive solutions to combat desertification and land degradation, of which sustainable forestry development is a fundamental solution.

According to Viet Nam Administration of Forestry (VNFOREST), although Viet Nam is located in the tropical area with high rainfalls and high humidity, there is still a risk of desertification and land degradation. By 2016, the area of degraded land was 1.3 million ha (accounted for 4%), the area of nearly degraded land was 2.4 million ha (accounted for 7.3%) and the area of potentially degraded land was 6.7 million ha (accounted for 20.3%)[5]. There are various causes of desertification, but mainly due to deforestation causing reduction of land cover and unsustainable cultivation causing negative impacts on land that change the ecological, physical and chemical status of soil.

The midland and mountainous region of Viet Nam is home to many ethnic minorities and large milpa areas commonly distributed in high slope land with short-term crops such as maize, sweet potato, cassava and upland rice. Those crops are cultivated based on traditional methods, low productivity, and low efficiency and are unsustainable. In addition, shifting cultivation is a direct cause of desertification since it is often rotated and expanded in new areas, and inadequate management of vegetation clearing is also a major cause of forest fires. According to 2945/QĐ/BNN-KL (dated on 5/10/2007 approves the project to support people in upland areas to cultivate sustainable agriculture and forestry on shifting land), slash-and-burn is the cause of 60% - 70% of forest fires and about 60% of the total illegal deforestation area.

In Viet Nam, three (3) quarters of the territory is mountainous, and forest land area accounts for 57% of the total 26.2 million ha of agriculture and forest land, creating habitats and livelihoods for 25 million people, mainly ethnic minorities and the poor[6]. Forest land in many regions is facing serious challenges, including land degradation, desertification and loss of biodiversity. Such circumstances have taken place nationwide, including the Northwest region. The National Action Program to Combat Desertification in Viet Nam, issued in 2006, identified four (4) regions at risk of desertification of the

[2] The United Nations Convention to Combat Desertification (UNCCD), the United Nations Conference on Environment and Development in Rio De Janeiro, 3 - 14 June 1992.

[3] Decision No. 204/2006/QD-TTg dated September 2, 2006 of the Prime Minister promulgating the national action program to combat desertification in the 2006-2010 period and orientations toward 2020.

[4] Decision No. 5081/QD-BNN-TCLN dated December 6, 2017 of the Minister of Agriculture and Rural Development approving the proposal on voluntary land degradation neutrality targets in Viet Nam for the 2017 – 2020 period with a vision to 2030.

[5] Workshop on sustainable forestry development - A fundamental solution to combat desertification and land degradation in Viet Nam held in Ha Noi in June 13, 2019.

[6] Ngo Dinh Que and Le Duc Thang, 2015. Current status of forest land use, shortcomings and future orientations. National workshop on Land in Viet Nam - Land use status and challenges. Agricultural Publishing House, Ha Noi.

Northwest, the Central Coast, the Central Highlands and the Long Xuyen Quadrangle[7]. These four (4) regions need to be given priority in taking urgent actions solutions to combat desertification. Nevertheless, the Northwest is considered to be the hot spot of forest land desertification and degradation.

The Northwest region of Viet Nam with the natural area of approximately forty thousand km^2 includes four provinces of Lai Chau, Dien Bien, Son La and Hoa Binh with about 20 ethnic groups living together. With large slope and highly dissected topography, this region is facing a very high rate of soil erosion, especially when deforestation and shifting cultivation remains serious. Besides, the regions are one of the poorest regions in Viet Nam. The contributing factors in the Northwest agricultural land include sloping terrain, acid sulphate soil, low fertility, mixed rock, frequency of low temperature and fairly thick hoarfrost in the Western area, high humidity and fog in the Eastern area[8]. This is the region with the largest slope and the most rugged terrain in Viet Nam, having very thin soil layer (soil layer below 0.5 m thin accounted for 20% of the area)[9]. For sloping agricultural cultivation land in the Northwest, soil tends to be more acidic due to the decrease in the total organic carbon content, the content of available phosphorus, and a remarkable reduction of base saturation in soil.

According to preliminary statistics, the degraded land area in the Northwest is 248,064 ha, accounting for 6.63% of the total natural area of the entire Northwest region. Son La province has the largest degraded land area, accounting for 30.54% of the total degraded land area of the whole region (75,766 ha), followed by Lai Chau province (71,679 ha), Dien Bien province (68,228 ha), and Hoa Binh province has the least degraded land area (31,391 ha, equivalent to 13.1%)[7]. Among all types of land degradation, the land degradation due to drought has the largest area of 156,815 ha, accounting for 63.2% of the total degraded land area of the whole region. The risk of desertification in the Northwest region is caused due to the unsustainable use of barren hills which have been previously deforested. The local people in this region are therefore continuously trapped in a vicious cycle of poverty, excessive land exploitation, and environmental destruction.

The statistics of the Ministry of Agriculture and Rural Development (MARD) in 2019 indicated that the Northwest region has about 1,562,049 ha of natural forests and 195,379 ha of plantation forests, and the forest cover of the whole region is 45.52%. Natural forests account for approximately 90% of the forest area in the region, however, forests are mostly poor and have low productivity. Meanwhile, limited awareness and application of science and technology in cultivation, coupled with the pressure of population growth and the limited availability of agricultural land have forced people to take unsustainable cultivation measures on forest land to ensure their food security and livelihoods. In many localities of the Northwest region, the practice of monoculture of short term crops on sloping land, especially maize and cassava without application of soil protection measures, has resulted in heavy leaching of soil surface, reduction in soil fertility, and even soil is degraded and faded to a point where it has resulted in the a decrease in crop productivity and an increase in the cost of production. This has decreased the forest area in the region, increased the risk of flash flood, landslides, soil erosion, leaching and land degradation. In addition, the traditional shifting cultivation method on high sloping land without any fallow period, soil protection measures, fertilization or very little use of

[7] Do Dinh Sam and Ngo Dinh Que, 2015. Desertification in Viet Nam: Evidences and potential risks. National workshop on Land in Viet Nam - Land use status and challenges. Agricultural Publishing House, Ha Noi.
[8] Luong Duc Toan and Tran Minh Tien, 2016. Soil characteristics and limited factors of Agricultural land in Northwest Vietnam. The Second National Conference on Crops Science, pp. 1031 – 1041.
[9] Nguyen Tu Siem and Thai Phien, 1999. Upland soil in Vietnam: Degradation and Rehabilitation. Agricultural Publishing House, Ha Noi, 1999.

fertilizers are the causes of increasing nutrient depletion, and such land is difficult to recover unless there are appropriate technical measures and management methods developed and applied. The consequences of land degradation and desertification are continuous poverty, food insecurity which become particularly severe in the context of climate change, an increase of the number of flash floods, pipe floods and landslides in the last 3 years (2017, 2018 and 2019).

Despite this, a there is still an absence of a comprehensively developed and published set of criteria to evaluate and map the rate and level of degradation by each classification of forest land. This has resulted in the implementation of the project "National forest inventory and inventory for the period 2013 - 2016" under Decision No. 594/QD-TTg dated April 15, 2013 of the Prime Minister of Vietnam[10], in which a set of evaluation criteria and the map of forest land degradation classification for the Northwest was built in combination with the survey and assessment result of the proposed project.

Despite the implementation of successful projects such as: The model of coffee mixed with fruit trees, large farm in line with forest protection, the replication of such models after project completion remains limited due to many challenges. The largest challenge is that the situation of soil properties in the Northwest has been mostly degraded for a long time, and as a result, plants are unlikely to grow and develop well without good soil treatment measures and appropriated selection of methods.

The project will help address those constraints by developing and transferring techniques, and increasing awareness of forest land degradation classification and application of integrated technical measures for degradation rehabilitation of forest land, through the establishment of 20 ha of demonstration models in 4 Northwest provinces (Hoa Binh, Son La, Lai Chau, Dien Bien). The integrated technical measure will be applied and transferred, which includes planting techniques and soil treatment and soil erosion control for short-term and long-term purpose of soil reclamation. Of which, species composition should be mixture of indigenous and multipurpose species (provide timber and non-timber products) with non-timber and/or fruit trees to support short-term livelihood of forest owners and maximize space of nutrient uptake as well as for purpose of soil erosion control. On sloping land, SALT technique should be applied with about 67% of timber species and 33% of non-timber and fruit trees. In particular, for soil treatment and soil erosion control, green banks of fast growing Fabaceae trees are planted on contour lines for soil reclamation and erosion control purposes. Probiotic products (AM, AMS-1…) are additionally supplied on planting holes for the same purposes.

The project involves the engagement of RIFEE, the representatives of VNFOREST and VAFS and all relevant stakeholders including forest owners, local farmers, local communities, line agencies (local authorities at district and commune level, on-site research centres, forest protection management boards…) and CSOs (at the local level). They are all involved in all project activities starting from site selection, model design, planting, tending, protecting, M&E, trainings & awareness programs and workshops to help create a sense of ownership. Such a strong ownership will ensure the unity and continuity of the project. By this way, project demonstration models will be available to be replicated in other areas by individual farmers and agencies, where they would be able to learn and apply the techniques on their own..

In terms of investment capital, according to the summary report of the VNFOREST, in the period 2016

[10] Decision No. 594/QD-TTg dated April 15, 2013 of the Prime Minister promulgating the project "National forest investigation and inventory for the period 2013 - 2016".

- 2020, the total investment capital for forestry development in Vietnam is 50,231 billion VND, reaching 84% of the plan (the proposed plan is 59,600 billion VND - Decision No. 886/QD-TTg dated June 16, 2017 approving the Target Program for Sustainable forestry development for the 2016 - 2020 period). Of which, the investment capital from the state budget only accounts for less than 17.5% (8,756 billion VND) and mainly gives priority to investment in the management, protection and development of special-use forests and protection forests. The main concern here is that if not prioritized, existing forest rehabilitation efforts will not achieve the desired results and effectiveness.

Based on the current context, the project **"Rehabilitation of degraded and potentially deserted forest land in the Northwest region of Viet Nam through application of integrated technical measures"** is proposed in line with the efforts of Viet Nam and the world in combating land degradation and desertification. Rehabilitation and sustainable development of degraded forest land also contribute to realization of Sustainable Development Goals, as well as climate change adaptation and mitigation. The specific SDGs that will be addressed by the project are no poverty (SDG 1), climate action (SDG 13), life on land (SGD 15), and partnership for the goal (SDG 17). However, with limited national budget, this project is expected to be funded by AFoCO to support Viet Nam to prevent and promptly handle degraded forest land that is likely to suffer desertification, to improve the effectiveness of forest rehabilitation, and meanwhile, addressing co-benefits for the environment and livelihoods for local communities and surrounding areas. Cooperation towards sustainable forest management, reduction of forest land degradation and desertification is also mentioned in the Asian Forest Cooperation Organization Agreement (hereinafter referred AFoCO Agreement)[11], officially effective for Viet Nam from April 2017.

2. Conformity with AFoCO's objectives and strategic priorities

The project's objectives are in line with the objectives of AFoCO with the aim of strengthening sustainable forest management in environmental, economic and social aspects to reduce deforestation and desertification which are mainly caused by human activities and climate change. The project specially addresses the first priority area of the five (5) strategic priority areas of AFoCO, set out for the period of 2019 - 2023 on *"Initiating customized restoration and reforestation models",* which is identified including: *I) Establishment of locally customized restoration and reforestation models in target communities; and ii) Adoption and application of such models in a balanced and integrated approach of forest landscape restoration for the benefit of target communities, natural habitats, and forest ecosystem.*

To elaborate, a total of 20 ha rehabilitation models will be established in accordance with different degrees of forest degradation in the Northwest provinces of Viet Nam, a hot spot of land degradation and desertification. Models are selected based on a set of criteria for classification of forest land degradation level developed from the project.

In order to remedy the shortcomings of previous models and to achieve a comprehensive effectiveness, integrated technical measures will be applied. These measures focus on both planting techniques, soil treatment, soil erosion control for short-term and long-term purpose of soil reclamation, ensuring the participation of all stakeholders in all activities of model establishment and trainings, and workshops for technique transfer and enable replication.

Together with efforts to increase the rehabilitation effectiveness of forest land and forests, the

[11] Agreement on the establishment of the Asian Forest Cooperation Organization (AFoCO).

protective function of upstream protection forests will be restored for its environmental role, which includes: reducing the impacts of droughts, floods, landslides, erosion and loss of farmland. Livelihoods of forest owners from production forest models will also be enhanced through increase in crop yields, forest plantation productivity and especially increasing the benefits from high value non-timber forest products (NTFPs).

Through such measures, the expected outcome of the project is to create a breakthrough in changing perceptions and farming practices of the past, from ineffective traditional production methods to a new sustainable production method, which will increase the productivity of agricultural and forestry crops, improve the efficiency of land use, increase income for local people, and contribute to the sustainable development of the Northwest region. The effectiveness of the models is the basis for application and replication on further degraded and potentially deserted forest land in the Northwest region and potentially other regions with similar conditions.

3. Regionality

Land degradation—the deterioration or loss of the productive capacity of the soils for present and future—is a global challenge which is happening at an alarming pace, that affects everyone through food insecurity, higher food prices, climate change, environmental hazards, and the loss of biodiversity and ecosystem services.

The consequences of land degradation gradually depresses the economic, political and social foundations of the society in Northwest region.

The project develops a criteria set of forest land degradation classification which help classify forest land into three main levels of degraded forest land; nearly degraded forest land; potentially degrade forest land. Integrated technical measures to rehabilitate corresponding degradation levels of forest land are also proposed. The developed criteria and measures will not be limited to the application within project region, but nationwide and can spread out to the Southeast Asia countries, where are facing the same warning in forest land degradation.

To facilitate the project replication and scaling-up, project achievements, technical guidelines, policy brief are presented in workshops and communication and media products (film, video, brochures, posters, banners, etc.) will be verified and approved for a wider publication and dissemination to ensure the efficiency of communication and suitable to many different audiences. Project products should be additionally introduced in overseas workshops, conferences with similar topics, to address the regional and global issues of forest land degradation and desertification.

4. Information on project target area

4.1. Geographic information

On July 8, 2013, the Prime Minister of Viet Nam issued Decision No. 1064/QD-TTg approving the master plan on socio-economic development in the Northern Midlands and Mountains up to 2020, including the two (2) sub-regions of the Northwest and the Northeast, in which, the Northwest covers the four (4) provinces of Hoa Binh, Son La, Dien Bien and Lai Chau. The map of the Northwest region, where the project sites are located is shown in Figure 1.

Figure 1. *The map of project site location.*

Geographical location: The Northwest is located in the western mountainous region of Northern Viet Nam. Its Northern aspect borders China, its Western aspect borders Laos, its Eastern aspect borders the Northeast Viet Nam and the Red River Delta, and its Southern aspect borders Thanh Hoa province and Red River Delta.

Topography: The Northwest is a mountainous area, deeply divided, steep, with many mountain blocks and high mountains running along the direction of the Northwest towards the Southeast. Hoang Lien Son range is 180 km long, 30 km wide, with some high peaks ranging from 2800 to 3000 m. The Ma River mountain range is 500 km long with peaks over 1800 m and between these two (2) mountains is the low mountainous area in the Da river basin. Other than the Da River, which is a large river, the Northwest region has only small rivers and streams including the upper Ma River. The Da River basin also has a range of limestone plateaus running from Phong Tho to Thanh Hoa, subdivided into plateaus such as Ta Phinh, Moc Chau and Na San. In the region, there are also lowland areas (basin) such as Dien Bien, Nghia Lo and Muong Thanh.

Area and land: The Northwest has a natural area of 37,324.1 km^2, of which forest land accounts for 78.11% of the natural area of the region. The soil in this region is mainly reddish brown and yellow brown feralit; gray humus, gray; formed on mica, gnai, shale, limestone and granite. Soil properties are characterized with a very thin to thick layer, medium to fair fertility and tends to decrease with high to low belt. In general, the land in the region is suitable for a variety of plants.

4.2. Environmental information

The Northwest has a tropical monsoon climate characterized with cold and dry winter, hot and humid summer and much rains. The rain concentrates from June to August, accounting for 65 - 75% of the annual rainfall, less affected storm, occasional thunderstorms and hail, the average annual rainfall is 1,200 - 2,500 mm. The annual temperature is from 21°C - 23°C, the lowest average temperature is usually in December to February next year (14°C - 18°C), and the months with the highest average temperature are from April to September (25°C). Average air humidity is over 80%. The number of sunny hours in a year is 1,500 - 2,035 hours. Hoarfrost occurs in January and December every year.

In summer, the Northwest is the area affected by hot and dry west wind. Because the Hoang Lien Son mountain range separates the Northwest from the Northeast, so in winter, when the cold northeast monsoon flows, the Northwest often has a temperature about 2 - 3^{o}C higher than the Northeast. In addition, due to the strongly separated topography, many typical climatic sub-regions have been formed such as Moc Chau plateau, Na San plateau with subtropical climate, and two sides of the Da River have a tropical climate.

Due to the strongly fragmented topography and high climatic differentiation, the vegetation cover of the Northwest region is very diverse. The main forest types in the area are closed, mixed, broad leaved humid evergreen forest (with sub-types: closed, mixed, broad leaved humid evergreen forest below 500 m; closed, mixed, broad leaved, wet, evergreen forest in low and medium mountainous area of 500 - 1500 m). In general, the forests in the Northwest have been strongly disturbed, the primary forest has almost disappeared, mainly in the secondary status. The volume and productivity of the forest in the region is relatively low (on average 80 - 245 m^3/ha). Forests in the region play a very key role not only in watershed protection, but also in water storage, flood control for downstream areas, water supply for hydroelectric lakes in the region, environmental services, such as timber and non-timber forest products. Northwest forests have various kinds of rare and precious animals and plants, and special use forests that are valuable for scientific research and ecotourism.

On April 15, 2020, the Ministry of Agriculture and Rural Development issued Decision No. 1423/QD-BNN-TCLN on announcing the current state of forest in 2019, showing that in the Northwest, the forested area is 1,757,428 ha. Of which, natural forest is 1,562,049 ha and plantation forest is 195,379 ha. The forest coverage is 45.52%, which is lower than that of neighbouring regions, the Northeast (56.28%) and North Central region (57.76%). This partly illustrates the limitation of land use and forest development, which leads to the large area of degraded land in this area.

4.3. Socio-Economic information

According to the Viet Nam Statistic Yearbook 2019 of the General Statistics Office and the Committee for Ethnic Minorities, the Northwest is a mountainous region with 23 ethnic groups living (Thai, H'Mong, Kinh, Dao, Kho Mu, Ha Nhi, Lao, Hoa (Han), Khang, Muong, Cong, Xi Mun, Si La, Nung, Phu La, Tho, Tay, San Chay, Giay, La Ha, La Hu, Lu and Mang). There is an area with many ethnic minorities with low educational attainment and backwardness compared to the national level. The population density is 97 people/km^2, much lower than the national average of 291 people/km^2. Per capita income is 21.83 million VND/person/year is not equal to a half of the national average of 51.5 million VND/person/year. The rate of poor households accounts for 29.1%, much higher than the national average of 5.7%.

As for the infrastructural conditions in the Northwest region, it has Song Da River flowing through, and there are three big hydropower plants including Hoa Binh Hydropower, Son La Hydropower and Lai Chau Hydropower, which play a particularly important role in supplying electricity to the national electric system. Each one has tens of thousands of hectares of lake surface (e.g. 25,000 ha lake surface of Son La hydropower).

The economic sectors in the region include industries of copper, iron, and niken; planting and processing herbal products, fruit trees; raising cattle, especially high-quality dairy and beef cattle; planting and protecting watershed forests, protection forests for hydropower plants. It is a potential area to develop raw material forests with a scale of tens of thousands of hectares to supply raw materials for wood processing, paper processing, and pulp..

The two (2) sides along the Da River are suitable for tropical forest trees. Dien Bien basin has a large Muong Thanh field, is the largest concentration of wet rice cultivation in the northern mountainous provinces. This is also an attractive tourist destination for domestic and foreign tourists on the Dien Bien Phu campaign.

Due to the strongly separated terrain, the Northwest region has formed many ecological sub-regions such as: Moc Chau plateau (average altitude of 1,050 m a.s.l, characterized by sub-temperate climate and rich in soil fertile, appropriate to develop tea trees, fruit trees, and high-quality dairy and beef cattle raising); and Na San plateau (average altitude of 800 m a.s.l, running along the axis of National Highway 6, fertile soil is favourable for the development of sugarcane, coffee, mulberry, mango, longan and pineapple. However, the region has the largest area of degraded land due to unsustainable farming practices (i.e. nomadic, slash and burn, monoculture of short term crops on sloping land without application of soil treatment and management measures) and shifting cultivation from long-term plants to short-term plants without fallow time.

5. Stakeholder analysis

Table 1. ***Stakeholder analysis table***

Stakeholder group	Characteristics	Problems, needs, interests	Potential benefits	Involvement in the project
Primary stakeholders				
1. Forest owners				
- Forest owners have allocated forest land inside the location of project models	- Forest owners are organizations/individuals/households - Their own forest land area are classified into different degradation levels.	- Problems: + Degraded forest land without soil treatment and erosion control leading to low forest productivity and limited income from forest; + Forest land has been converted to crop land and application of backward cultivation techniques on sloping forest land such as monoculture of short-term crops without fallow time. - Needs and interests: + Enhance income from forest and cultivation on forest land; + Awareness of forest rehabilitation and soil reclamation.	- Non-timber trees are planted under forest canopy in enrichment model and natural regeneration promotion model and additionally mixed with fruit trees in agro-forestry models help provide short-term income to encourage forest owners to invest in forest rehabilitation for long-term benefits of soil reclamation and erosion control. - Awareness of the selection of rehabilitation models associated with different degradation levels of forest land, soil reclamation & soil erosion control measures and techniques of forest rehabilitation on degraded forest land; - Extra income from the participation of project activities.	- Participating in site selection, model design, planting, tending, protecting of demonstration models; - Participating in soil erosion monitoring on demonstration models; - Participating in M&E activity; - Participating in all training courses and workshops.

- Forest owners have allocated forest land outside the location of the project models			- Awareness of the selection of rehabilitation models associated with different degradation levels of forest land, soil reclamation & soil erosion control measures and techniques of forest rehabilitation on degraded forest land for enable replication on their own forest land; - Extra income from the participation of project activities	
2. Local farmers, local people and communities	They are people living in or near the project location	- <u>Problems:</u> + Low crop yield; + Agricultural cultivation and daily life have been affected by extreme weather, environmental and ecological degradation phenomena. - <u>Needs and interests:</u> Awareness of soil reclamation, soil erosion control and sustainable cultivation measures on sloping land.	- Environmental and ecological issues have been improved due to the enhancement of forest protection functions through the project models. - Awareness of the selection of rehabilitation models associated with different degradation levels of forest land, soil reclamation & soil erosion control measures and techniques of forest rehabilitation on degraded forest land for enable replication on other land; - Extra income from the participation of project activities	- Participating in meetings at the locality to get the general information about the project; to have an opportunity to discuss about appropriate project sites and model design. - Participating in planting, tending and protecting activities. - Involved in all training & awareness programs and workshops. - Involved in group discussion or in-depth interviews in the mid-term and final assessment period.
Secondary stakeholders				
1. Local authorities at district and commune level	- Department of Agriculture and Rural Development (DARD); - Commune/provincial People's Committees	Lack of experience, knowledge and techniques of sustainable rehabilitation, management and use of degraded and potentially deserted forest land in the local.	- Awareness of forest land degradation classification; - Awareness of the selection of rehabilitation models associated with different degradation levels of forest land, soil reclamation & soil erosion control measures and techniques of forest	- Participating in developing a set of criteria of forest land degradation classification; - Participating in survey activity to assess the current status of forest land degradation; - Participating in site
2. Other line agencies in the local	- Forest Science Centre of North Western Viet Nam (FSNW) - Forest protection management Boards			

	in project locations		rehabilitation on degraded forest land for enable replication and scaling-up in the local; - Local staff are paid for the participation of project activities	selection, model design, planting, tending, protecting of demonstration models; - Participating in soil erosion monitoring; - Participating in M&E activity; - Participating in all training courses and workshops.
Tertiary and other stakeholders				
1. Civil society organizations (CSOs)	Farmer's Union, Women's Union, Youth Unions…	Ensuring the activate participation of local communities	The role of CSOs is affirmed through participation in project activities to help promote the sustainable effectiveness of the project	- Mobilize the participation of forest owners, local people and communities in project activities to increase the effectiveness of the project; - Support propaganda, dissemination and resolution of conflicts that arise with the community.
2. National consultants	- UNCCD Office in Viet Nam (under VNFOREST); - Silvicultural Research Institute (SRI); - Forest Tree Improvement and Biotechnology Research Institute (IFTIB); - Non-timber Forest Products Research Centre (NTFPRC); - ICRAF - National and international experts	Ensuring reliability and technical feasibility of implementing project activities	Sharing experiences	Provide technical advice on degradation classification criteria, model selection, model design, species selection, training materials and so on.

Section B. Problem Analysis and Proposed Actions

1. Problem identification

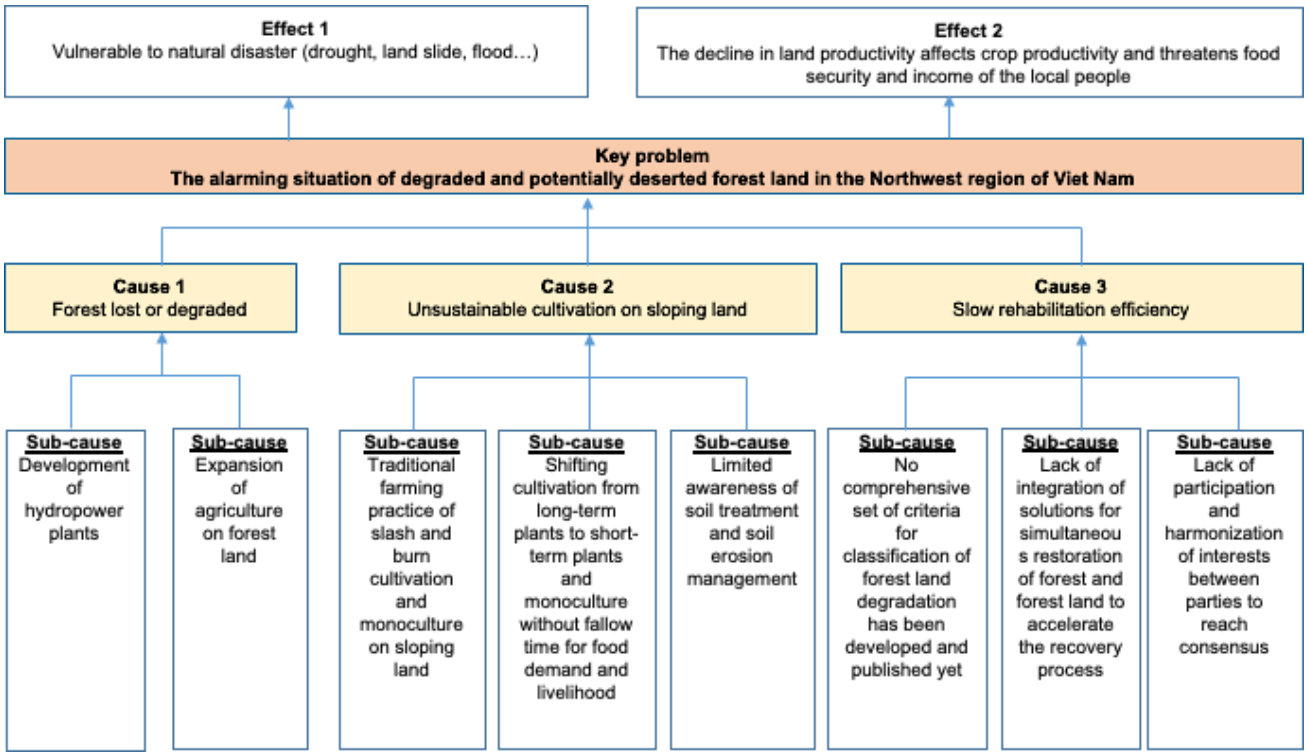

Figure 2. *Problem tree*

2. Problem Description

The alarming situation of degraded and potentially deserted forest land in the Northwest region of Vietnam is attributed to three main causes: (2) Forest lost or degraded; (2) Unsustainable cultivation on sloping land; and (3) Slow rehabilitation efficiency.

Cause 1: Northwest is considered the hydroelectric center of the country with about 7 large hydropower plants and about 60 medium and small hydropower plants. The massive development of hydropower plants has severely reduced the forest area and disrupted the structure of the forest ecosystem. In addition, approximately 90% of the Northwest forest area is natural forest but mainly poor forest with no source of income, while the limited sources of agricultural land has forced people to expand crop cultivation on forestry land to ensure food security and economic development.

Cause 2: The Northwest region consists of about 20 ethnic groups living together, most of them still keep the practice of slash-and-burn cultivation. In addition, to ensure immediate food and livelihood needs, the area planted with long-term crops has been converted to short-term crops and continuous monoculture without fallow time. The Northwest region is characterized by steep slopes, strong dissections, and limited awareness of soil treatment and erosion management measures leading to strong erosion of the soil surface, reducing fertility, even degradation, loss of crops causes crop yield to decrease and investment costs to increase.

Cause 3: Up to now, the set of criteria for classification of forest land degradation has not been comprehensively developed and published. Therefore, previous forest rehabilitation models are

selected and built mainly based on forest status. Such models mainly focused on silviculture technical measures aimed at restoring the current status of the forest, including selecting tree species and arranging plants, without concurrent integration or lack of attention on the use of probiotics promote crop development and soil treatment and erosion control measures. Thus, the ability to restore forests and restore soil productivity is slow, revenue from forests and sustainable farming still does not bring significant income to the local people. In addition, the involvement of communities and multiple stakeholders in all activities of forest land rehabilitation projects is often limited due to concerns about benefit-sharing mechanisms. Since the state budget for forest restoration is still limited and the investment level is not suitable with reality, local people are not encouraged to participate in forest planting and developing. Therefore, deforestation and unsustainable forestry land cultivation in order to expand the agricultural cultivation area to meet food needs and livelihoods has not been effectively controlled, and the maintenance and replication of rehabilitation models after the end of the project is hardly successful.

The above causes make degraded and potentially deserted forest land in the Northwest provinces in an alarming state. As consequences, during rain and storm period, there is a high risk of landslides, subsidence, pipe flooding, erosion, washout, and during hot period, the soil is prone to drying. These phenomena have been common in recent years in the region. Soil loss of fertility, acidity, loss of water-holding capacity reduces the productivity of agricultural crops, threatening food safety and livelihoods for local people. If this situation does not have appropriate solutions, forests will continue to be destroyed to expand agricultural cultivation and forest land will not be able to recover permanently.

Within the scope of this project, integrated technical measures and application of scientific advances will be applied to promote rehabilitation effectiveness, overcoming limitations of previous projects. Through this, awareness of soil treatment and erosion management as well as sustainable agriculture on forestry land will also be trained to the forest owners, local people and relevant stakeholders. The project models will ensure revenue from forests and NTFPs for forest owners, and benefits for the local people and all stakeholders involved during the model-building process as well as after the project's completion, to achieve coherence and the highest consensus and model replicability.

3. Logical Framework Matrix

Table 2. ***Logical framework matrix***

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
Goal	**Develop and transfer techniques and awareness of forest land degradation classification the degradation and application of integrated technical measures for degradation rehabilitation of forest land through 20 ha of demonstration models in 4 Northwest provinces, Viet Nam**			
Objective 1	**To develop integrated technical measures corresponding to different degradation levels of forest land classified in the Northwest**			
Output 1	**Current status of forest land degradation surveyed and assessed; levels of degraded and potentially deserted forest land classified**			
Activity A.1	**Develop a set of criteria and indicators to assess and classify the levels of forest land degradation in 4 provinces of the Northwest region**			
- Activity A.1.1	Literature review relevant documents and reports on important criteria and indicators to assess the levels of forest land degradation	- 01 set of criteria and indicators proposed to classify degradation levels of forest land into degraded forest land; nearly degraded forest land; potentially degrade forest land by Q2 of 2022.	1 set of criteria and indicators	
- Activity A.1.2	Consult with experts and relevant stakeholders to complete a set of criteria and indicators to assess and classify the levels of forest land degradation in 4 provinces of the Northwest region	- 01 full-day consultant workshop with 40 participants - 01set of criteria and indicators is improved and completed based on comments and suggestions from workshop and approved for application by Q3 of 2022.	1 workshop report	- Participants in consultant workshop should b e representatives of VNFOREST, UNCCD offic e in Vietnam, VAFS, Research institutes/center s, DARDs, line agencies, NGOs, experts - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the consultant workshop might be del ayed by COVID-19 situation.
Activity A.2	**Survey, assess and classify the current status of forest land degradation in 4 provinces of the Northwest region**			
- Activity A.2.1	Investigation, collection of information, data of criteria, indicators identified in the criteria set developed	- 360 investigation plots and 360 soil samples taken from the field and analyzed in the laboratory by Q4 of 2022	1 survey report; 1 analysis report	- General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be delaye d by COVID-19 situation. - Survey sites are determined based on sugge

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity A.2.2	Processing and analyzing soil sample in the laboratory	- 10 fundamental physical and chemical properties of 360 soil samples were analyzed by Q1 of 2023		stion and recommendation of VNFOREST, UN CCD office in Vietnam, local stakeholders and national consultants. - Information and data collected are indicated i n a list of criteria and indicators approved
- Activity A.2.3	Data inputting, processing and analysis	Forest degradation assessment and classi fication in 4 provinces of the Northwest re gion by Q1 of 2023	1 report	
- Activity A.2.4	Conduct technical workshop	- 01 full day online/blended technical workshop on Landscape Partnership Asia (LPA) was held by Q1 of 2023	1 workshop report	- General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the workshop might be delayed by COVID-19 situation.
Activity A.3	**Develop the current status map of forest land degradation in the Northwest region**			
- Activity A.3.1	Collect the baseline data and map	- 04 baseline dataset and maps of 4 project provinces were collected by Q1 of 2023 in relevant to forest land distribution and forest land use change; forest status; soil type; climate…	4 dataset and maps	- Baseline data and maps are inherited from the results of “National forest investigation and inventory for the period 2014 - 2016”.
- Activity A.3.2	Overlaying forest land according to the level of forest land degradation on the digitalized status map	- 04 maps illustrated the area distribution of forest degradation classification levels: area of degrade forest land; area of nearly degraded forest land; potentially degrade forest land in 4 project provinces by Q1 of 2023	4 maps	- The digitalized map of every project province is separately developed using overlaying technique based on baseline data and maps, presenting degradation level status of forest land by area.
Output 2	**Integrated technical measures to rehabilitate degraded forest land in accordance with levels of degradation in 4 provinces of the Northwest region proposed**			
- Activity B.1	Propose integrated technical measures to rehabilitate degraded and nearly degraded forest land in 4 provinces of the Northwest region	- 04 proposals of integrated technical measures to rehabilitate corresponding to different degradation level of forest land classified in 4 project provinces were reviewed by Q1 of 2023	4 draft proposals	

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity B.2	Consult with experts and relevant stakeholders to complete the proposed measures	04 proposals were completed following co mments and suggestions of 20 consultant s by Q1 of 2023	4 proposals	- Integrated technical measures should include planting techniques, Soil treatment and Soil er osion control to ensure sustainable restoration of forest land for short-term and long-term. - The proposal is possible to apply for other re gions.
Objective 2	**To establish and evaluate effectiveness of four models of degraded forest land rehabilitation in four Northwest provinces through application of integrated technical measures in combination with advanced scientific technology**			
Output 3	**Selection of appropriate locations for the establishment of the models**			
- Activity C.1	Survey to select appropriate location for establishment of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)	- Location approved by provincial authority for establishing 7 ha of model in Hoa Binh was selected by Q2 of 2023.	1 survey report	- Sites are selected on nearly degraded protection forest land and poor or very poor forest, appropriated for enrichment model. - Site selection and technical design ensures the participation of representatives from VNFOREST, VAFS, RIFEE and all relevant stakeholders in the local. - The technical document is designed following the current regulation and authorized by DARD of Hoa Binh province. - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affected by COVID-19 situation.
- Activity C.2	Survey to select appropriate location for establishment of forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)	- Location approved by provincial authority for establishing 7 ha of model in Lai Chau province was selected by Q2 of 2023.	1 survey report	- Sites are selected on nearly degraded protection forest land and poor or very poor forest with limited regeneration trees (<1000 trees/ha), appropriated for natural regeneration promotion model. - Site selection and technical design ensures the participation of representatives from VNFOREST, VAFS, RIFEE and all relevant stakeholders in the local. - The technical document is designed following the current regulation and authorized by DARD of Lai Chau province

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
				- General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affected by COVID-19 situation.
- Activity C.3	Survey to select appropriate location for establishment of agro-forestry on sloping land model on degraded production forest in Dien Bien province (3 ha)	- Location approved by provincial authority for establishing 3 ha of model in Dien Bien province was selected by Q2 of 2023.	1 survey report	- Sites are selected on degraded production forest land and on steep sloping area, appropriated for application of agro-forestry model. They could be shifting cultivation area or fallow-drop land on forest land. - Site selection and technical design ensures the participation of representatives from VNFOREST, VAFS, RIFEE and all relevant stakeholders in the local. - The technical document is designed following the current regulation and authorized by DARD of Dien Bien province - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affected by COVID-19 situation.
- Activity C.4	Survey to select appropriate location for establishment of agro-forestry on sloping land of degraded production forest in Son La province (3 ha)	- Location approved by provincial authority for establishing 3 ha of model in Son La province was selected by Q2 of 2023.	1 survey report	- Sites are selected on degraded production forest land and on steep sloping area, appropriated for application of agro-forestry model. They could be shifting cultivation area or fallow-drop land on forest land. - Site selection ensures the participation of all relevant stakeholders. - The technical document is designed following the current regulation and authorized by DARD of Son La province - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affected by COVID-19 situation.
Output 4	**Technical design and establishment of rehabilitation models**			

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity D.1	Technical design and establishment of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)	- 01 technical design for model of establishment was developed and authorized for application by Q2 of 2023. - 07 ha of the enrichment of poor forest model was established by Q3 of 2023 to apply integrated technical measures including: + Planting technique: Supplementary plantation of indigenous species (400 trees/ha) + non-timber species under forest canopy (100 trees/ha) + Soil treatment and erosion control measure: Planting green banks of fast growing Fabaceae trees; apply probiotic product (AM) and super absorbent polymer particles (AMS-1) for soil water maintenance	1 report on the technical design and model establishment	- Integrated technical measures include planting techniques, soil treatment and soil erosion control to ensure sustainable restoration of forest land for short-term and long-term.
- Activity D.2	Technical design and establishment of forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)	- 01 technical design for model of establishment was developed and authorized for application by Q2 of 2023. - 07 ha of the forest natural regeneration promotion model was established by Q3 of 2023 to apply integrated technical measures including: + Planting technique: Supplementary plantation of indigenous species (600 trees/ha) + non-timber species under forest canopy (100 trees/ha) + Soil treatment and erosion control measure: Planting green banks of fast growing Fabaceae trees; apply probiotic product (AM) and super absorbent polymer particles (AMS-1) for soil water maintenance	1 report on the technical design and model establishment	

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity D.3	Technical design and establishment of agro-forestry on sloping land model of degraded production forest in Dien Bien province (3 ha)	- 01 technical design for model of establishment was developed and authorized for application by Q2 of 2023. - 03 ha of the agro-forestry on sloping land model was established by Q3 of 2023 to apply integrated technical measures including: + Planting technique: SALT technique with mixture of 60% of indigenous species (400 trees/ha) and 40'% of fruit trees and non-timber species under forest canopy or on forest gaps (200 trees/ha) + Soil treatment and erosion control measure: Planting green banks of fast growing Fabaceae trees; apply probiotic product (AM) and super absorbent polymer particles (AMS-1) for soil water maintenance	1 report on the technical design and model establishment	
- Activity D.4	Technical design and establishment of agro-forestry on sloping land model on degraded production forest in Son La province (3 ha)	- 01 technical design for model of establishment was developed and authorized for application by Q2 of 2023. - 03 ha of the agro-forestry on sloping land model was established by Q3 of 2023 to apply integrated technical measures including SALT technique with mixture of 60% of indigenous species (400 trees/ha) and 40% of fruit trees and non-timber species under forest canopy or on forest gaps (200 trees/ha), soil treatment and erosion control measure are also additionally applied including planting green banks of fast growing Fabaceae trees, apply probiotic product (AM) and super absorbent polymer particles (AMS-1) for soil water maintenance.	1 report on the technical design and model establishment	

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
Output 5	**Tending, protection and monitoring of rehabilitation models annually**			
- Activity E.1	Tending, protecting and monitoring enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)	- 07 ha model in Hoa Binh was tended, protected and monitored following the technical document designed, annually for 3 years (by Q2 of 2024; Q2 of 2025 and Q2 of 2026) and monitoring activities are frequently throughout the project period with the involvement of local people and local staff, ensure the survival rate and good quality trees >75%	3 annual reports	- Ensure the participation of at least 30% female.
- Activity E.2	Tending, protecting and monitoring forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)	- 07 ha model in Lai Chau was tended, protected and monitored following the technical document designed, annually for 3 years (by Q2 of 2024; Q2 of 2025 and Q2 of 2026) and monitoring activities are frequently throughout the project period with the involvement of local people and local staff, ensure the survival rate and good quality trees >75%	3 annual reports	- Ensure the participation of at least 30% femal e.
- Activity E.3	Tending, protecting and monitoring agro-forestry on sloping land model of degraded production forest in Dien Bien province (3 ha)	- 03 ha model in Dien was tended, protected and monitored following the technical document designed, annually for 3 years (by Q2 of 2024; Q2 of 2025 and Q2 of 2026) and monitoring activities are frequently throughout the project period with the involvement of local people and local staff, ensure the survival rate and good quality trees >75%	3 annual reports	- Ensure the participation of at least 30% femal e.

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity E.4	Tending, protecting and monitoring agro-forestry on sloping land model of degraded production forest in Son La province (3 ha)	- 03 ha model in Son La was tended, protected and monitored following the technical document designed, annually for 3 years (by Q2 of 2024; Q2 of 2025 and Q2 of 2026) and monitoring activities are frequently throughout the project period with the involvement of local people and local staff, ensure the survival rate and good quality trees >75%	3 annual reports	- Ensure the participation of at least 30% femal e.
Output 6	**Monitoring and evaluation of soil erosion and the baseline data of project models**			
- Activity F.1	Design spinning plots for effectiveness monitoring of the model	- 12 spinning plots were designed by Q2 of 2023 (03 spinning plots with size of 400 m2 are selected for each models, 4 models)	1 design report	- The spinning plots are used to monitor the changes in vegetation and soil status on each model.
- Activity F.2	Design and build erosion monitoring systems	- 12 erosion monitoring systems were established by Q2 of 2023 (01 soil monitoring systems/spinning plot include boundary construction, storage tank and water flow meter), monitoring for 4 years (by Q1 of 2024, Q1 of 2025 and Q1 of 2026)	1 report on monitoring system	- Monitoring activities should be conducted by the local people or local staff to ensure continuous monitoring under the guideline and supervision of PMB and RIFEE's staff.-
- Activity F.3	Investigate and evaluate the baseline data			
+ Activity F.3.1	Investigate and evaluate the baseline data of livelihood of forest owners and local people in project sites before model establishment	- 240 Interview sheets provided by 240 interviewees were developed by Q2 of 2023 (forest owners, local farmers, local communities, local authorities and other line agencies) (60 interviewees/province, 4 provinces)	1 report on interview sheets	- Evaluation indicators are selected in accordance with the forest land degradation classification criteria. The variation of these baseline data is then used to assessed the model effectiveness.

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
+ Activity F.3.2	Investigate and evaluate the baseline data of the current status of vegetation and soil properties before model establishment	- 12 investigation sheets of vegetation status in 12 spinning plots were developed by Q2 of 2023 - 108 soil samples were taken from 12 spinning plots (3 soil depth layers/soil profile x 3 soil profiles/spinning plot, 12 plots, estimated to analyze 10 basic soil properties) by Q2 of 2023. - f the current status of vegetation and soil properties of project sites before model establishment of 4 project provinces were evaluated by Q2 of 2023.	1 report on investigation sheets, soil sample, and evaluation	- General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affecte d by COVID-19 situation.
Output 7	**Mid-term result evaluation of rehabilitation models**			
- Activity G.1	Data investigation for mid-term evaluation in terms of erosion rate, water flow (based on recording results from spinning erosion systems), model growth, plant productivity, biodiversity, natural regeneration, forest structure, soil properties and economic analysis (Benefit Cost Analysis and Farm Household Income Analysis)	- 240 questionnaire sheets provided by 240 interviewees were developed (forest owners, local farmers, local communities, local authorities and other line agencies) (60 interviewees/province, 4 provinces) by Q4 of 2024 - 12 record sheets of 12 erosion and water flow monitoring systems were developed by Q4 of 2024; - 12 investigation sheets of vegetation status were developed by Q4 of 2024 (model growth, plant productivity, biodiversity, natural regeneration, forest structure) in 12 spinning plots; - 108 soil samples were taken from 12 spinning plots (3 soil depth layers/soil profile x 3 soil profiles/spinning plot, 12 plots) by Q4 of 2024	1 report on questionnaire sheets, record sheets, investigation sheets of vegetation, soil samples	- The preliminary results of 4 project models are evaluated based on changes in soil erosion rate, water flow, economic benefit, and vegetation and soil properties after 2 years of model establishment. - Soil samples are processed and analyzed in RIFEE's laboratory in accordance with TCVN methods. 10 soil properties for analysis should be: Soil texture, soil bulk density, soil moisture (physical properties); Soil acidity (pHKCl), soil organic carbon (SOC), available nitrogen, available phosphorous, available potassium and total nitrogen (Chemical properties). - Preliminary results of project is assessed, lesson learned and future plan should be presented in mid-term workshop. - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affected by COVID-19 situation.

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity G.2	Organized a mid-term workshop to evaluate preliminary results of rehabilitation models	- 01 full-day workshops including 2 days for field visits with 80 participants was held by Q1 of 2025 to present report on mid-term result evaluation of rehabilitation models	1 workshop report	- At least 30% of participants are female - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case a mid-term workshop might be affected by COVID-19 situation.
Output 8	**Final evaluation of rehabilitation models**			
- Activity H.1	Data investigation for final evaluation in terms of erosion rate, water flow (based on recording results from spinning erosion systems), model growth, plant productivity, biodiversity, natural regeneration, forest structure, soil properties and economic analysis	- 240 questionnaire sheets provided by 240 interviewees were developed (forest owners, local farmers, local communities, local authorities and other line agencies) (60 interviewees/province, 4 provinces) by Q1 of 2026; - 12 record sheets of 12 erosion and water flow monitoring systems were developed by Q1 of 2026; - 12 investigation sheets of vegetation status were developed (model growth, plant productivity, biodiversity, natural regeneration, forest structure) in 12 spinning plots by Q1 of 2026; - 108 soil samples were taken from 12 spinning plots (3 soil depth layers/soil profile x 3 soil profiles/spinning plot, 12 plots) by Q1 of 2026.	1 report on interview sheets, record sheets, investigation sheets, and soil samples	- The final results of 4 project models are evaluated based on changes in soil erosion rate, water flow, economic benefit, and vegetation and soil properties after 4 years of model establishment. - Soil samples are processed and analyzed in RIFEE's laboratory in accordance with TCVN methods. 10 soil properties for analysis should be: Soil texture, soil bulk density, soil moisture (physical properties); Soil acidity (pHKCl), soil organic carbon (SOC), available nitrogen, available phosphorous, available potassium and total nitrogen (Chemical properties). - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the survey activities might be affected by COVID-19 situation.
- Activity H.2	Organize final Workshops to summarize rehabilitation models	- 02 full-day workshops including 2 days for field visits with 80 participants was held by Q4 of 2026 to present report on final result evaluation of rehabilitation models	1 workshop report	- The participants should be representatives from VNFOREST, UNCCD office in VN, VAFS, Research institute/centers, Forestry University, DARDs, local stakeholders, other line agencies, NGOs, experts... - At least 30% of participants are female - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case a mid-term workshop might be affected by COVID-19 situation.

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity H.3	Verify and liquidate project models	- 20 ha models were verified and approved for liquidation by Q4 of 2026.	1 report on verification and liquidation	- The participants of verify and liquidate activities should be representatives of RIFEE, VAFS, VNFOREST, local authorities, local forest owners, local farmers, communities and other line agencies - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case field activities might be affected by COVID-19 situation.
Objective 3	**To compile technical guidelines on degraded forest land rehabilitation and policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region**			
Output 9	**Development of technical guidelines and policy briefs**			
- Activity I.1	Development of technical guidelines on degraded forest land rehabilitation in the Northwest region	4 technical guidelines for establishment of 4 rehabilitation models was developed by Q3 of 2026.	4 draft technical guidelines	- The technical guidelines should be approved or issued by VNFOREST and feasible to be widely replicated and applied into actual production in the locality and other similar condition regions.
- Activity I.2	Development of policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region	01 manuscript of policy briefs for establishment of 4 rehabilitation models was developed by Q3 of 2026.	4 draft policy briefs	- Policy briefs should be approved or issued by VNFOREST and feasible to be widely replicated and applied into actual production in the locality and other similar condition regions.
- Activity I.3	Consultation to complete technical guidelines and policy briefs	- 01 summary paper of 20 consultants was developed by Q3 of 2026; - 04 technical guidelines and 04 policy brief (drafts and completion versions) for establishment of 4 rehabilitation models were compiled and completed following the comments and suggestions of 20 consultants by Q3 of 2026	1 consultation report	
Objective 4	**To transfer techniques and awareness of project model establishment to relevant stakeholders**			
Output 10	**Training/capacity building and transfer results into production**			

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
- Activity J.1	Organize training courses on model selection associated with different degradation level of forest land	- 04 training courses (1 course/province) with 40 trainees were organized by Q1 of 2024; 100% trainee had a practical awareness of model selection associated with different degradation level of forest land	4 training reports	- At least 30% of participants are female - After training courses, trainees are provided self-assessment sheet to share their opinions about training courses and what they have learned from the courses. - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case training courses
- Activity J.2	Organize training courses on soil reclamation and erosion control measures on degraded forest land	- 04 training courses (1 course/province) with 40 trainees were organized by Q4 of 2024; 100% trainees had a practical awareness of soil reclamation and erosion control measures on degraded forest land	4 training reports	- At least 30% of participants are female - After training courses, trainees are provided self-assessment sheet to share their opinions about training courses and what they have learned from the courses. - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case training courses might be affected by COVID-19 situation.
- Activity J.3	Organize training courses on techniques of forest rehabilitation on degraded forest land (planting, tending and protecting techniques)	- 04 training courses (1 course/province) with 40 trainees were organized by Q4 of 2025; 100% trainee had a practical awareness of techniques of forest rehabilitation on degraded forest land (planting, tending and protecting techniques)	4 training reports	- At least 30% of participants are female - After training courses, trainees are provided s elf-assessment sheet to share their opinions a bout training courses and what they have learn ed from the courses. - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case training courses might be affected by COVID-19 situation.
Output 11	**Communication, propaganda and dissemination of project results**			
- Activity K.1	Workshop to introduce the project's rehabilitation models and share experience on sustainable	- 01 full-day workshop with 80 participants was held by Q1 of 2027.	1 workshop report	- Participants should be representatives of VNFOREST, UNCCD office in Vietnam, VAFS, Research institute/centers, Forestry University, DARDs, local stakeholders, other line

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
	rehabilitation of degraded and potentially deserted forest land			agencies, NGOs, experts...) - At least 30% of participants are female - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the workshop might be affected by COVID-19 situation.
- Activity K.2	Produce and publish technical manuals, communication/media products to introduce the project's rehabilitation models and share experience on sustainable rehabilitation of degraded and potentially deserted forest land in the Northwest	- 04 technical manuals for 04 models; 04 propagation video/films; and 04 packages of brochures, posters, banners to propagate and disseminate 4 project models were published by Q1 of 2027	4 technical manual, 4 video/film, 4 packages of brochures, posters, banners	- They must be reviewed, verified and approved by VNFOREST before publishing. - General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the workshop might be affected by COVID-19 situation.
INDIRECT ACTIVITY				
1.	**Assistance of PMB personnel**	- 05 staff working part-time for 60 months by Q1 of 2027	5 staff, 60 months	
2.	**Non-expendable and consumable items**			
2.1	Assist in running the PMB	- 03 computers/laptops; 03 printers (black and white); 02 color printers; 01 photocopy machine; 01 scanner; 01 projector and screen; 01 equipment package for virtual meetings were procured by Q2 of 2022; and expenditure report of communication publication and other backup expenses were reported by Q1 of 2025 (for FY2014), by Q1 of 2026 (for FY2015), and by Q1 of 2027 (for FY2016)	1 procurement report; 3 annual expenditure reports	
2.2	Field equipment	- 01 cameras; 01 film cameras; 03 GPS devices were procured by Q3 of 2022.	1 procurement report	
3.	**Additional budget**			

	Narrative	Objectively Verifiable Indicators (OVIs)	Means of Verification	Assumptions
3.1	Inception workshop	- 01 Inception workshop with 30 participants was held by Q2 of 2022.	1 inception workshop report	General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the workshop might be affected by COVID-19 situation.
3.2	Annual PSC & PMB meeting	- 05 Annual PSC meetings for 5 years with 20 participants were held by Q1 of 2023 (for FY2022), by Q1 of 2024 (for FY2023), by Q1 of 2025 (for FY2024), by Q1 of 2026 (for FY2025), and by Q1 of 2027 (for FY2026).	5 meeting reports	General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the workshop might be affected by COVID-19 situation.
3.3	Annual performance and management review meeting to be organized at AFoCO RETC in Myanmar (2 participants, for 3 nights and 4 days; every year for 5 years)	- 05 Annual meetings for 5 years for 2 members of project management boards were held by Q3 of 2022, Q3 of 2023, Q3 of 2024, Q3 of 2025, and Q3 of 2026 to report project performance and management progress	5 meeting reports	General Guidelines on COVID-19 coping-up measures for AFoCO projects will be applied in the case the workshop might be affected by COVID-19 situation.
3.4	Auditing (5 years)	- 05 Auditing reports were published by Q1 of 2024 (for FY2022 and FY2023), by Q1 of 2025 (for FY2024), by Q1 of 2026 (for FY2025), and by Q1 of 2027 (for FY2026).	5 auditing reports	

4. Perceived Project Impacts

First of all, the forest land degradation in project region is classified based on a set of criteria developed from the project. This criteria helps classify degradation levels of forest land in four (4) project provinces into degraded forest land; nearly degraded forest land; potentially degrade forest land. These three levels are classified based on list of indicators help reflect well the actual condition of soil productivity in liking with crop and forest productivity and other ecosystem services provided. Therefore, identify the actual degradation level is important to select the appropriate measures for rehabilitation.

The current status map of distribution of forest land degradation levels classified is also produced using overlaying technique based on the forest status for the Northwest region inherited from the results of "National forest investigation and inventory for the period 2014 - 2016". In accordance with different degradation level classified, appropriate integrated technical measures are proposed.

Secondly, 20 ha rehabilitation models of the project also overcomes the shortcomings of previous rehabilitation models. The selected project models are suitable for different degrees of degradation (7 ha of forest enrichment model on nearly degraded protection forest land in Hoa Binh province, 7 ha of forest natural regeneration promotion on nearly degraded protection forest land in Lai Chau province, 3 ha of agro-forestry cultivation on sloping land model on degraded production forest land in Dien Bien province, and 3 ha of agro-forestry cultivation on sloping land model on degraded production forest land in Son La province) and application of integrated technical measures.

(1) The reason for application of forest enrichment model on nearly degraded protection forest land in Hoa Binh province: The results of the forest inventory of Hoa Binh province in 2016 showed that the total area of natural timber forest in the province is 141,789.98 ha, of which the area of rich forest and medium forest has 9,692 ha, accounting for 6.8% (very few); poor forest has 23,345.29 ha, accounting for 16.5%; very poor forest and forest without reserves (below very poor level) is 108,752.69 ha, accounting for 76.7%12. The forest status data given illustrates that the area of very poor forests and below this level accounts for most of the current forest area in Hoa Binh province. Such area is characterized as unavailability of natural seed resources and sloping and degraded land. Therefore, it is necessary to build a model of forest enrichment to gradually re-establish the forest situation, help protect the land and preserve water sources for protection work for Song Da River region and also a typical model for training or study tour to learn about the restoration of degraded watershet protection forests.

(2) The reason for application of forest natural regeneration promotion on nearly degraded protection forest land in Lai Chau province: The results of the forest inventory of Lai Chau province in 2016 stated that the total area of natural timber forest in the province is 392,548.97 ha, of which the area of rich forest and medium forest has 50,682.68 ha, accounting for 12.9%; poor forest has 338,687.41 ha, accounting for 86.3%; very poor forest has 3,178.88 ha, accounting for 0.8%13. The forest status data given indicates that most of the current forest area in Lai Chau province is poor forest with availability of natural seed resouces and low level of degraded land (remaining forest soil characteristics). Thus, the ability to sow natural seeds is favorable, especially if additional trees are planted to promote natural regeneration process. In other words, the application of forest natural regeneration promotion model in this area will provide

12 The REDD+ Action Plan in Hoa Binh province for the period 2017 – 2020, vision to 2030.
13 The REDD+ Action Plan in Lai Chau province for the period 20s17 – 2020, vision to 2030.

a high success rate.

(3) The reason for application of agro-forestry cultivation on sloping land model on degraded production forest land in Son La province and Dien Bien province:

a) *Son La province:* Son La is one of the provinces with the largest maize growing area in Viet Nam. According to the report on socio-economic situation of Son La province in the first 6 months of 2021, the whole province planted 2,817 ha of maize, the preliminary output reached 10,913 tons. In comparison to the same period in 2020, the area increased by 44.3%, equivalent to 866 ha14. It is worth mentioning that maize growing area in Son La is mostly grown on steep sloping land conditions, while local people lack awareness of farming techniques on sloping land leading to a large area of degraded sloping land. If local people continue to grow maize, it will give low yield. To deal with this issue, they shift to plant cassava for a few crops and then leave it fallow. In recent years, Son La province has advocated converting a part of the area planted from agricultural crops such as maize and cassava on sloping land to grow perennial fruit trees including longan, mango… to increase the income of local people and limite the erosion, leaching and degradation of mountainous land. Evidently, the application of agro-forestry cultivation on sloping land model in this area is completely consistent with the current situation of degraded sloping land and in line with the province's policy about sustainable cultivation on sloping land using proper techniques.

b) *Dien Bien province:* According to the report on the implementation of the socio-economic development plan in 2020 and the implementation plan in 2021, the province is also interested in changing the method of cultivating short-term agricultural crops on sloping land to long-term industrial plants capable of protecting the soil, suitable to site conditions and socio-economic characteristics in the locality. The province has approved the investment policy of growing macadamia trees for five (5) projects with the total area is 17,213.6 ha15, different from Son La province is the conversion of crops with perennial fruit trees such as longan, mango… Apparently, the application of agro-forestry cultivation on sloping land model in Dien Bien province is suitable to climate conditions, consistent with local farming practices and provincial guidelines.

c) Although two (2) models are on the same projects of production forest land, two (2) models intent to be built on areas with different degradation level. Due to the different characteristics as mentioned above, the selection of tree species composition, species planting design, soil treatment and soil erosion techniques should differ between two models in the two provinces. For those reasons, we expect that two agroforestry models in two provinces to be the potential to be replicated for two types of subjects with similar conditions.

d) The integrated technical measure will be applied and transferred including planting techniques and soil treatment and soil erosion control for short-term and long-term purpose of soil reclamation. Species composition should be mixture of indigenous and multipurpose species (provide timber and non-timber products) with non-timber and/or fruit trees to support short-term livelihood of forest owners and maximize space of nutrient uptake as well as for purpose of soil erosion control. On sloping land, SALT technique should be applied with about 60% of timber species and 40% of non-timber and fruit trees. In particular, for soil treatment and soil erosion control, green banks of fast growing Fabaceae trees are planted on contour lines for soil reclamation and erosion control purposes. Probiotic products (AM, AMS-1) are additionally

14 Report No. 334/BC-CTK dated June 25, 2021 of the Statistics Department of Son La province.
15 Report No. 384/BC-UBND dated December 3, 2020 of the Committee people of Dien Bien province.

supplied on planting holes for the same purposes.

All activities of models establishment involve the engagement of RIFEE's staff, representatives of VNFOREST and VAFS and all relevant stakeholders including forest owners, local farmers, local communities, line agencies (local authorities at district and commune level, on-site research centres, forest protection management boards…) and CSOs (at the local level) from site selection, model design, planting, tending, protecting and project M&E.

12 training courses are held in the project locations to transfer the awareness of the selection of rehabilitation models associated with different degradation levels of forest land (four (4) courses), soil reclamation & soil erosion control measures (four (4) courses) and techniques of forest rehabilitation (planting, tending and protecting) on degraded forest land (four (4) courses) for forest owners, local farmers, local communities, local authorities and other line agencies. Project information an and results and technical guidelines are presented in a training workshop and communication and media products (film, video, brochures, posters, banners, etc.) of project are verified and approved for widely publication to ensure the efficiency of communication and suitable to many different audiences.

The project is implemented to mobilize the participation of many stakeholders from the central to local levels. In particular, RIFEE is implementing organization that will work closely with the Viet Nam Administration of Forestry (VNFOREST), the Project Steering Committee (PSC) in the implementation process to ensure compliance with the current regulations of the Government of Viet Nam and the AFoCO. Project Management Unit (PMU) established by RIFEE is responsible to work in collaboration with specialized organizations, local authorities and other stakeholders to carry out project activities to fulfil project schedule, quality required, objectives set of and report arrangement according to the relevant regulations.

The project will bring effectiveness in reducing or preventing degradation and desertification of forest land for the Northwest region. The project results are also expected to provide practical effects on economic, social and environmental aspects, rehabilitate and develop forest ecosystems in the villages, communities in the Northwest. In particular, the important meaning of the project is to create a breakthrough in changing perceptions and farming practices of the people in the past, from ineffective traditional production methods and negative impacts on the environment to a new sustainable production method, which is intensive farming to increase the productivity of agricultural and forestry crops, improve the efficiency of land use, increase income for local people, and contribute to the sustainable development of the Northwest region. The limited knowledge and techniques for developing rehabilitation models on degraded forest land for forest owners, local people, local researchers and technical officials and RIFEE's researchers have also been improve through training courses, propaganda activities and dissemination throughout the project implementation period. The effectiveness of the models is the basis for application and replication on further degraded and potentially deserted forest land in the Northwest region and other regions with similar conditions.

Project results will contribute to environmental improvement through established rehabilitation models that promote soil improvement, water retention and air conditioning. In addition, the project's success will indirectly improve the environment through encouraging the locality to develop project results.

Section C. Description of Project Interventions

1. Work Plan and Schedule

Table 3. *Work Plan and Schedule*

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
I - DIRECT ACTIVITIES								
OBJECTIVE 1: To develop integrated technical measures corresponding to different degradation levels of forest land classified in the Northwest								
Output 1: Current status of forest land degradation surveyed and assessed; levels of degraded and potentially deserted forest land classified								
Activity A.1: Develop a set of criteria and indicators to assess and classify the levels of forest land degradation in 4 provinces of the Northwest region								
Activity A.1.1: Literature review relevant documents and reports on important criteria and indicators to assess the levels of forest land degradation	- 01 set of criteria and indicators proposed to classify degradation levels of forest land into degraded forest land; nearly degraded forest land; potentially degrade forest land	PMU/ RIFEE	Q2/2022					
Activity A.1.2: Consult with experts and relevant stakeholders to complete a set of criteria and indicators to assess and classify the levels of forest land degradation in 4 provinces of the Northwest region	- 01 full-day consultant workshop with 40 participants - 01 complete set of criteria and indicators	PMU/ RIFEE/ VNFOREST	Q3/2022					
Activity A.2: Survey, assess and classify the current status of forest land degradation in 4 provinces of the Northwest region								
Activity A.2.1: Investigation, collection of information, data of criteria, indicators identified in the criteria set developed	- 360 investigation plots (15 plots/commune, 3 communes/district, 2 districts/provinces, 4 provinces; plot size is 500 m2) - 360 soil samples collected in	PMU/ RIFEE/ local stakeholders	Q3/2022 – Q4/2022					

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
	every survey plot (at the plot center)							
Activity A.2.2: Processing and analyzing soil sample in the laboratory	- 01 analysis result of 10 fundamental physical and chemical properties of 360 soil samples	PMU/ RIFEE	Q1/2023					
Activity A.2.3: Data inputting, processing and analysis	- 01 report of forest degradation assessment and classification in 4 provinces of the Northwest region	PMU	Q1/2023					
Activity A.2.4: Conduct technical workshop	- 01 full-day online/blend technical workshop on LPA	PMU/ RIFEE/ AFoCO Secretariat/ VNFOREST	Q1/2023					
Activity A.3: Develop the current status map of forest land degradation in the Northwest region								
Activity A.3.1: Collect the baseline data and map	- 04 baseline dataset and maps of 4 project provinces	PMU/ RIFEE/ local stakeholders	Q1/2023					
Activity A.3.2: Overlaying forest land according to the level of forest land degradation on the digitalized status map	- 04 maps of current status of forest land degradation classification in 4 provinces	PMU/ RIFEE	Q1/2023					
Output 2: Integrated technical measures to rehabilitate degraded forest land in accordance with levels of degradation in 4 provinces of the Northwest region proposed								

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
Activity B.1: Propose integrated technical measures to rehabilitate degraded and nearly degraded forest land in 4 provinces of the Northwest region	- 04 proposals of integrated technical measures to rehabilitate corresponding to different degradation level of forest land classified in 4 project provinces are reviewed and completed following comments and suggestions of 20 consultants	PMU/ RIFEE	Q1/2023					
Activity B.2: Consult with experts and relevant stakeholders to complete the measure proposal		PMU/ RIFEE	Q1/2023					
OBJECTIVE 2: To establish and evaluate effectiveness of four models of degraded forest land rehabilitation in four Northwest provinces through application of integrated technical measures in combination with advanced scientific technology								
Output 3: Selection of appropriate locations for the establishment of the models								
Activity C.1: Survey to select appropriate location for establishment of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)	- Selected locations approved by provincial authority for establishing 7 ha of model in Hoa Binh	PMU/ RIFEE/ local stakeholders		Q2/2023				
Activity C.2: Survey to select appropriate location for establishment of forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)	- Selected locations approved by provincial authority for establishing 7 ha of model in Lai Chau province	PMU/ RIFEE/ local stakeholders		Q2/2023				
Activity C.3: Survey to select appropriate location for establishment of agro-forestry on sloping land model on degraded production forest in Dien Bien province (3 ha)	- Selected locations approved by provincial authority for establishing 3 ha of model in Dien Bien province selected	PMU/ RIFEE/ local stakeholders		Q2/2023				
Activity C.4: Survey to select appropriate location for establishment of agro-forestry	- Selected locations approved by provincial authority for	PMU/ RIFEE/		Q2/2023				

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
on sloping land of degraded production forest in Son La province (3 ha)	establishing 3 ha of model in Son La province selected	local stakeholders						
Output 4: Technical design and establishment of rehabilitation models								
Activity D.1: Technical design and establishment of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)	- 07 ha of the enrichment of poor forest model technically designed and established in Hoa Binh province	PMU/ RIFEE/ local stakeholders		Q2/2023-Q3/2023				
Activity D.2: Technical design and establishment of forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)	- 07 ha of the forest natural regeneration promotion model technically designed and established in Lai Chau province	PMU/ RIFEE/ local stakeholders		Q2/2023-Q3/2023				
Activity D.3: Technical design and establishment of agro-forestry on sloping land model of degraded production forest in Dien Bien province (3 ha)	- 03 ha of the agro-forestry on sloping land model technically designed and established in Dien Bien province	PMU/ RIFEE/ local stakeholders		Q2/2023-Q3/2023				
Activity D.4: Technical design and establishment of agro-forestry on sloping land model on degraded production forest in Son La province (3 ha)	- 03 ha of the agro-forestry on sloping land model technically designed and established in Son La province	PMU/ RIFEE/ local stakeholders		Q2/2023-Q3/2023				
Output 5: Tending, protection and monitoring of rehabilitation models annually								
Activity E.1: Tending, protecting and monitoring enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)	- 7 ha model is tended and protected 3 times/year, for 3 years	PMU/ RIFEE/ local stakeholders			Q2/2024	Q2/2025	Q2/2026	

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
Activity E.2: Tending, protecting and monitoring forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)	- 7 ha model is tended and protected 3 times/year, for 3 years	PMU/ RIFEE/ local stakeholders			Q2/2024	Q2/2025	Q2/2026	
Activity E.3: Tending, protecting and monitoring agro-forestry on sloping land model of degraded production forest in Dien Bien province (3 ha)	- 3 ha model is tended and protected 3 times/year, for 3 years	PMU/ RIFEE/ local stakeholders			Q2/2024	Q2/2025	Q2/2026	
Activity E.4: Tending, protecting and monitoring agro-forestry on sloping land model of degraded production forest in Son La province (3 ha)	- 3 ha model is tended and protected 3 times/year, for 3 years	PMU/ RIFEE/ local stakeholders			Q2/2024	Q2/2025	Q2/2026	
Output 6: Monitoring and evaluation of soil erosion and the baseline data of project models								
Activity F.1: Design spinning plots for effectiveness monitoring of the model	- 12 spinning plots established (03 spinning plots with size of 400 m2 are selected for each model, 4 models)	PMU/ RIFEE/ local stakeholders		Q2/2023				
Activity F.2: Design and build erosion monitoring systems	- 12 erosion monitoring systems established (01 soil monitoring systems/spinning plot include boundary construction, storage tank and water flow meter), monitoring for 4 years	PMU/ RIFEE/ local stakeholders		Q2/2023; Q1/2024	Q1/2025	Q1/2026		
Activity F.3: Investigate and evaluate the baseline data								
Activity F.3.1. Investigate and evaluate the baseline data of livelihood of forest owners	- 240 interviewees (forest owners, local farmers, local	PMU/ RIFEE/		Q2/2023				

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
and local people in project sites before model establishment	communities, local authorities and other line agencies)	local stakeholders						
Activity F.3.2: Investigate and evaluate the baseline data of the current status of vegetation and soil properties before model establishment	- 12 investigation sheets of vegetation status in 12 spinning plots - 108 soil samples are taken from 12 spinning plots, estimated to analyze 10 basic soil properties) - 01 evaluation report of the current status of vegetation and soil properties of project sites before model establishment of 4 project provinces	PMU/ RIFEE/ local stakeholders		Q2/2023				
Output 7: Mid-term result evaluation of rehabilitation models								
Activity G.1: Data investigation for mid-term evaluation in terms of erosion rate, water flow (based on recording results from spinning erosion systems), model growth, plant productivity, biodiversity, natural regeneration, forest structure, soil properties and economic analysis	- 240 questionnaire sheets (forest owners, local farmers, local communities, local authorities and other line agencies) - 12 recording sheets of 12 erosion and water flow monitoring systems; - 12 investigation sheets of vegetation status in 12 spinning plots; - 108 soil samples are taken from 12 spinning plots	PMU/ RIFEE/ local stakeholders			Q4/2024			

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
Activity G.2: Mid-term workshop to evaluate preliminary results of rehabilitation models in 4 project provinces	- 01 full-day mid-term workshops including 2 days for field visits	PMU/ RIFEE/ local stakeholders			Q1/2025			
Output 8: Final evaluation of rehabilitation models								
Activity H.1: Data investigation for final evaluation in terms of erosion rate, water flow (based on recording results from spinning erosion systems), model growth, plant productivity, biodiversity, natural regeneration, forest structure, soil properties and economic analysis	- 240 questionnaire sheets (forest owners, local farmers, local communities, local authorities and other line agencies); - 12 recording sheets of 12 erosion and water flow monitoring systems; - 12 investigation sheets of vegetation status in 12 spinning plots; - 108 soil samples are taken from 12 spinning plots	PMU/ RIFEE/ local stakeholders				Q1/2026		
Activity H.2: Final workshop to summarize rehabilitation models in 4 provinces	- 02 full-day final workshops including 2 days for field visits	PMU/ RIFEE/ local stakeholders					Q4/2026	
Activity H.3: Model verification and liquidation	- 20 ha models are verified and approved for liquidation	PMU/ RIFEE/ VAFS/ VNFOREST/ local stakeholders					Q4/2026	
OBJECTIVE 3: To compile technical guidelines on degraded forest land rehabilitation and policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region								

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
Output 9: Development of technical guidelines and policy briefs								
Activity I.1: Development of technical guidelines on degraded forest land rehabilitation in the Northwest region	- 4 technical guidelines for establishment of 4 rehabilitation models	PMU/ RIFEE					Q3/2026	
Activity I.2: Development of policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region	- 4 policy briefs	PMU/ RIFEE					Q3/2026	
Activity I.3: Consultation to complete technical guidelines and policy briefs	- 01 summary paper of 20 consultant sheets; - 4 technical guidelines and 4 policy briefs	PMU/ RIFEE/ VNFOREST					Q3/2026	
OBJECTIVE 4: To transfer techniques and awareness of project model establishment to relevant stakeholders								
Output 10: Training/capacity building and transfer results into production								
Activity J.1: Organize training courses on model selection associated with different degradation level of forest land (01 course/model, 04 models)	- 04 training courses	PMU/ RIFEE/ local stakeholders		Q4/2023-Q1/2024				
Activity J.2: Organize training courses on soil reclamation and erosion control measures on degraded forest land (01 course/model, 4 models)	- 04 training courses	PMU/ RIFEE/ local stakeholders			Q3/2024-Q4/2024			
Activity J.3: Organize training courses on techniques of forest rehabilitation on degraded forest land (planting, tending and protecting techniques) (01 course/model, 4 models)	- 04 training courses	PMU/ RIFEE/ local stakeholders				Q3/2025-Q4/2025		

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
Output 11: Communication, propaganda and dissemination of project results								
Activity K.1: Workshop to introduce the project's rehabilitation models and share experience on sustainable rehabilitation of degraded and potentially deserted forest land	- 01 full-day workshop	PMU/ RIFEE/ VNFOREST					Q1/2027	
Activity K.2: Produce and publish technical manuals, communication/media products to introduce the project's rehabilitation models and share experience on sustainable rehabilitation of degraded and potentially deserted forest land in the Northwest	- 04 technical manuals for 04 models	PMU/ RIFEE/ VNFOREST					Q4/2026-Q1/2027	
II - INDIRECT ACTIVITIES								
1. Assistance of PMB personnel	- 05 staff working part-time for 60 months (5 years)	PMU	Q2/2022-Q1/2023	Q2/2023-Q1/2024	Q2/2024-Q1/2025	Q2/2025-Q1/2026	Q2/2026-Q1/2027	
2. Non-expendable and consumable items								
2.1. Assist in running the PMB	- 03 computers/laptops; 03 printers (black and white); 02 color printers; 01 photocopy machine; 01 scanner; 01 projector and screen; 01 equipment package for virtual meetings; communication publication and other backup expenses	PMU	Q2/2022		Q1/2025	Q1/2026	Q1/2027	
2.2. Field equipment	- 01 cameras; 01 film cameras; 03 GPS devices	PMU	Q3/2022					
3. Additional budget								

Outputs	Performance Indicator	Responsible Person/ Body	Annual Timeline					Remarks
			FY2022 (Q2/2022-Q1/2023)	FY2023 (Q2/2023-Q1/2024)	FY2024 (Q2/2024-Q1/2025)	FY2025 (Q2/2025-Q1/2026)	FY2026 (Q2/2026-Q1/2027)	
3.1. Inception workshop	- 01 Inception workshop with 30 participants	PMU/PSC/ AFoCO Secretariat/ VNFOREST	Q2/2022					
3.2. Annual PSC & PMB meeting	- 05 Annual PSC meeting for 5 years with 20 participants	PSC/PMU/ AFoCO Secretariat/ VNFOREST	Q1/2022	Q1/2024	Q1/2025	Q1/2026	Q1/2027	
3.3. Annual performance and management review meeting to be organized at AFoCO RETC in Myanmar (2 participants, for 3 nights and 4 days; every year for 5 years)	- 05 Annual meetings for 5 years for 2 members of project management boards to report project performance and management progress	PMU/ AFoCO RETC	Q3/2022	Q3/2023	Q3/2024	Q1/2026	Q1/2027	
3.4. Auditing (5 years)	- 05 Auditing reports, implemented 3 times (FY2024, FY2025 and FY2026), for 5 years	PMU		Q1/2024	Q1/2025	Q1/2026	Q1/2027	

2. Budget (USD)

Table 4. ***Detail Budget Estimation***

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
I - DIRECT COSTS				**563,876**	**93,670**	**193,310**	**102,296**	**70,380**	**104,220**	
OBJECTIVE 1: To develop integrated technical measures corresponding to different degradation levels of forest land classified in the Northwest										
Output 1: Current status of forest land degradation surveyed and assessed; levels of degraded and potentially deserted forest land classified										
Activity A.1: Develop a set of criteria and indicators to assess and classify the levels of forest land degradation in 4 provinces of the Northwest region				**9,930**	**9,930**					
Activity A.1.1: Literature review relevant documents and reports on important criteria and indicators to assess the levels of forest land degradation (3 persons x 20 days)	Man-day	50	60	3,000	**3,000**					
Activity A.1.2: Consult with experts and relevant stakeholders to complete a set of criteria and indicators to assess and classify the levels of forest land degradation in 4 provinces of the Northwest region (1 consultant workshop, full day, 40 participants)				6,930	**6,930**					
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen, and other services)	Package	900	1	*900*	**900**					
- Welcome dinner for participants (40 participants)	Package	35	40	1,400	**1,400**					
- Lunch for participants (on workshop day) (40 participants)	Package	30	40	1,200	**1,200**					
- DSA for participants (40 participants x 1 day)	Day	35	40	*1,400*	**1,400**					
- Lodging for participants (outside Hanoi) (estimated 15 participants for 1 nights)	Person x night	30	15	*450*	**450**					
- Assist transportation for participants (outside Hanoi) (estimated 15 participants)	Person	50	15	*750*	**750**					
- DSA for organizers (6 persons, 3 days for each)	Day	35	18	*630*	**630**					
- Material, stationery and others for meeting (40 packages for 40 participants)	Package	5	40	*200*	**200**					

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity A.2: Survey, assess and classify the current status of forest land degradation in 4 provinces of the Northwest region				**74,240**	**74,240**					
Activity A.2.1: Investigation, collection of information, data of criteria, indicators identified in the criteria set developed (estimated to conduct in 2 districts/province x 4 provinces, 3 communes/district, 15 plots/commune, 500 m2 of plot size)				50,240	**50,240**					
- Car rental (travel to project provinces and on-site travelling) (20 days/province x 4 provinces)	Day	70	80	5,600	**5,600**					
- Lodging for PMU staff and RIFEE's staff for field work (4 people x 19 nights/province x 4 provinces)	Person x night	30	304	9,120	**9,120**					
- DSA for PMU staff and RIFEE' staff for field work (4 people x 20 days/province x 4 provinces)	Day	35	320	11,200	**11,200**					
- Working fee for local staff and local people for field work support (8 people x 19 days/province x 4 provinces)	Man-day	40	608	24,320	**24,320**					
Activity A.2.2: Processing and analyzing soil sample in the laboratory (1 soil sample taken from the center of every 15 plots/commune x 3 communes/district x 2 districts/province x 4 provinces; analyze 10 fundamental properties)	Samples	50	360	18,000	**18,000**					
Activity A.2.3: Data inputting, processing and analysis (4 persons x 20 days)	Man-day	50	80	4,000	**4,000**					
Activity A.2.4: Conduct technical workshop on LPA (Landscape Partnership Asia)				2,000	**2,000**					
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen, and other services)	Package	450	1	450	**450**					
- DSA for participants (off-line) (30 participants x 1 day)	Day	35	30	1,050	**1,050**					
- DSA for organizers (5 persons, 2 days for each)	Day	35	10	350	**350**					
- Material, stationery and others for meeting (30 packages for 30 participants)	Package	5	30	150	**150**					

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity A.3: Develop the current status map of forest land degradation in the Northwest region				**7,000**	**7,000**					
Activity A.3.1: Collect the baseline data and map	Man-day	50	20	1,000	**1,000**					
Activity A.3.2: Overlaying forest land according to the level of forest land degradation on the digitalized status map (4 persons x 30 days)	Man-day	50	120	6,000	**6,000**					
Sub-total (Output 1)				**91,170**	**91,170**					
Output 2: Integrated technical measures to rehabilitate degraded forest land in accordance with levels of degradation in 4 provinces of the Northwest region proposed										
Activity B.1: Propose integrated technical measures to rehabilitate degraded and nearly degraded forest land in 4 provinces of the Northwest region (3 people x 10 days)	Man-day	50	30	1,500	**1,500**					
Activity B.2: Consult with experts and relevant stakeholders to complete the measure proposal (20 persons)	Person	50	20	1,000	**1,000**					
Sub-total (Output 2)				**2,500**	**2,500**					
Total (Objective 1)				**93,670**	**93,670**					
OBJECTIVE 2: To establish and evaluate effectiveness of four models of degraded forest land rehabilitation in four Northwest provinces through application of integrated technical measures in combination with advanced scientific technology										
Output 3: Selection of appropriate locations for the establishment of models										
Activity C.1: Survey to select appropriate location for establishment of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)				**3,360**		**3,360**				
- Car rental (travel to project provinces and on-site travelling)	Day	70	10	700		**700**				
- Lodging for PMU staff and RIFEE's staff for field work (3 people x 9 nights)	Person x night	30	27	810		**810**				
- DSA for PMU staff and RIFEE's staff for field work (3 people x 10 days)	Day	35	30	1,050		**1,050**				
- Working fee for local staff and local people for field work support (2 people x 10 days)	Man-day	40	20	800		**800**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity C.2: Survey to select appropriate location for establishment of forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)				**3,360**		**3,360**				
- Car rental (travel to project provinces and on-site travelling)	Day	70	10	700		**700**				
- Lodging for PMU staff and RIFEE's staff for field work (3 people x 9 nights)	Person x night	30	27	810		**810**				
- DSA for PMU staff and RIFEE's staff for field work (3 people x 10 days)	Day	35	30	1,050		**1,050**				
- Working fee for local staff and local people for field work support (2 people x 10 days)	Man-day	40	20	800		**800**				
Activity C.3: Survey to select appropriate location for establishment of agro-forestry on sloping land model on degraded production forest in Dien Bien province (3 ha)				1,635		1,635				
- Car rental (travel to project provinces and on-site travelling)	Day	70	5	350		**350**				
- Lodging for PMU staff and RIFEE's staff for field work (3 people x 4 nights)	Person x night	30	12	360		**360**				
- DSA for PMU staff and RIFEE's staff for field work (3 people x 5 days)	Day	35	15	525		**525**				
- Working fee for local staff and local people for field work support (2 people x 5 days)	Man-day	40	10	400		**400**				
Activity C.4: Survey to select appropriate location for establishment of agro-forestry on sloping land of degraded production forest in Son La province (3 ha)				1,635		1,635				
- Car rental (travel to project provinces and on-site travelling)	Day	70	5	350		**350**				
- Lodging for PMU staff and RIFEE"s staff for field work (3 people x 4 nights)	Person x night	30	12	360		**360**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- DSA for PMU staff and RIFEE's staff (3 people x 5 days)	Person	35	15	525		**525**				
- Working fee for local staff and local people for field work support (2 people x 5 days)	Man-day	40	10	400		**400**				
Sub-total (Output 3)				**9,990**		**9,990**				
Output 4: Technical design and establishment of rehabilitation models										
Activity D.1: Technical design and establishment of enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)				38,507		38,507				
- Develop technical design (3 persons, 5 days)	Man-day	50	15	750		750				
- Prepare materials for planting:				8,925		8,925				
+ Indigenous seedlings (estimated 400 trees/ha + 10% contingency)	Number of seedlings	1.5	3,080	4,620		**4,620**				
+ Non-timber seedlings for planting under canopy (100 trees/ha)	Number of seedlings	2	700	1,400		**1,400**				
+ Seeds of fast growing *Fabaceae* species for green bank development for the short-term purposes of soil reclamation and erosion control (estimated 20 kg/ha)	kg	6	140	840		**840**				
+ Organic fertilizer (0.3kg/hole)	kg	0.3	1050	315		**315**				
+ NPK (0.2kg/hole, transportation fee included)	kg	0.6	700	420		**420**				
+ Probiotic product (AM) (estimated 10 kg/ha)	ha	10	70	700		**700**				
+ Super absorbent polymer particles (AMS-1) for soil water maintenance (0.03g/hole)	kg	6	105	630		**630**				
- Local labor for vegetation treatment before planting (29.9 labor/ha)	Man-day	30	209.3	6,279		**6,279**				
- Local labor for planting (including hole digging, hole covering, seedling transportation and planting) (61.3 labor/ha)	Man-day	30	429.1	12,873		**12,873**				
- Car rental (travel to project provinces and on-site travelling)	Day	70	20	1,400		**1,400**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Lodging for PMU staff and RIFEE's staff for field work (4 people x 19 nights)	Person x night	30	76	2,280		**2,280**				
- DSA for PMU staff and RIFEE's staff (4 people x 20 days)	Day	35	80	2,800		**2,800**				
- Working fee for local staff for field work support (2 people x 40 days)	Man-day	40	80	3,200		**3,200**				
Activity D.2: Technical design and establishment of forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)				41,113		41,113				
- Develop technical design (2 persons, 5 days)	Man-day	50	10	500		**500**				
- Prepare materials for planting:				11,781		**11,781**				
+ Indigenous seedlings (estimated 600 trees/ha + 10% contingency)	Number of seedlings	1.5	4,620	6,930		**6,930**				
+ Non-timber seedlings for planting under canopy (100 trees/ha)	Number of seedlings	2	700	1,400		**1,400**				
+ Seeds of fast growing *Fabaceae* species for green bank development for the short-term purposes of soil reclamation and erosion control (estimated 20 kg/ha)	kg	6	140	840		**840**				
+ Organic fertilizer (0.3kg/hole)	kg	0.3	1470	441		**441**				
+ NPK (0.2kg/hole)	kg	0.6	980	588		**588**				
+ Probiotic product (AM) (estimated 10 kg/ha)	kg	10	70	700		**700**				
+ Super absorbent polymer particles (AMS-1) for soil water maintenance (0.03g/hole)	kg	6	147	882		**882**				
- Local labor for vegetation treatment before planting (29.9 labor/ha)	Man-day	30	209.3	6,279		**6,279**				
- Local labor for planting (including hole digging, hole covering, seedling transportation and planting) (61.3 labor/ha)	Man-day	30	429.1	12,873		**12,873**				
- Car hiring (travel to project provinces and on-site travelling)	Day	70	20	1,400		**1,400**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Lodging for PMU staff and RIFEE's staff for field work (4 people x 19 nights)	Person x night	30	76	2,280		**2,280**				
- DSA for PMU staff and RIFEE's staff (4 people x 20 days)	Day	35	80	2,800		**2,800**				
- Working fee for local staff for field work support (2 people x 40 days)	Man-day	40	80	3,200		**3,200**				
Activity D.3: Technical design and establishment of agro-forestry on sloping land model of degraded production forest in Dien Bien province (3 ha)				19,680		19,680				
- Develop technical design (2 persons, 5 days)	Man-day	50	10	500		500				
- Prepare materials for planting:				4,542		4,542				
+ Indigenous seedlings (estimated 400 trees/ha + 10% contingency)	Number of seedlings	1.5	1320	1,980		**1,980**				
+ Seedlings of fruit tree and non-timber species (200 trees/ha)	Number of seedlings	2	600	1,200		**1,200**				
+ Seeds of fast growing *Fabaceae* species for green bank development for the short-term purposes of soil reclamation and erosion control (estimated 20 kg/ha)	kg	6	60	360		**360**				
+ Organic fertilizer (0.3kg/hole)	kg	0.3	540	162		**162**				
+ NPK (0.2kg/hole)	kg	0.6	360	216		**216**				
+ Probiotic product (AM) (estimated 10 kg/ha)	kg	10	30	300		**300**				
+ Super absorbent polymer particles (AMS-1) for soil water maintenance (0.03g/hole)	kg	6	54	324		**324**				
- Local labor for vegetation treatment before planting (29.9 labor/ha)	Man-day	30	89.7	2,691		**2,691**			**-**	
- Local labor for planting (including hole digging, hole covering, seedling transportation and planting) (61.3 labor/ha)	Man-day	30	183.9	5,517		**5,517**				
- Car rental (travel to project provinces and on-site travelling)	Day	70	15	1,050		**1,050**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Lodging for PMU staff and RIFEE's staff for field work (4 people x 14 nights)	Person x night	30	56	1,680		**1,680**				
- DSA for PMU staff and RIFEE's staff (4 people x 15 days)	Day	35	60	2,100		**2,100**				
- Working fee for local staff for field work support (2 people x 20 days)	Man-day	40	40	1,600		**1,600**				
Activity D.4: Technical design and establishment of agro-forestry on sloping land model on degraded production forest in Son La province (3 ha)				19,680		19,680				
- Develop technical design (2 persons, 5 days)	Man-day	50	10	500		500				
- Prepare materials for planting:				4,542		4,542				
+ Indigenous seedlings (estimated 400 trees/ha + 10% contingency)	Number of seedlings	1.5	1320	1,980		**1,980**				
+ Seedlings of fruit tree and non-timber species (200 trees/ha)	Number of seedlings	2	600	1,200		**1,200**				
+ Seeds of fast growing *Fabaceae* species for green bank development for the short-term purposes of soil reclamation and erosion control (estimated 20 kg/ha)	kg	6	60	360		**360**				
+ Organic fertilizer (0.3kg/hole)	kg	0.3	540	162		**162**				
+ NPK (0.2kg/hole)	kg	0.6	360	216		**216**				
+ Probiotic products (AM) (estimated 10 kg/ha)	kg	10	30	300		**300**				
+ Super absorbent polymer particles (AMS-1) for soil water maintenance (0.03g/hole)	kg	6	54	324		**324**				
- Local labor for vegetation treatment before planting (29.9 labor/ha)	Man-day	30	89.7	2,691		**2,691**				
- Local labor for planting (including hole digging, hole covering, seedling transportation and planting) (61.3 labor/ha)	Man-day	30	183.9	5,517		**5,517**				
- Car hiring (travel to project provinces and on-site travelling)	Day	70	15	1,050		**1,050**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Lodging for PMU staff and RIFEE's staff for field work (4 people x 14 nights)	Person x night	30	56	1,680		**1,680**				
- DSA for PMU staff and RIFEE's staff (4 people x 15 days)	Day	35	60	2,100		**2,100**				
- Working fee for local staff for field work support (2 people x 20 days)	Man-day	40	40	1,600		**1,600**				
Sub-total (Output 4)				**118,980**		**118,980**				
Output 5: Tending, protection and monitoring of rehabilitation models annually										
Activity E.1: Tending, protecting and monitoring enrichment of poor forest model on nearly degraded protection forest land in Hoa Binh province (7 ha)				27,940			10,352	8,668	8,920	
- Replanting (first year after planting)				*1,463*			**1,463**			
+ Seedlings for replanting of indigenous trees (10%)	Number of seedlings	1.5	280	420			**420**			
+ Seedlings for replanting of non-timber trees (10%)	Number of seedlings	2	70	140			**140**			
+ Local labor for replanting (4.3 labors/ha)	Man-day	30	30.1	903			**903**			
- Tending and protecting (3 year)				*23,657*			**7,949**	**7,728**	*7,980*	
+ Fertilizer:				221			**221**			
Organic fertilizer (30% total amount used for the first year)	kg	0.3	315	95			**95**			
NPK (30% total amount used for the first year)	kg	0.6	210	126			**126**			
+ Local labor of tending year 1, 2 (3 times/year) and protecting (36.8 labors/ha/year, 2 years)	Man-day	30	515.2	15,456			**7,728**	**7,728**		
+ Local labor of tending year 3 (3 times/year) and protecting (38 labors/ha)	Man-day	30	266.0	7,980					**7,980**	
- Annual model inspection and monitoring				*2,820*			**940**	**940**	*940*	
+ Car rental (travel to project provinces and on-site travelling) (5 days/year x 3 years)	Day	70	15	1,050			**350**	**350**	**350**	
+ Lodging for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 4 nights, 3 years)	Person x night	30	24	720			**240**	**240**	**240**	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
+ DSA for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 5 days, 3 years)	Day	35	30	1,050			**350**	**350**	**350**	
Activity E.2: Tending, protecting and monitoring forest natural regeneration promotion model on nearly degraded protection forest land in Lai Chau province (7 ha)				28,238			10,650	8,668	8,920	
- Replanting (first year after planting)				*1,673*			*1,673*			
+ Seedlings for replanting of indigenous trees (10%)	Number of seedlings	1.5	420	630			*630*			
+ Seedlings for replanting of non-timber species (10%)	Number of seedlings	2	70	140			*140*			
+ Labor for replanting (4,3 labors/ha)	Man-day	30	30.1	903			*903*			
- Tending and protecting (3 year)				*23,745*			*8,037*	*7,728*	*7,980*	
+ Fertilizer:				309			*309*			
Organic fertilizer (30% total amount used for the first year)	kg	0.3	441	132			*132*			
NPK (30% total amount used for the first year)	kg	0.6	294	176			*176*			
+ Local labor of tending year 1, 2 (3 times/year) and protecting (36.8 labors/ha/year, 2 years)	Man-day	30	515.2	15,456			*7,728*	**7,728**		
+ Local labor of tending year 3 (3 times/year) and protecting (38 labors/ha)	Man-day	30	266.0	7,980				**-**	**7,980**	
- Annual model inspection and monitoring				*2,820*			*940*	*940*	*940*	
+ Car rental (travel to project provinces and on-site travelling) (5 days/year x 3 years)	Day	70	15	1,050			*350*	**350**	**350**	
+ Lodging for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 4 nights, 3 years)	Person x night	30	24	720			*240*	**240**	**240**	
+ DSA for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 5 days, 3 years)	Day	35	30	1,050			*350*	**350**	**350**	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity E.3: Tending, protecting and monitoring agro-forestry on sloping land model of degraded production forest in Dien Bien province (3 ha)				13,664			5,052	4,252	4,360	
- Replanting (first year after planting)				*687*			*687*			
+ Seedlings for replanting of indigenous trees (10%)	Number of seedlings	1.5	120	180			*180*			
+ Seedlings for replanting of fruit and non-timber species (10%)	Number of seedlings	2	60	120			*120*			
+ Labor for replanting (4.3 labors/ha)	Man-day	30	12.9	387			*387*			
- Tending and protecting (3 year)				*10,157*			*3,425*	*3,312*	*3,420*	
+ Fertilizer:				113			*113*			
Organic fertilizer (30% total amount used for the first year)	kg	0.3	162	49			*49*			
NPK (30% total amount used for the first year)	kg	0.6	108	65			*65*			
+ Local labor of tending year 1, 2 (3 times/year) and protecting (36.8 labors/ha/year, 2 years)	Man-day	30	220.8	6,624			*3,312*	**3,312**		
+ Local labor of tending year 3 (3 times/year) and protecting (38 labors/ha)	Man-day	30	114.0	3,420				**-**	**3,420**	
- Annual Model inspection and monitoring				*2,820*			*940*	*940*	*940*	
+ Car rental (travel to project provinces and on-site travelling) (5 days/year x 3 years)	Day	70	15	1,050			*350*	**350**	**350**	
+ Lodging for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 4 nights, 3 years)	Person x night	30	24	720			*240*	**240**	**240**	
+ DSA for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 5 days, 3 years)	Day	35	30	1,050			*350*	**350**	**350**	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity E.4: Tending, protecting and monitoring agro-forestry on sloping land model of degraded production forest in Son La province (3 ha)				13,664			5,052	4,252	4,360	
- Replanting (first year after planting)				*687*			*687*			
+ Seedlings for replanting of indigenous trees (10%)	Number of seedlings	1.5	120	180			*180*			
+ Seedlings for replanting of fruit and non-timber species (10%)	Number of seedlings	2	60	120			*120*			
+ Labor for replanting (4,3 labors/ha)	Man-day	30	12.9	387			*387*			
- Tending and protecting (3 year)				*10,157*			*3,425*	*3,312*	*3,420*	
+ Fertilizer:				113			*113*			
Organic fertilizer (30% total amount used for the first year)	kg	0.3	162	49			*49*			
NPK (30% total amount used for the first year)	kg	0.6	108	65			*65*			
+ Local labor of tending year 1, 2 (3 times/year) and protecting (36.8 labors/ha/year, 2 years)	Man-day	30	220.8	6,624			*3,312*	**3,312**		
+ Local labor of tending year 3 (3 times/year) and protecting (38 labors/ha)	Man-day	30	114.0	3,420				**-**	**3,420**	
- Annual model inspection and monitoring				*2,820*			*940*	*940*	*940*	
+ Car hiring (travel to project provinces and on-site travelling) (5 days/year x 3 years)	Day	70	15	1,050			*350*	**350**	**350**	
+ Lodging for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 4 nights, 3 years)	Person x night	30	24	720			*240*	**240**	**240**	
+ DSA for PMU staff and RIFEE's staff for site inspection and monitoring (2 people x 5 days, 3 years)	Day	35	30	1,050			*350*	**350**	**350**	
Sub-total (Output 5)				**83,506**			**31,106**	**25,840**	**26,560**	
Output 6: Monitoring and evaluation of soil erosion and the baseline data of project models										

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity F.1: Design spinning plots for effectiveness monitoring of the model (03 spinning plots/model x 4 models, 400 m2 of plot size)	Man-day	*50*	*20*	1,000		**1,000**				
Activity F.2: Design and build erosion monitoring systems (including boundary construction, storage tank, water flow meter; 01 system/plot x 3 plots/models, 4 models)				19,080		**18,360**	**360**	**360**		
- Design and build erosion monitoring system	Monitoring system	1500	12	18,000		**18,000**				
- Working fee for local staff and local people for on-site erosion monitoring (1 person/province x 4 provinces)	Year	360	3	1,080		**360**	**360**	**360**		
Activity F.3: Investigate and evaluate the baseline data				*15,140*		**15,140**				
Activity F.3.1. Investigate and evaluate the baseline data of livelihood of forest owners and local people in project sites before model establishment (60 interviewee/province, 4 provinces)	Interviewee	10	240	2,400		**2,400**				
Activity F.3.2: Investigate and evaluate the baseline data of the current status of vegetation and soil properties before model establishment				12,740		**12,740**				
- Car rental (travel to project provinces and on-site travelling) (5 days x 4 provinces)	Day	70	20	1,400		**1,400**				
- Lodging for PMU staff and RIFEE's staff for field work (3 persons x 4 nights/province x 4 provinces)	Person x night	30	48	1,440		**1,440**				
- DSA for PMU staff and RIFEE's staff for field work (3 persons x 5 days/province x 4 provinces)	Day	35	60	2,100		**2,100**				
- Working fee for local staff and local people for field work support (3 persons x 5 days/province x 4 provinces)	Man-day	40	60	2,400		**2,400**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Soil sample analysis in the laboratory (soil samples should be taken from 3 soil depth layers/soil profile x 3 soil profiles/spinning plot x 3 spinning plots/model x 4 models, estimated to analyze 10 basic soil properties)	Samples	50	108	5,400		**5,400**				
Sub-total (Output 6)				**35,220**		**34,500**	**360**	**360**		
Output 7: Mid-term result evaluation of rehabilitation models										
Activity G.1: Data investigation for mid-term evaluation in terms of erosion rate, water flow (based on recording results from spinning erosion systems), model growth, plant productivity, biodiversity, natural regeneration, forest structure, soil properties and economic analysis				12,740			12,740			
- Car rental (travel to project provinces and on-site travelling (5 days x 4 provinces)	Day	70	20	1,400			**1,400**			
- Lodging for PMU staff and RIFEE's staff for field work (3 people x 4 nights/province x 4 provinces)	Person x night	30	48	1,440			**1,440**			
- DSA for PMU staff and RIFEE's staff for field work (3 people x 5 days/province x 4 provinces)	Day	35	60	2,100			**2,100**			
- Working fee for local staff for field work support (3 people x 4 days/province x 4 provinces)	Man-day	40	60	2,400			**2,400**			
- Soil sample analysis in the laboratory (soil samples should be taken from 3 soil depth layers/soil profile x 3 soil profiles/spinning plot x 3 spinning plots/model x 4 models, estimated to analyze 10 basic soil properties)	Samples	50	108	5,400			**5,400**			
Activity G.2: Mid-term workshop to evaluate preliminary results of rehabilitation models in 4 project provinces				*28,250*			*28,250*			

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen, and other services) (1 full-day workshop and 2 days for field visits)	Package	800	1	*800*			**800**			
- Welcome dinner for participants (80 participants)	Package	35	80	2,800			**2,800**			
- Lunch for participants (on workshop day) (80 participants)	Package	30	80	2,400			**2,400**			
- DSA for participants (80 participants for 1 workshop day & 2 field days)	Day	35	240	*8,400*			**8,400**			
- Lodging for participants for workshop period (outside province) (estimated 40 participants for 1 nights)	Person x night	30	80	*2,400*			**2,400**			
- Assist transportation for participants (outside province) (estimated 40 participants)	Participant	50	40	*2,000*			**2,000**			
- Car hiring for field visit in provinces	Day	400	4	*1,600*			**1,600**			
- Lunch for participants for field visit (80 participants, 2 lunch meals)	Package	25	160	*4,000*			**4,000**			
- Lodging for participants for field visit (80 participants for 1 nights)	Person x night	30	80	*2,400*			**2,400**			
- DSA for organizers to prepare and implement workshop and go for field visit (6 staff for 5 days)	Day	35	30	*1,050*			**1,050**			
- Material, stationery and others for meeting (80 packages for 80 participants)	Package	5	80	*400*			**400**			
Sub-total (Output 7)				**40,990**			**40,990**			
Output 8: Final evaluation of rehabilitation models										

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity H.1: Data investigation for final evaluation in terms of erosion rate, water flow (based on recording results from spinning erosion systems), model growth, plant productivity, biodiversity, natural regeneration, forest structure, soil properties and economic analysis				14,340				14,340		
- Car rental (travel to project provinces and on-site travelling (5 days x 4 provinces)	Day	70	20	1,400				**1,400**		
- Lodging for PMU staff and RIFEE's staff for field work (3 people x 4 nights/province x 4 provinces)	Person x night	30	48	1,440				**1,440**		
- DSA for PMU staff and RIFEE's staff for field work (3 people x 5 days/province x 4 provinces)	Day	35	60	2,100				**2,100**		
- Working fee for local staff for field work support (4 people/province x 5 days/provinces x 4 provinces)	Man-day	50	80	4,000				**4,000**		
- Soil sample analysis in the laboratory (soil samples should be taken from 3 soil depth layers/soil profile x 3 soil profiles/spinning plot x 3 spinning plots/model x 4 models, estimated to analyze 10 basic soil properties)	Samples	50	108	5,400				**5,400**		
Activity H.2: Final workshop to summarize rehabilitation models in 4 provinces				35,250					35,250	
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen, and other services) (2 full-day workshop and 2 days for field visits)	Day	900	2	*1,800*					**1,800**	
- Welcome dinner for participants (80 participants)	Package	35	80	2,800					**2,800**	
- Lunch for participants (on workshop day) (80 participants, 2 days)	Package	30	160	4,800					**4,800**	
- DSA for participants (80 participants for 2 workshop day & 2 field days)	Day	35	320	*11,200*					**11,200**	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Lodging for participants for workshop period (outside meeting province) (estimated 40 participants for 2 nights)	Person x night	30	80	*2,400*					**2,400**	
- Assist transportation for participants (outside meeting province) (estimated 40 participants)	Person	50	40	*2,000*					**2,000**	
- Car hiring for field visit in provinces	Day	600	4	*2,400*					**2,400**	
- Lunch for participants for field visit (80 participants, 2 lunch meals)	Package	25	160	*4,000*					**4,000**	
- Lodging for participants for field visit (80 participants for 1 nights)	Person x night	30	80	*2,400*					**2,400**	
- DSA for organizers to prepare and implement workshop and go for field visit (6 staff for 5 days)	Day	35	30	*1,050*					**1,050**	
- Material, stationery and others for meeting (80 packages for 80 participants)	Package	5	80	*400*					**400**	
Activity H.3: Model verification and liquidation				4,720					4,720	
+ Car hiring (travel to project provinces and on-site travelling) (8 days)	Day	70	8	560					**560**	
+ DSA for PMU staff and representatives from VNFOREST, VAFS, RIFEE (7 people for 8 days)	Day	35	64	2,240					**2,240**	
+ Lodging for PMU staff and representatives from VNFOREST, VAFS, RIFEE (7 people for 8 nights)	Person x night	30	64	1,920					**1,920**	
Sub-total (Output 8)				**54,310**				**14,340**	**39,970**	
Total (Objective 2)				**342,996**		**163,470**	**72,456**	**40,540**	**66,530**	
Objective 3: To compile technical guidelines on degraded forest land rehabilitation and policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region										
Output 9: Development of technical guidelines and policy briefs										

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
Activity I.1: Development of technical guidelines on degraded forest land rehabilitation in the Northwest region (3 people, 25 days)	Man-day	50	75	3,750					**3,750**	
Activity I.2: Development of policy briefs on sustainable management and use of degraded and potentially deserted forest land in the Northwest region (3 people, 20 days)	Man-day	50	60	3,000					**3,000**	
Activity I.3: Consultation to complete technical guidelines and policy briefs (20 consultants)	Person	50	20	1,000					**1,000**	
Sub-total (Output 9)				**7,750**					**7,750**	
Total (Objective 3)				**7,750**					**7,750**	
Objective 4: To transfer techniques and awareness of project model establishment to relevant stakeholders										
Output 10: Training/capacity building and transfer results into production										
Activity J.1: Organize training courses on model selection associated with different degradation level of forest land (01 course/model, 04 models)				29,840		29,840				
- Training venue (full package: Room, tea-breaks, computer, projector, screen, and other services) (2 days/course, 4 courses)	Day	400	8	3,200		**3,200**				
- Lunch for participants (40 participants/day, 2 days/course, 4 courses)	Package	25	320	8,000		**8,000**				
- DSA for participants (40 participants/day, 2 days/course, 4 courses)	Day	35	320	*11,200*		**11,200**				
- Lodging for participants (outside province) (estimated 10 participants/course for 2 nights, 4 courses)	Person x night	30	80	*2,400*		**2,400**				

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Assist transportation for participants (outside province) (estimated 10 participants/course, 4 courses)	Person	50	40	*2,000*		**2,000**				
- Material, stationery and others for meeting (40 packages/course, 4 courses)	Package	5	160	800		**800**				
- Travel expenses for organizers to prepare and implement training										
+ Assist transportation (2 persons/courses, 4 courses)	Person	50	8	400		**400**				
+ DSA (2 persons/course, 4 days/course, 4 courses)	Day	35	32	1,120		**1,120**				
+ Lodging (2 persons/course, 3 nights/course, 4 courses)	Person x night	30	24	720		**720**				
Activity J.2: Organize training courses on soil reclamation and erosion control measures on degraded forest land (01 course/model, 4 models)				29,840			29,840			Adjusted to implement in FY2024 instead of FY2023
- Training venue (full package: Room, tea-breaks, computer, projector, screen, and other services) (2 days/course, 4 courses)	Day	400	8	3,200			29,840			
- Lunch for participants (40 participants/day, 2 days/course, 4 courses)	Package	25	320	8,000			**3,200**			
- DSA for participants (40 participants/day, 2 days/course, 4 courses)	Day	35	320	*11,200*			**8,000**			
- Lodging for participants (outside province) (estimated 10 participants/course for 2 nights, 4 courses)	Person x night	30	80	*2,400*			**11,200**			
- Assist transportation for participants (outside province) (estimated 10 participants/course, 4 courses)	Person	50	40	*2,000*			**2,400**			

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Material, stationery and others for meeting (40 packages/course, 4 courses)	Package	5	160	800			**2,000**			
- Travel expenses for organizers to prepare and implement training							**800**			
+ Assist transportation (2 persons/courses, 4 courses)	Person	50	8	400						
+ DSA (2 persons/course, 4 days/course, 4 courses)	Day	35	32	1,120			**400**			
+ Lodging (2 persons/course, 3 nights/course, 4 courses)	Person x night	30	24	720			**1,120**			
<u>Activity J.3:</u> Organize training courses on techniques of forest rehabilitation on degraded forest land (planting, tending and protecting techniques) (01 course/model, 4 models)				29,840				29,840		Adjusted to implement in FY2025 instead of FY2024
- Training venue (full package: Room, tea-breaks, computer, projector, screen, and other services) (2 days/course, 4 courses)	Day	400	8	3,200				3,200		
- Lunch for participants (40 participants/day, 2 days/course, 4 courses)	Package	25	320	8,000				8,000		
- DSA for participants (40 participants/day, 2 days/course, 4 courses)	Day	35	320	*11,200*				11,200		
- Lodging for participants (outside province) (estimated 10 participants/course for 2 nights, 4 courses)	Person x night	30	80	*2,400*				2,400		
- Assist transportation for participants (outside province) (estimated 10 participants/course, 4 courses)	Person	50	40	*2,000*				2,000		

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Material, stationery and others for meeting (40 packages/course, 4 courses)	Package	5	160	800				800		
- Travel expenses for organizers to prepare and implement training										
+ Assist transportation (2 persons/courses, 4 courses)	Person	50	8	400				400		
+ DSA (2 persons/course, 4 days/course, 4 courses)	Day	35	32	1,120				1,120		
+ Lodging (2 persons/course, 3 nights/course, 4 courses)	Person x night	30	24	720				720		
Sub-total (Output 10)				**89,520**		**29,840**	**29,840**	**29.840**		
Output 11: Communication, propaganda and dissemination of project results										
Activity K.1: Workshop to introduce the project's rehabilitation models and share experience on sustainable rehabilitation of degraded and potentially deserted forest land				15,940					15,940	
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen and other services)	Package	900	1	*900*					***900***	
- Welcome dinner for participants (80 participants)	Package	35	80	2,800					***2,800***	
- Lunch for participants (on workshop day) (80 participants)	Package	30	80	2,400					***2,400***	
- DSA for participants (80 participants)	Day	35	80	*2,800*					***2,800***	
- Lodging for participants (outside province) (estimated 40 participants for 1 nights)	Person x night	30	40	*1,200*					***1,200***	
- Assist transportation for participants (outside province) (estimated 40 participants)	Person	50	40	*2,000*					***2,000***	
- Car rental for field visit (1 day field visit and 80 participants)	Day	600	1	*600*					***600***	
- Lunch for participants to go field visit (80 participants)	Package	25	80	*2,000*					***2,000***	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- DSA for PMU staff to prepare and implement workshop and go to field visit (6 staff, 4 days)	Day	35	24	*840*					***840***	
- Material, stationery and others for meeting (80 packages for 80 participants)	Package	5	80	*400*					***400***	
Activity K.2: Produce and publish technical manuals, communication/media products to introduce the project's rehabilitation models and share experience on sustainable rehabilitation of degraded and potentially deserted forest land in the Northwest				14,000					14,000	
- Design, production and publish fees for products of propagation video/films	Number of video/film	1500	4	6,000					**6,000**	
- Design, print, publish and delivery fees for products of 04 technical manuals, brochures, banner, poster...	Package	2000	4	8,000					**8,000**	
Sub-total (Output 11)				**29,940**					**29,940**	
Total (Objective 4)				**119,460**		**29,840**	**29,840**	**29,840**	**29,940**	
II - INDIRECT COSTS				**150,124**	**49,380**	**27,160**	**24,460**	**24,460**	**24,664**	
1. Assistance of PMB personnel				**78,000**	**15,600**	**15,600**	**15,600**	**15,600**	**15,600**	
- Project Director (part-time) (30% of the time working on the project)	Month	250	60	15,000	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	
- Project Coordinator (part-time) (50% of the time working on the project)	Month	300	60	18,000	**3,600**	**3,600**	**3,600**	**3,600**	**3,600**	
- Finance staff (part-time) (30% of the time working on the project)	Month	250	60	15,000	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	
- Technical staff (part-time) (50% of the time working on the project)	Month	300	60	18,000	**3,600**	**3,600**	**3,600**	**3,600**	**3,600**	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Assistant staff of technical and administrative matters (part-time) (50% of the time working on the project)	Month	200	60	12,000	**2,400**	**2,400**	**2,400**	**2,400**	**2,400**	
2. Non-expendable and consumable items				**25,704**	**24,600**		**300**	**300**	**504**	
2.1. Assist in running the PMB				***19,104***	**18,000**		***300***	***300***	***504***	
- Computer/laptop	Package	1,200	3	3,600	**3,600**					
- Printer (black and white)	Package	700	3	2,100	**2,100**					
- Color printer	Package	800	2	1,600	**1,600**					
- Photocopy machine	Package	4,000	1	4,000	**4,000**					
- Scanner	Package	700	1	700	**700**					
- Projector and screen	Package	3,000	1	3,000	**3,000**					
- Equipment package for virtual meetings	Package	3,000	1	3,000	**3,000**					
- Communication, publication and other backup expenses				1,104			**300**	**300**	**504**	
2.2. Field equipment				***6,600***	**6,600**					
- Camera	Package	1,500	1	1,500	**1,500**					
- Film camera to record project activities to provide for film making for propagating purpose	Package	3,000	1	3,000	**3,000**					
- GPS device	Package	700	3	2,100	**2,100**					
3. Additional budget				**46,420**	**9,180**	**11,560**	**8,560**	**8,560**	**8,560**	
3.1. Inception workshop				***3,620***	**3,620**					
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen, materials and other services)	Package	400	1	*400*	***400***					
- Lunch for participants (on workshop day) (30 participants)	Package	30	30	900	***900***					
- DSA for participants (30 participants x 1 day)	Day	35	30	*1,050*	***1,050***					

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- Lodging for participants (outside province) (estimated 14 participants for 1 nights)	Person x night	30	14	*420*	***420***					
- Assist transportation for participants (outside province) (estimated 14 participants)	Person	50	14	*700*	***700***					
- Material, stationery and others for meeting (30 packages for 30 participants)	Package	5	30	*150*	***150***					
3.2. Annual PSC & PMB meeting				***18,400***	***3,680***	***3,680***	***3,680***	***3,680***	***3,680***	
- Meeting venue (full package: Room, tea-breaks, computer, projector, screen...) (1 meeting day/year x 5 years)	Package	300	5	*1,500*	***300***	***300***	***300***	***300***	***300***	
- Lunch for participants (on workshop day) (20 participants/meeting x 5 meetings for 5 years)	Package	30	100	3,000	***600***	***600***	***600***	***600***	***600***	
- DSA for participants (20 participants/meeting x 5 meetings for 5 years)	Day	35	100	*3,500*	***700***	***700***	***700***	***700***	***700***	
- Lodging for participants (outside province) (estimated 10 participants for 1 night/meeting period x 5 meetings for 5 years)	Person x night	30	50	*1,500*	***300***	***300***	***300***	***300***	***300***	
- Assist transportation for participants (outside province) (estimated 10 participants/meeting x 5 meetings for 5 years)	Person	50	50	*2,500*	***500***	***500***	***500***	***500***	***500***	
- Car rental for field visit (1 day for each meeting, 5 meetings for 5 years)	Day	300	5	*1,500*	***300***	***300***	***300***	***300***	***300***	
- Lunch for participants to go field visit (20 participants/meeting, 1 day for each meeting, 5 meetings for 5 years)	Package	30	100	*3,000*	***600***	***600***	***600***	***600***	***600***	

Activity	Unit	Unit Cost (USD)	Quantity	Total Cost (USD)	Allocation by Year (USD)					Re-marks
					FY2022	FY2023	FY2024	FY2025	FY2026	
- DSA for organizers to prepare and implement the meeting and field visit (4 persons, 2 days for each, 5 meetings for 5 years)	Day	35	40	*1,400*	***280***	***280***	***280***	***280***	***280***	
- Material, stationery and others for meeting (20 packages for 20 participants/meeting x 5 meetings for 5 years)	Package	5	100	*500*	***100***	***100***	***100***	***100***	***100***	
3.3. Annual performance and management review meeting to be organized at AFoCO RETC in Myanmar (2 participants, for 3 nights and 4 days; every year for 5 years)				***9,400***	***1,880***	***1,880***	***1,880***	***1,880***	***1,880***	
- Airfare (round ticket, economy class) (2 return tickets/year x 5 years)	Round ticket	800	10	8,000	**1,600**	**1,600**	**1,600**	**1,600**	**1,600**	
- DSA (2 participants for 4 days/year x 5 years)	Man-day	35	40	1,400	**280**	**280**	**280**	**280**	**280**	
***3.4. Auditing** (5 years)*	***Year***	***3,000***	***5***	***15,000***		***6,000***	**3,000**	***3,000***	**3,000**	
III - NATIONAL CONTRIBUTION FROM VIET NAM (*) *(Office, annual internal inspection, additional workshops, trainings…)*				**120,000**	**19,853**	**4,303**	**12,022**	**42,982**	**40,840**	
SUB-TOTAL (DIRECT + INDIRECT COST) (I)				**714,000**	**143,050**	**220,470**	**126,756**	**94,840**	**128,884**	
PROGRAM SUPPORT (12% OF SUB-TOTAL) (II) (Financial Regulations 3.4)				**85,680**	**17,166**	**26,456**	**15,211**	**11,381**	**15,466**	
TOTAL OF AFoCO BUGDET (I+II)				**799,680**						
TOTAL OF NATIONAL BUDGET				**120,000**						
GRAND TOTAL				**919,680**						

(*) Details of expenditure items and annual expenditures depend on available national funding sources and according to domestic regulations.

Notes:

- Unit cost includes interest and exchange rate differences at the fiscal year.

- Cost norm of DSA and travel expenses (overseas travel and domestic travel) are exactly followed the regulation identified in Operating Guidelines for Implementation of Regional Cooperation Projects (section 4.7. Official Travel);

- Technical norms for model establishment are all based on regulation identified in Decision No. 38/2005/QD-BNN dated July 6, 2005 on the promulgation of technical norms for afforestation, forest natural regeneration promotion and forest protection;

- Man-day cost of project personnel and local staff is estimated based on EU Cost norm in accordance with relevant full time experiences (Annex I);

- Other costs of consumable items (car rent, accommodation, workshop/meeting room for rent…) are estimated based on the actual prices.

Table. Procurement Management Plan

Activity No.	Item	Unit	Unit Cost	Number	Total cost (USD)	Owner	Delivery Time	Remarks
Activity D.1, D.2, D.3, D.4 (Model establishment) and Activity E.1, E.2, E.3, E.4 (Tending, protecting models)								
Prepare Seedlings for planting (including 10% seedlings for replanting)					**25,040**			
	Indigenous seedlings	Number of seedlings	1.5	11,280	16,920	RIFEE (Self-execution)	Q1/2023, Q1/2024	
	Seedlings of fruit tree and non-timber species	Number of seedlings	2	2,860	5,720		Q1/2023, Q1/2024	
	Seeds of fast growing Fabaceae species	kg	6	400	2,400		Q1/2023, Q1/2024	
Prepare Fertilizer for planting					**3,276**			
	Organic fertilizer	Kg	0.3	4,680	1,404	Subject to Direct Negotiations	Q1/2023, Q1/2024	
	NPK	Kg	0.6	3,120	1,872		Q1/2023, Q1/2024	
Prepare Probiotic products for planting					**2,000**			
	Probiotic product	Kg	10	200	2,000	RIFEE (Self-execution)	Q1/2023, Q1/2024	
					2,160			

Activity No.	Item	Unit	Unit Cost	Number	Total cost (USD)	Owner	Delivery Time	Remarks
Prepare Super absorbent polymer particles for soil water maintenance	Super absorbent polymer particles	Kg	6	360	2,160	Subject to Direct Negotiations	Q1/2023, Q1/2024	
Non-expendable and consumable items								
Procurement of office equipment to assist the operation of Project Management Board					**18,000**			
	Computer/laptop	Package	1,200	3	3,600	Subject to Direct Negotiations	Q1/2022	
	Printer	Package	700	3	2,100		Q1/2022	
	Color printer	Package	800	2	1,600		Q1/2022	
	Photocopy machine	Package	4,000	1	4,000		Q1/2022	
	Scanner	Package	700	1	700		Q1/2022	
	Projector and screen	Package	3,000	1	3,000		Q1/2022	
	Equipment package for virtual meetings	Package	3,000	1	3,000		Q1/2022	
Procurement of Field equipment					**6,600**			
	Camera	Package	1,500	1	1,500	Subject to Direct Negotiations	Q1/2022	
	Film camera	Package	3,000	1	3,000		Q1/2022	
	GPS device	Package	700	3	2,100		Q1/2022	
TOTAL					**57,076**			

Note:
- This plan is in accordance with AFoCO's guidance on Procurement of Goods and Services and subjected to domestic polices and regulations.
- The Delivery Time may be adjusted based on the actual process.

Section D. Implementation Arrangements

1. Implementation Arrangement

1.1. Organization structure

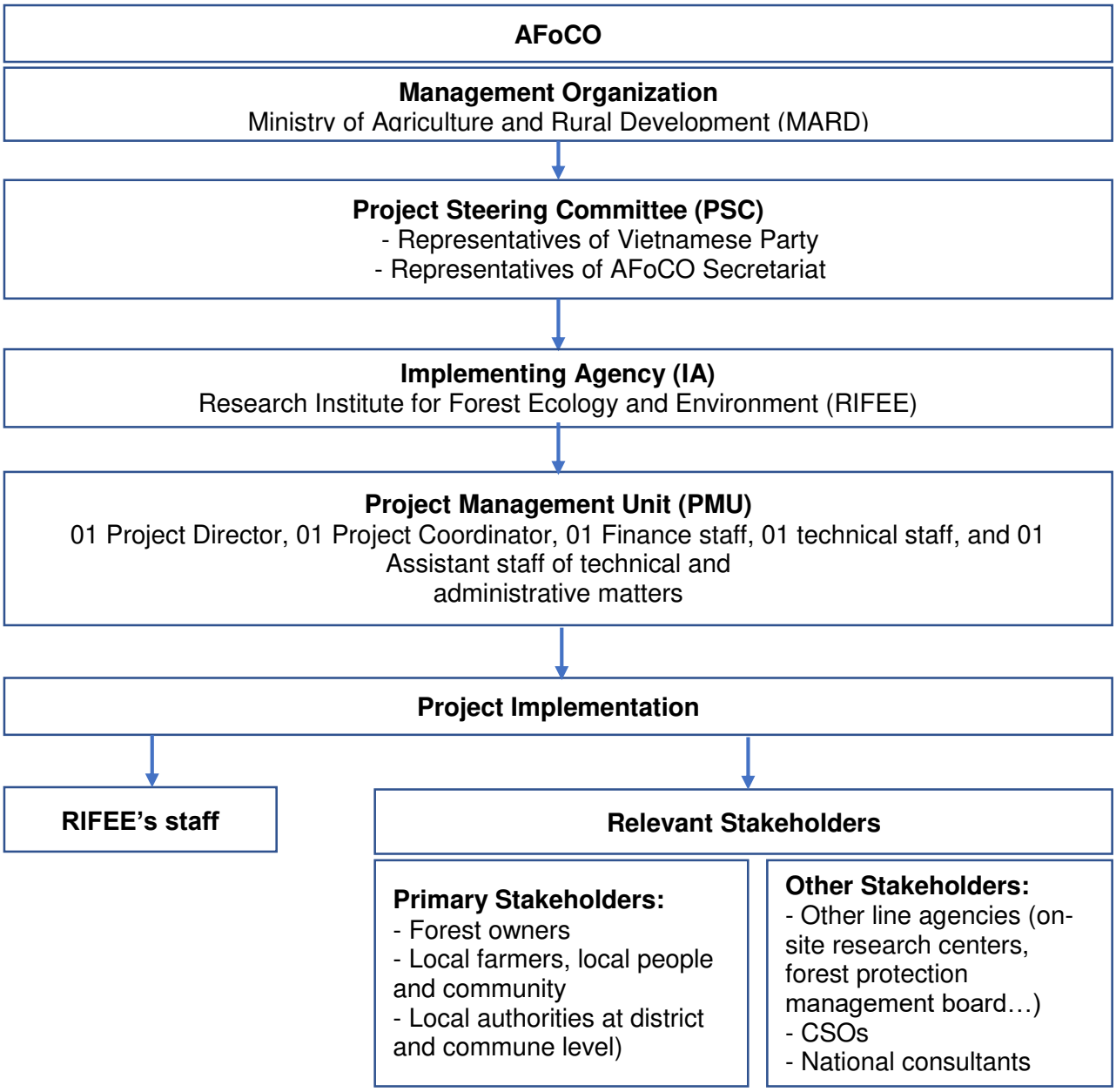

Figure 3. *Organizational chart*

1.2. Staff resource plan

Project personnel includes 5 members of PMU. These members are all staff of RIFEE, with 30-50% of the time working for the project. In addition, RIFEE will actively mobilize the available personnel of the agency to participate in project activities. The specific main tasks of the PMU members are as follows.

Position	Main task	Remark
Project Director (01 person)	- Monitor and comprehensively support the project and project staff to carry out project activities to ensure quality and progress. - Responsible for the output products of the project. - Chair or coordinate with stakeholders to organize workshops and training courses. - Ensure close coordination with the management organization (MARD) and the local authorities at four project provinces to ensure cohesion and consensus with the local during the project implementation process and coordinate for the replication of the project model. - Collaborate with the Project Coordinator to compile and submit periodic progress reports and project reports.	Part-time (30% of the time working on the project)
Project Coordinator (01 person)	- Ensure regular communication and reporting on project progress with the AFoCO's Secretariat, PSC and the management organization. - Connect with relevant stakeholders. - Responsible for coordinating all project activities under the supervision of the Project Director to ensure the quality and progress of the project. - Regular inspection and supervision of field activities in the locality. - Responsible for organizing workshops and training courses. - Coordinate with finance staff, technical staff and administrative staff of the project to compile periodical progress reports and project reports.	Part-time (50% of the time working on the project)
Finance staff (01 person)	- Responsible for managing the project's financial resources (AFoCO's budget and Vietnam's counterpart funds) according to the approved estimate. - Responsible for financial payment and audit activities for the project. - Prepare financial reports according to regulations. - Coordinate with the Project Coordinator to develop an annual budget plan and propose adjustments (if necessary) to match the actual situation and ensure appropriate and effective expenditures.	Part-time (30% of the time working on the project)

Position	Main task	Remark
Technical staff (01 person)	- Responsible for the direct implementation of project activities under the technical supervision and guidance of the Project Director and Project Coordinator; - Coordinate with officials of the Implementing Agency (RIFEE) and local officials to mobilize resources to ensure the implementation of field and desktop work activities. - Work closely with forest owners, local communities and local civil society organizations to mobilize the participation and consensus. - Coordinate with the Project Coordinator to organize workshops and training courses. - Coordinate with the Project Coordinator to develop the annual work plan and propose adjustments (if necessary) to match the actual situation and ensure effective use of time. - Coordinate with the Project Coordinator to develop periodical progress reports and project reports according to regulations.	Part-time (50% of the time working on the project)
Assistant staff of technical and administrative matters (01 person)	- Be responsible for administrative procedures, documents related to the regulations of the management organization (MARD) and the local government authorities of four project provinces during the implementation of project activities; - Contact and keep in contact with relevant stakeholders. - Support the Technical Staff to directly implement project activities. - Coordinate with the Project Coordinator to organize workshops and training courses. - Coordinate with the Project Coordinator to compile periodical progress reports and project reports related to management and administrative activities.	Part-time (50% of the time working on the project)

2. Reporting, Monitoring and Evaluation Arrangements

No.	Deliverables	Deadlines for submission
1	PIP, Annual Plan & Budget	Every 31 October
2	Budget request (twice a year)	• Every 15 December • Every 15 June
3	Mid-year Progress & Financial report	Every 15 July
4	Annual Progress & Financial report	Every 15 January
5	A completion report	By March 2027 (within 3 months from the completion of the Project)
6	Financial audit reports (year 3, year 5)	• By March 2025 (a financial audit report for 3 years of 2022, 2023, 2024) • By March 2027 (a financial audit report for 2 years of 2025, 2026)

No.	Deliverables	Deadlines for submission
7	Other reports (technical reports, workshop proceedings produced…)	Within one (1) month after completion of the activity
8	Monthly progress, including concerns and issues to the Secretariat	Every month

- The IA is responsible to submit on time all deliverables above to the PSC for evaluation and approval through PSC and PMB meetings before reporting to the AFoCO Secretariat.
- The PSC will create a project monitoring team to conduct regular or annual monitoring and on-site validation to assess the progress of Project implementation and submit reports to the PSC in accordance with the Project Manual.

3. Environmental and Social risk Arrangements

Assumptions and risks	Risk management strategy
The success of rehabilitation models on degraded forest land, especially those on degraded bare land, greatly depends on weather conditions, slope level and actual quality of soil nutrient.	To minimize these risk factors, the selection of model establishment methods should pay special attention to solutions to overcome extreme weather conditions, mitigate slope level and improve soil nutrient quality. Integrated technical measures applied include planting techniques, soil treatment and soil erosion control to ensure sustainable restoration of forest land for short-term and long-term. The project includes backup of seedlings and expenses for replanting, annual tending and protecting for 3 years and monitoring activities are frequent throughout the project period with the involvement of local people and local staff, ensuring the survival rate and good quality trees > 75%.
Multi-stakeholder involvement and benefit sharing mechanism.	All relevant stakeholders are invited to participate in all project activities starting from site selection, model design, planting, tending, protecting, M&E, training courses & awareness programs and workshops to help create a sense of ownership. Benefits of all relevant stakeholders involved in project activities will be guaranteed as mentioned in the “Stakeholder analysis table”.

Assumptions and risks	Risk management strategy
Main beneficiaries of the project are ethnic minorities who are forest-dependents and have limited knowledge and understanding, even some people cannot speak Vietnamese. This is a barrier to meet, exchange, train and provide them with knowledge of new science and technology.	To deal with this difficulty, the project will closely coordinate with local authorities, local line agencies and local CSOs to gradually propagate and popularize knowledge for local people. On the other hand, technical guidelines should be compiled in harmonization between advanced science and technology and indigenous knowledge of local people. In consultation meetings on training materials, local people should also be invited, which will be an appropriate approach to gradually raise awareness and science and technology knowledge for local people.
Gender equality and women empowerment	Almost all project activities require participants to include at least 30% women ensure their rights and support them with additional income.
Some activities might be affected by COVID-19 epidemic	Consider delaying or proposing alternative activities in accordance with General Guideline on COVID-19 coping-up measures for AFoCO projects.

4. Sustainability Mechanism

(1) The project actively engages RIFEE's staff, representatives of VNFOREST and VAFS and all relevant stakeholders including forest owners, local farmers, local communities, line agencies (local authorities at district and commune level, on-site research centres, forest protection management boards…) and CSOs (at the local level). All of them participate in all project activities starting from site selection, model design, planting, tending, protecting, M&E, training & awareness programs and workshops to help create a sense of ownership. Such a strong ownership ensures the project unity and its continuity. By this way, project demonstration models enables individuals of farmers, local people and agencies to replicate them in other areas. They could learn and apply the techniques in their own land and their own costs.

(2) The project's outputs and technique guidelines should be publicized at a training workshop which invited the participants from many regions, not limited to the project regions to facilitate project replication and scaling-up.

(3) Project communication and media products after verified by VNFOREST will be widely delivered and published through various channels of communication to motivate the replication.

(4) After the project completion, RIFEE is willing to support in scaling-up of the degradation classification of forest land in other regions based on a set of criteria for degradation classification of forest land and mapping technique developed from the project. RIFEE runs their own laboratory which can help soil analysis. Integrated technical measures in accordance

with specific degradation levels of forest land (Output 2) will be transferred by RIFEE to relevant stakeholders and other agencies for the application.

(5) Non-timber plant species planted under forest canopy in enrichment model and natural regeneration promotion model and additionally mixed with fruit trees in agro-forestry models are expected to help provide short-term income to encourage forest owners to invest in forest rehabilitation for long-term benefits of soil reclamation and erosion control. The model enables them to replicate and scale up their own revenue from NTFPs and crop products.

(6) Probiotic product (AM) applied in rehabilitation provide long-term effectiveness of soil reclamation, soil erosion control and are available and cheap for purchase. “AM” is our advanced technique product. Therefore, RIFEE can provide this product with low price for model replication. In addition, super absorbent polymer particles (AMS-1) for soil water maintenance is also cheap and available to purchase.

(7) The project outcomes will help improve environmental conditions through the establishment of rehabilitation models on degraded forest land, contributing to soil improvement, water retention and air conditioning. Moreover, the project will indirectly improve the environment through encouraging the localities to utilize project’s results.