Ministry of Agriculture and Rural Development

VIETNAM

Forest Carbon Partnership Facility (FCPF)

Carbon Fund

Emission Reductions Program

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

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Acronyms and Abbreviations

ACMA	Adaptive collaborative management approach
ADB	Asian Development Bank
AF/RF	Afforestation/reforestation
AP	Affected People (also referred to as Displaced People)
BCC	Biodiversity Conservation Corridor
BSM	Benefit Sharing Mechanism
BSP	Benefit Sharing Plan
CCVI	Climate Change Vulnerability Index
CEMA	Committee for Ethnic Minority Affairs
CEPF	Critical Ecosystems Partnership Fund
CF	Carbon Fund
CFM	Community Forest Management
CIRUM	Culture Identity and Resources Management
CORENAM	Consultative and Research Centre on Natural Resource Management
CPC	Commune People's Committee
CPMU	Central Program Management Unit
CRD	Centre for Research and Development in Upland areas
CSO	Civil Society Organizations
CSRD	Centre for Social Research and Development
DARD	Department of Agriculture and Rural Development (Provincial and District Level)
DONRE	Department of Natural Resources and Environment (Provincial and District Level)
DPC	District People's Committee
EBA	Endemic bird area
EBF	Evergreen broad leaf forest
EIA	Environmental Impact Assessment
EM	Ethnic Minority people
EMP	Environmental Management Plan
EMPF	Ethnic Minority Policy Framework
EPP	Environmental Protection Plan
ER	Emission Reduction
ER-P	Emission Reduction Program (area)
ER-PD	Emissions Reduction Program Document
ER-PIN	Emissions Reduction Program Identification Note
ERPA	Emission Reduction Payment Agreement
ESMF	Environmental Social Management Framework
FCPF	Forest Carbon Partnership Facility
FGRM	Feedback and Grievance Redress Mechanism
FLA	Forest Land Allocation
FLEGT	Forest Law Enforcement, Governance and Trade
FMB	Forest Management Boards (collectively meaning a PFMB and SUFMB)
FMC	Forest Management Council
FMCRP	**Forest Sector Modernization and Coastal Resilience Enhancement Project**
FME	Forest Management Entities
FORMIS	Forest Management Information System
FPD	Forest Protection Department
FPIC	Free, Prior and Informed Consent
FSC	Forest Stewardship Council
FSDP	Forest Sector Development Project
GAP	Gender Action Plan
GCF	Green Climate Fund
GDLA	General Department of Land Administration
GMG	Grassroots Mediation Group
GRS	Grievance Redress Service
GSO	General Statistical Office

HCV	High conservation value forest
HHs/hhs	House holds
HPP	Hydroelectric power project
IBA	Important bird area
IPM	Integrated Pest Management
IUCN	International Union for Conservation of Nature
KBA	Key biodiversity area
LUMP	Land use master plan
LURC	Land User Rights Certificate
MB	Management Board
MBFP	Management Board for Forestry Projects
MDRI	Mekong Development and Research Institute
METT	Management Effectiveness Tracking Tool
MMR	Measurement, Monitoring and Reporting
MOF	Ministry of Finance
MOI	Ministry of Industry
MOLISA	Ministry of Labour, Invalids and Social Affairs
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
NCB	Non-Carbon Benefits
NCR	North Central Region (region of Vietnam and where the ER-P is located)
NCSFR	National Steering Committee on Sustainable Forest Development and REDD+
NFI	National forest inventory
NP	National Park
NR	Nature Reserve
NRAP	National REDD Action Plan
NRF	National REDD Fund (of Vietnam)
NTFP	Non timber forest products
OMP	Operational Management Plan of for Special Use Forest
OP	Operational Policy of the World Bank
PFES	Payment for Forest Environmental Services
PFMB	Protection Forest Management Board
PFMS	Provincial Forest Monitoring System
PIM	Program Implementation Manual
PLR	Policy laws and regulations
PMP	Pest Management Plan
PPC	Provincial People's Committee
PPMU	Provincial Program Management Unit
PPS	Probability Proportional to Size
PRAP	Provincial REDD Action Plan
PRSC	Provincial REDD+ Steering Committee
R-PP	Readiness-Preparation Proposal for the FCPF REDD readiness funding
RDPR	Rural Development and Poverty Reduction Fund
REDD	Reduction of Deforestation and Forest Degradation
RL/REL	(Forest) Reference Level; Reference Emission Level
RPF	Resettlement Policy Framework
SEDP	Socio-Economic Development Plan (normally a 5-year plan from the government and province)
SERNA	Social and environmental REDD assessment (consisting of a REDD needs assessment (RNA) and social screening report (SSR)
SESA	Strategic Environmental and Social Assessment
SESP	Social and Environmental Screening Procedure of the UNDP
SFC	State Forest Company
SFM	Sustainable Forest Management
SMART	Specific, Measurable, Achievable, Relevant and Time-bound indicators for use in an M&E system
SPRCC	Support Program to Respond to Climate Change
SRD	Centre for Sustainable Rural Development
STWG	Sub-Technical Working Group

SUF MB	Special Use Forest and Special Use Forest Management Board
TORs	Terms of reference
TSG	Technical Support Group
TWG	Technical working group
UXO	Unexploded ordnance
VBSP	Vietnam Bank of Social Policy
VFD	Vietnam Forest and Delta Project (funded by USAID)
VHLSS	Vietnam Household Living Standards Survey
VNFF	Vietnam Forest Protection and Development Fund
VNForest	Vietnam Forest Administration
VPA	Village Partnership Agreement
VRO	Vietnam REDD+ Office
VWU	Viet Nam Women's Union
WB	World Bank
WB MIGA	World Bank Multilateral Investment Guarantee Agency
WBG	World Bank Group
WWF	Worldwide Fund for Nature
	Weights and Measures m = meters; ha = hectares $MtCO_2e$ = million tonne of carbon dioxide equivalent tCO_2e = tonne of carbon dioxide equivalent MW = Mega watt
	Currency M = million; k =thousand Currency Unit = USD Dollar US$1 = VND 22,000

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1 Background and introduction

1.1 Introduction to the Emission Reduction Program area and REDD+

The World Bank through the Forest Carbon Partnership Facility (FCPF) is assisting Vietnam with financial and technical support focused on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, the sustainable management of forests, and the enhancement of forest carbon stocks (activities commonly referred to as REDD+). Assistance from the FCPF is provided through the Readiness Fund, which supports participating countries in the development of REDD+ strategies and policies, reference emission levels, measurement, reporting and verification systems and institutional capacity to manage REDD+ including the environmental and social safeguards.

1.2 Purpose of the ESMF

The Environmental and Social Management Framework (ESMF) is a framework instrument that examines safeguards issues and impacts of the ER-Program region of six provinces and/or a series of sub-projects. It will ensure that adverse environmental and social impacts are avoided or appropriately mitigated and/or compensated for. The specific purposes are to: 1) establish clear procedures and methodologies for the environmental and social assessment, review, approval and implementation of interventions to be financed under the project; 2) specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to program interventions; and 3) determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF. The ESMF will be supported by a detailed Program Implementation Manual (PIM).

The ESMF sets out the principles, rules, guidelines and procedures for screening, assessment, and follow up on the anticipated environmental and social impacts of ER-Program activities. It contains measures and provisions related to avoiding, reducing, mitigating and/or offsetting adverse impacts, including cumulative or indirect environmental impacts of multiple activities and enhancing positive impacts, estimating the costs of such measures, and identifying and strengthening the agency or agencies responsible for addressing program impacts. The ESMF does not examine the safeguard issues and impacts of the nationwide National REDD Action Plan (NRAP), which may have quite different impacts in different regions of the country. The ESMF is prepared during the REDD+ Readiness phase, in line with the outcomes of the Strategic Environmental and Social Assessment (SESA) process.

1.2.1 The SESA

The SESA is a tool which is designed to ensure that environmental and social concerns are integrated into the development and implementation processes for the NRAP[1] and the Provincial REDD+ Action Plans (PRAPs); offer a platform for consultation with and participation of relevant stakeholders to integrate social and environmental concerns into the decision-making process related to REDD+; and to enhance the country's NRAP and PRAPs by making recommendations to address gaps in relevant policy and legal frameworks, and institutional capacity to manage environmental and social impacts/risks associated with REDD+.

[1] Revised National REDD+ Action Plan (NRAP) 2017-2030 on April 5th, 2017; Previously Decision 799/QD-TTg, 27/6/2012 approved the National REDD Action Plan.

The main output from the SESA is the ESMF help to address risks, issues and impacts that may occur when implementing the PRAP interventions in the ER accounting area, to develop safeguards plans[2] to mitigate and manage such risks and impacts in compliance with national legislation and World Bank safeguards.

The SESA process has comprised two main diagnostic parts:

1. Qualitative investigations and consultations on environmental, socio-economic and institutional aspects in largely ethnic minority areas in the ER-P provinces; and

2. A quantitative survey[3] focusing on forest dependence and livelihoods of primarily ethnic minority households in the six proposed ER-P provinces.

The SESA qualitative investigations began with an in-depth study of secondary literature, relevant policies, laws and regulations (PLRs) and both spatial and demographic data that had been collected by the FCPF team.

The SESA team's qualitative work was carried out in all of Provinces, and selected Districts and Communes from October 2015 to March 2016.[4] It also included visits to villages of various ethnic minority people (as shown in Annex 1 Table 11.1). High priority districts for poverty alleviation (included under the Government's Program 30a)[5] were deliberately chosen for investigations, as there is a significant number of them (12 districts covering a large percentage of the potential ER-P areas[6]) in the northern part of the ER-P area; ten of the 12 Program 30a districts are in Thanh Hoa (seven) and Nghe An (three). There is one each in Quang Binh and Quang Tri. These are also districts of high REDD+ relevance with their large forest areas. Additionally, the SESA work echoes one of the three objectives for REDD+, as stated in the ER-PIN (revision, 2014:19): poverty reduction and rural livelihood development.

The ESMF report that follows is based on the SESA work with its focus on the six ER-P provinces[7] of the NCR.

1.2.2 The NRAP

The Prime Minister's endorsement of the revised National REDD+ Action Plan (NRAP) 2017-2030 on April 5th, 2017. The updated NRAP sets out priority policies and measures with which the ER-Program broadly aligns to, however, specific activities are developed for the ER-P area.

REDD+ is also recognized as an important component of Vietnam's Nationally Determined Contribution with a commitment to increase forest cover to 45%. A new Forest Law was passed in

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[2] "Safeguards Plans" are defined, as applicable, the Environmental and Social Management Plan, the Resettlement Plan, the Ethnic Minority Development Plan and any other environmental or social related plan or document required under the World Bank Operational Policies and describing measures to be implemented by the Program Entity during the implementation and operation of the ER Program and the ER Program Measure(s) to eliminate, offset or reduce any adverse environmental and social impacts of the ER Program and ER Program Measure(s), in accordance with World Bank requirements.

[3] Under separate World Bank contract with the Mekong Development Research Institute (MDRI), but with advisory inputs from the FCPF SESA team.

[4] For a complete list of persons consulted and/or who attended meetings with the FCPF teams please see Annex 1 Section 1.9.

[5] Government Resolution 30a/2008/NQ-CP defined 62 poor target districts. See the complete list at CEMA's website: http://www.cema.gov.vn/wps/portal/ubdt/vanban/. Two districts were added under 1791/2013/QD-TTg bringing the current total to 64. Of relevance here is also Resolution 80/2011/NQ-CP on poverty alleviation from 2011 – 2020, which makes many references to Program 30a.

[6] Tuong Duong District (Nghe An) has an area (2812km^2) equivalent to 59% of the entire Quang Tri Province (4746km^2). See Table 1.1 showing areas of ER-P provinces.

[7] Additional consultation and awareness work has also been undertaken in Dak Nong province as this was one of the original FCPF project provinces, but this is now outside of the proposed ER-P area so has not been included in the SESA or ESMF.

November 2017 which supports the aim of addressing deforestation and forest degradation and promoting forest rehabilitation, sustainable forest management and conservation.

1.3 Approach and methodology for developing the ESMF

1.3.1 Information collection

All information/data relating on natural conditions of area, legal, regulatory and policy regime, within which the strategy will be implemented, should be collected through desk study and participatory approaches. Natural conditions include climate, topography, soil suitable for forest tree species and main agricultural crops in the identified areas, biodiversity value, and ecosystem services. Legal, regulatory and policy regime include those related to forestry, agriculture and environment applied for the regions. GIS techniques are used to show forest change for the last 15-20 years, location of protected areas, hydropower plants, electricity transmission line, road, and river systems in the ER-P area.

1.3.2 Stakeholder consultation

Relevant stakeholders (VNFOREST staff, agriculture, forestry, environment, ethnic minority staff at provincial, district and commune levels, staff in special use forest management boards (SUFMBs) and protection forest management boards (PFMBs), heads of villages and local people of different ethnic groups) have been consulted to collect information on the proposed program activities through various workshops and field visits. It is anticipated that the first draft of ESMF will be widely distributed to collect feedback from relevant stakeholders.

1.3.3 Analysis of data

As the PRAPs are in the process of being approved, interventions/activities will be confirmed, and they will undergo further screening to determine the appropriate extent and types of environmental assessment that they are subject to and if proposed activities trigger any of the World Bank safeguards. The proposed activities show mostly positive environmental impacts, if they are designed, implemented and monitored properly. However, minor adverse environmental impacts can be seen based on WB safeguards as shown in Text Box 2.

1.4 Principles of the ESMF

A key principle is to prevent and mitigate any harm to the environment and to people by incorporating environmental and social concerns as an intrinsic part throughout the project/program cycle. Any identified adverse environmental and social impacts will be addressed and tracked throughout all stages of the project/program cycle to ensure that supported activities comply with the policies and practices laid out in the ESMF. It is necessary to 1) avoid potential adverse impacts; 2) if the impacts cannot be avoided mitigation measures should be proposed; and 3) if the impacts cannot be avoided or mitigated, compensations should be made.

2 Program description

2.1 Program development objectives and components

The proposed Emission Reduction Program (ER-P) continues from the World Bank (WB) program that was approved by the Minister of Ministry of Agriculture and Rural Development at Decision No.58/QD-BNN-HTQT on 10th January 2013. Vietnam Administration of Forestry (VNFOREST) is assigned to be the Program Owner and responsible for the Program. It is expected that the Emission Reduction Program Agreement (ERPA) with the Carbon Fund will run from 2019 to 2025.

REDD+ is an initiative to reduce greenhouse gas emissions and protect global climate system through forest development and protection, utilization and sustainable management of forests in developing countries with technical and financial supports of international community. The COP16 decision No. 1/CP16 (so-called the Cancun Agreement) of the Conference of Parties of United Nations Framework Convention to Climate Change (UNFCCC) identifies five key activities: 1) reducing emissions from deforestation, 2) reducing emissions from forest degradation, 3) conservation of forest carbon stocks; 4) sustainable management of forests and; 5) enhancement of forest carbon stocks.

In Vietnam, REDD+ implementation is fully consistent with Government's policies on responding to climate change, on green growth. It is expected that REDD+ will create new financial resources, contributing to forest development and protection, increase in value of forests and socio-economic development. Furthermore, REDD+ preparation and implementation shows willingness of Vietnam to join hands with the international community to protect global climate system.

The development objective of the ER-P is to support REDD+ in Vietnam to have an effective system for REDD+ implementation that contributes to sustainable forest management, green economic growth and poverty reduction, and helping to mitigate climate change at regional and global levels.

The specific objective is to contribute to successful implementation of the National REDD+ Action Plan (NRAP). This will be achieved through three components:

Component 1: Strengthening enabling conditions for emission reductions (USD 6.84 million): The first component of the ER Program includes actions to strengthen the enabling conditions for emissions reduction. In particular, the activities seek to address the drivers and underlying causes of conversion of degraded forest land to higher-value land uses and factors contributing to inadequate implementation of policies to protect natural forests, as shown in Figure 4.6 of the ERPD. The proposed activities support implementation of ambitious and far reaching government policies and plans, described in Section 4.3 of the ERPD, which will be implemented in the NCR during the lifetime of the ER-Program. Strengthening the enabling conditions is expected to have a transformative impact across the NCR. Table 2.1 summarizes the sub-components and key activities of Component 1. The details of activities, justification for these activities and expected outcomes for the different activities are elaborated in this section. Indicators, institutional arrangements and financing of the key activities are fully described in the detailed Table 4.8 in the ERPD.

Table 2.1 Component 1 subcomponents and key activities

Sub Components	Key activities	Scale of intervention
1.1. Strengthening and implementing policies controlling conversion of natural forests	1.1.1. Adoption of legal framework to control the conversion of natural forests to rubber and infrastructure development	All NCR Provinces
	1.1.2. Enhancing cross-sector coordination of the Steering Committees for the National Program on Sustainable Forestry Development/REDD+ at central and provincial levels	National and province coverage (all NCR provinces)
	1.1.3. Develop regulations on publication and access to information on conversion of natural forests and environmental impact assessment reports	National, NCR provinces
1.2. Strengthening forest governance and law enforcement	1.2.1. Dissemination of legal guidelines on controlling conversion of natural forests by local authorities, forest entities, local communities and other stakeholders	All NCR provinces
	1.2.2. Improve capacity of stakeholders to monitor the conversion of natural forests, verification of timber legality and activities to address violations of forest law	All NCR provinces
	1.2.3. Implement independent monitoring of forest conversion by local communities and civil society organizations	Scale: National, NCR provinces
	1.2.4. Strengthening regional collaboration among provinces in the NCR and with Lao PDR on effective measures to control illegal logging and manage legal timber trade	NCR provinces; with focus on Quang Binh, Quang Tri, Nghe An and Ha Tinh

Component 2: Promoting sustainable management of forest and carbon stock enhancement (USD 240.4million): The forest sector has been undergoing restructuring to enhance the effectiveness of land use and forest protection. A master plan for restructuring the forest sector was approved in July 2013 to strengthen competitiveness of the forest sector to effectively mobilize investment, and to promote its development. A set of new policies and programs have since been introduced, some of which are described in Section 4.3. ER program activities build on these efforts to support government priorities in the NCR for: 1) conservation of existing natural forests; 2) enhancement of carbon stock of plantations and 3) the restoration and enhancement of poor natural forests. The key activities for each of these sub-components are highlighted in Table 2.2 and further described below.

This is the core component of the ER Program and is estimated at USD240.4 million (about 77% of the total ER Program budget) for the total program implementation period. This component is divided into three sub-components.

- **Sub-component 2.1: Conservation of existing natural forests (USD 113.2 million)** will support the development and operation of the adaptive collaborative management of natural forests involving forest management entities and communities. It is expected that about 884,215 ha of existing natural evergreen forest and 33,017 ha of coastal/sandy forests will be protected from deforestation and forest degradation.

- **Sub-component 2.2: Enhancement of carbon stock of plantations (USD 70.5 million)** is devoted to the enhancement of carbon stock through improved productivity and long rotation forest plantations. This will include the transformation of 37,515 ha from short to long-term rotation of plantations and planting of 27,750 ha of long-rotation plantations. This sub-component also includes technical support and capacity development for forest certification and plantation management.

- **Sub-component 2.3: Enhancement and restoration of natural forests (USD 56.6 million)** will focus on regeneration and restoration of natural forests. About 91,915 ha of evergreen natural forests will be regenerated or reforested with native tree species, and about 11,348 ha coastal sandy inland forests will be regenerated and restored.

Table 2.2 Component 2 sub-components and key activities

Sub Components	Key Activities	Scale of interventions
2.1. Conservation of existing natural forests	2.1.1 Clarification of land and forest boundaries among the forest entities (FMBs, SFCs) in hotspots areas	60 SFC, PFMB, and SUF MBs across 6 provinces
	2.1.2. Implement collaborative management of natural forests between FMBs, SFCs and communities	60 SFC, PFMB, and SUF MBs across 6 provinces
	2.1.3. Promote implementation of community-based forest management	Forest Management Units across 6 provinces, forest areas under CPC
	2.1.4. Implement sustainable management of natural forests by FMBs and SFCs	Priority FMBs and SFCs across the NCR
2.2. Enhancement of carbon stock of plantation	2.2.1. Investment in transformation of short-rotation plantations to long-rotation plantations for sawn timber supply	37,515 ha in all 6 provinces focusing on SFCs and small growers
	2.2.2. Investment in reforestation of long rotation plantations	27,740 ha in all 66 provinces (SFCs and small growers)
2.3 Enhancement and restoration of natural forests	2.3.1. Investments in assisted natural regeneration (no supplemental planting)	Priority SUF and PFMBs across NCR (56,500 ha)
	2.3.2. Investment in enrichment planting for poor natural forests	Mainly SUF and PFMBs across NCR (24,785 ha)
	2.3.3. Investment in reforestation of coastal protection forests (mangrove and sand break forests)	Coastal areas across NCR Enrichment planting of coastal forests (6,925 ha); Reforestation of coastal sandy forests (4,423 ha)
	2.3.4. Investment in reforestation of protection and special use forests in mountainous areas	Specific SUFs and PFMB across the 6 provinces (13,150 ha)

Forest land specific investments will unfold on about 50% of the remaining natural forest (1 million ha) and 11% of the plantation area (82,838 ha). The Table 2.3 summarizes the area proposed to be covered under the interventions described under ER-P (see Section 4.2 in the ER-PD), and is used in development of the financing plan.

Table 2.3 Cumulative forest-based ER-P investment areas (in hectares) (Component 2)

Sub components & activities	**Unit**	**2018**	**2019**	**2019**	**2020**	**2020**	**2021**	**2021**	**Total**
Component 2.1. Conservation of existing natural forests									
2.1.3. & 2.1.4. **Natural forest protection contracts**	ha	884,215	884,215	884,215	884,215	884,215	884,215	884,215	884,215
2.1.3. & 2.1.4. Coastal/sandy forest **natural forest protection**	ha	33,017	33,017	33,017	33,017	33,017	33,017	33,017	33,017
Component 2.2. Enhancement of carbon stock of plantation									
2.2.1 Investment in **transformation** of short-rotation plantations to long-rotation plantations for sawn timbers supply (no new plantation)	ha	0	5,359	10,718	16,078	21,437	26,796	32,155	37,515
2.2.2. Investments in reforestation in long rotation plantations (non-forest land) (**Establishment of new plantations** (ha)	ha	4,500	9,000	13,500	16,350	19,200	22,050	24,900	27,750
Component 2.3. Enhancement and restoration of natural forests									
2.3.1. Investments in natural assisted regeneration (medium quality forests, **no planting**)	ha	56,500	56,500	56,500	56,500	56,500	56,500	56,500	56,500
2.3.2 Investment in enrichment planting for poor natural forests	ha	24,785	24,785	24,785	24,785	24,785	24,785	24,785	24,785
2.3.3. Investment in enrichment planting of coastal protection forests (coastal inland forest)	ha	1,000	2,000	3,500	5,000	6,925	6,925	6,925	6,925
2.3.3. Investment into **reforestation** of sandy inland forests	ha		1,000	2,500	4,423	4,423	4,423	4,423	4,423
2.3.4. Investment in reforestation of protection and special use forest in mountainous areas (**native species**)	ha	1,847	3,693	5,540	6,558	7,576	8,594	9,612	10,630
Summary	% of total ER P accounting area								1,085,820
Natural forest interventions	50% of natural forest area								1,005,442
Plantation forest C enhancement interventions	11% of plantation forest area								80,378

Note: Natural forest area will be protected and managed from the beginning of ER-P implementation period, thus are cumulated from year 1 onwards.

Component 3: Promotion of climate smart agriculture and sustainable livelihoods for forest dependent people (USD60.9 million): Recognizing that long term sustainable development depends on the improved livelihoods of local populations living in and around the forest areas highlights the critical need for diversifying and sustaining livelihoods for forest dependent people, particularly in hotspot areas. As described in Activity 2.1.2 above in Table 2.2 and shown in Figure 4.7 of the ER-PD forest conservation is dependent on providing benefits to local communities.

The interventions under this component will focus on the adoption of improved agricultural practices and diversification livelihoods of forest dependent people. These two sub-components will address the key agricultural drivers of deforestation and forest degradation and support the adoption of climate-smart and deforestation free agricultural practices in mountainous and coastal areas of the ER-P provinces. It includes the promotion of climate-smart agricultural practices on about 60,300 ha of agricultural land through improved extension services and training of households in proximity to the deforestation and forest degradation hotspots and strengthening cooperatives that engage in deforestation free commodity value chains. The estimated cost is USD43.4 million. The remaining USD17.5 million will be devoted to livelihood development activities in the coastal areas as part of the WB supported Forest Sector Modernization and Coastal Resilience Enhancement Project.

Assessments at the participating PFMBs, SUFs and SFCs identify the most vulnerable and forest dependent actors that need to be targeted to reduce deforestation and forest degradation. Based on that, a collaborative management activity will be developed. A grant mechanism will support diversifying and sustaining livelihoods for forest dependent people of vulnerable and forest dependent communities. These efforts will be complimented with funds from current government programs targeting poorer communes (see Table 4.7 of the ER-PD) as well as PFES payments. This can contribute to improving the socio-economic conditions of ethnic minorities and other poorer groups while reducing deforestation and forest degradation.

For Component 3 the main Sub Components are broken down into improving climate smart agriculture (Activity 3.1) and diversifying and sustaining livelihoods for forest dependent (Activity 3.2). Key activities are shown in Table 2.4 below.

Table 2.4 Component 3 sub-components and key activities

Sub Components	Key Activities	Scale of intervention
3.1 Improve climate smart agriculture	3.1.1. Implementation of climate-smart agriculture and agroforestry through the ACMA in deforestation and forest degradation hotspots	In key hotspot areas (estimated at ~ 50,000 ha)
	3.1.2. Support to deforestation free agricultural value chains	In key hotspot areas (estimated at ~ 50,000 ha)
3.2. Diversifying and sustaining livelihoods for forest dependent people	3.2.1. Promotion of sustainable use and development of NTFPs in the forest areas	Across NCR provinces (link to ACMA in 60 SFC and management boards)
	3.2.2. Improve alternative off-farm income for forest dependent people	In key hotspot areas (linked to ACMA and around 60 SFC and management boards)

Component 4: Program management and emission monitoring (USD4.7 million): The overall project management and emissions monitoring can be divided into three sub components, as show in the Table 2.5 below.

Table 2.5 Component 4 sub-components and key activities

Impact	Key Activities	How to implement; Lead Agency	Key Indicators	Financing source
Sub component 4.1: Program coordination and management				
Effective Management and implementation ER program.	1.1 Management and coordination of ER- program implementation across levels	Institutional setup; coordination mechanism; program implementation manual; trainings; meetings Lead: MARD Collaborators: PPCs	Management structure of ER Program at national and provincial; Institutional arrangements and reporting operational at national, provincial and local levels	Gov. funding -> Management of Program SFM 2016-2020 (Decision 886) CF fund
	1.2. Provision of operating costs for ER program implementation	Financial management guidelines; training; meetings; Lead: MOF Collaborators: MARD, PPCs	Implementation of financial management guidelines Implementation of Financial due diligence Internal and external audits Quarterly, semi-annual and annual financial reports	CF fund
Sub component 4.2: Monitoring and evaluation (M&E) incl. monitoring of safeguards and improving forest information				
Objectively implemented M&E for ER-program Tracked emissions and removals of the ER program Improved national MRV system	2.1 Implementation of M&E for ER program implementation	Development of effective M&E system, including safeguards; trainings; data collection; reporting Lead: MARD Collaborators: PPCs, DARD	M&E guidelines Reports	2019-2021: CF advance payment 2022 – 2024: CF results based finance
	2.2 Measurement, Reporting and Verification (MRV)	Development of implementation plan for MRV; trainings; data collection and reporting Lead: MARD Collaborators: PPCs, DARD	MRV plan implemented at national provincial levels MRV responsibilities of national and provincial agencies clarified MRV data and information is periodically reported and updated in FORMIS MRV of ER program linked with the national GHG inventory Database and reporting systems are operational Annual monitoring reports are prepared	2019-2021: CF advance payment 2022 – 2024: CF results based finance
Sub component 4.3: Program communication				

Impact	Key Activities	How to implement; Lead Agency	Key Indicators	Financing source
Timely published information on ER program to stakeholders; Documented and shared lessons learnt and results of the ER program	3.1 Information dissemination on ER program	Workshops, meetings; public media Lead: MARD Collaborators: PPCs, media agencies;	Regular update of ER Program implementation on MARD website Dissemination of electronic and paper reports	2018: Government Budget 2019-2021: CF advance payment 2022 – 2024: CF results based finance

2.2 ER-Program location

The ER Program is significant in relation to Vietnam's total forest-related emissions and removals. The ER Program area is Vietnam's North Central Region (NCR), which contains most of the country's remaining broadleaf evergreen forest, and a number of sites with globally important levels of biodiversity. The ER program is expected to generate about **32.09 $MtCO_2e$** from reduced emissions and increased removals by sinks over the program period of 2018-2025. The ex-ante estimate of reduced emissions and increased removals by sinks will amount to **26 $MtCO_2e$** over the ERPA period of 2019-2024 (6 years). Expected emission reductions from reduced deforestation and forest degradation will amount at **13.26 $MtCO_2e$** (or a reduction of 20 % compared to the reference level emissions) and the increase in removals by sinks due to carbon stock enhancement amount at 12.7 million tCO_2e (an increase by 34% compared to the reference level removals). Excluding the calculated 4% uncertainty factor and the 21% buffer, the net ex-ante estimated GHG emission reductions reduces to **19.5 million $MtCO_2e$** over 6 years (2019 – 2024), which excludes **6.5 million $MtCO_2e$** for uncertainty and reversal buffer.

The proposed ER-P Accounting Area (Figure 2.1) encompasses the entirety of the North-Central Agro-Ecological Region, an area of land totaling 5.15 million ha (16% of the total land area of Vietnam), of which 80% is hills and mountains and the remaining is coastal plains with agricultural land, accounting for 14% of the natural area. The region has a tropical monsoonal climate.

The region is administered as six provinces – Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri and Thua Thien Hue – and has a population of about 10.3 million people (12% of the total population of Vietnam) living in 1,820 communes,[8] as shown in Table 2.6.

Table 2.6 Area, population and growth rates of the ER-P region

ER Province	Area (ha)	% of area	Population 2013	% of population	Average annual growth rate %
1. Thanh Hoa	1,113,050	21.6	3,476,600	33.8	0.33
2. Nghe An	1,649,270	32.1	2,978,700	28.9	0.38
3. Ha Tinh	599,730	11.1	1,242,400	12.1	0.12
4. Quang Binh	806,530	15.7	863,400	8.4	0.39
5. Quang Tri	473,980	9.2	612,500	5.9	0.44
6. Thua Thien Hue	503,320	9.8	1,123,800	10.9	0.59

[8] 2013, the ER-P initially targeted 321+ communes in the midland and upland forested areas, this has since been widened to include some sample areas of natural coastal forest and mangroves, however, the area of mangroves in the NCR is very
small > 1,500ha.

Total	**5,145,880**		**10,297,700**		**0.36**

Source: General Statistics Office (GSO) 2013

The region is bordered to the north by the North West and Red River Delta Agro-Ecological regions, and by the Southern Coastal Agro-Ecological Region to the South. The NCR comprises the mountainous hinterland of the Northern Annamites, separating Vietnam from Lao to the West, and a narrow coastal plain along the margins of the East Sea. The ER-P area is mostly settled in the eastern coastal plain and with more sparely populated and forested areas in the mountains of the Northern Annamites.

Figure 2.1 The ER-P region

2.3 Environmental and socio-economic conditions in the ER-Program area

Natural forest covers 2.1 million ha, which is 41% of the total accounting area. Most of this is evergreen broadleaf forest (EBF) (see Table 2.7 below). The largest portion of natural forest is poor EBF (1.3 Mha), followed by EBF of medium quality (526,394 ha) and rich EBF that covers only 167,988 ha (4% of the accounting area). Other forest makes up 152,936 ha. This includes bamboo forests and mangrove forests which cover only about 1,500 to 2,000 ha. Plantations cover 749,627 ha, making up 12% of the accounting area. Most plantations are monocultures of *Acacia* (various species), *Melia azedarach*

(locally know known as Xoan mainly grown in Thanh Hoa and Nghe An Provinces), with some pine, and eucalypt plantations.

Table 2.7 Area of forest cover and land use in the NCR (ha)

Land uses	Area (ha)	% of NCR Area
Natural Forest	***2,171,978***	42%
Evergreen broadleaf forest – rich	167,988	4%
Evergreen broadleaf forest – medium	526,394	9%
Evergreen broadleaf forest – poor	1,339,694	26%
Other Forest	152,936	3%
Plantations	749,627	15%
Non-forested	***2,207,880***	43%
Total	**5,144,520**	**100%**

2.3.1 Climatic conditions

The NCR has a monsoonal climate and the annual average temperature is about 24-25^{0}C. Average rainfall is about 2,500 mm with two seasons a year: the main rainy season from June to December with tropical depressions and typhoons, and 85% of the rain falls from September to November; and the drier season from January to May. Parts of the region can also be subjected to hot dry foehn winds particularly in May and June in Thanh Hoa and Nghe An; and all provinces from Ha Tinh to Thua Thien Hue have a high probabilities of tropical depressions or typhoons. Rainfall anomalies also occur, with cases of extreme rainfall (or droughts occurring) and they are expected to double compared to current records. Since 1960, average temperatures have risen by approximately 0.5 to 0.7°C and sea levels have increased by 20 cm around Vietnam (MONRE, 2009, 2012[9]). According to climate change scenarios[10], by 2020 the annual mean temperature is projected to increase by 0.5^0 C relative to the 1980-1999 level and the average minimum and maximum temperatures will increase by 2.2-3°C and by 2050. The annual mean temperatures may rise by 1.4-1.5^0 C.

The tropical cyclone season runs from May to December; the average number of tropical cyclones is shown Table 2.8 below. Long term analysis of tropical cyclones show variance over different decades, but with no clear long-term trends[11]. A separate detailed analysis of long term tropical cyclone rainfall[12] identified four tropical cyclone sub-regions and noted that there was little significant trend detected in the central region (Thanh Hoa to Quang Binh), but that a significant increase in tropical cyclone rainfall from Quang Tri to Khanh Hoa) was apparent.

According to the Climate Change Vulnerability Index (CCVI), Vietnam is ranked 23rd of 193 countries, and is one of 30 "extreme risk" countries. The CCVI evaluates 42 social, economic and environmental factors to assess national vulnerabilities across three core areas, including 1) exposure to climate-related natural disasters and sea-level rise; 2) human sensitivity, in terms of population patterns, development, natural resources, agricultural dependency and conflicts; and 3) future vulnerability considering the adaptive capacity of a country's government and infrastructure to address climate change effects. The

[9]MONRE, 2012: Climate change and sea level rise scenarios for Vietnam
[10] Climate change, sea-level rise scenarios for Vietnam, 2009.
[11]IPCC Regional Impacts of Climate Change; Recent Climate Trends and Variability. www.ipcc.ch/ipccreports/sres/rgional
[12] Long-term trends in tropical cyclone rainfall in Vietnam; Hoang Anh Nguyen Thi, Jun Matsumoto, Thanh Ngo Duc, and Nobuhiko Endo J. Agrofor. Environ. 6 (2) 89-92 2012; The paper identifies 4 regions: REG1= above 20^{0}N; REG2 = 17^{0}N to 20^{0}N; REG3 = 12^{0}N to 17^{0}N and REG below 12^{0}N. As with the WB analysis the four regions do not exactly fit the NCR, REG2 is more or less equivalent to the NCR with some overlap into REG1 (a small part of Thanh Hoa) and REG3 (most of Quang Tri and all TT Hue). Notably REG3 is comparably larger with respect to REG2. A significant increase in tropical cyclone rainfall was found in REG3 due to tropical cyclones (both annual tropical cyclone rainfall amount (mm) and number of days with tropical cyclone daily rainfall ≥50mm) a significant increase in tropical cyclone rainfall was found in REG3 in the 1990s.

countries most at risk are characterized by high levels of poverty, dense populations, exposure to climate-related events; and their reliance on flood and drought prone agriculture.

Table 2.8 Average number of tropical cyclones for the NCR (1961-2008)

Area north to south[1]	No. of storm events	Average no of storms per year	No. of storms scale 10 and above	Average no. of storms 10+ per year
Nghe An to Quang Binh	41	0.9	17	0.4
Quang Tri to Quang Ngai	44	0.9	10	0.2
Total	86	1.8	27	0.6

Notes: Best fit to the ER-P area WB analysis of NHMS tropical cyclone data

2.3.2 Soils and topography

The soil characteristics of the NCR are divided for mountains, low hills and delta. The main soil groups in the mountains are yellow-red, with humus soil. The main soil group of the low hills is yellow-red soil on sedimentary rocks. In the Delta, the soils are alluvial coastal soil and coastal sand soil. The soils tend to be very fragile and the highly erodible soil combined with the steep topography, sometimes very steep slopes, in very short narrow steep catchments, can lead to rapid spate events. Where forest cover has been reduced, or removed, these events can be very destructive and catchment management can be problematic. The upland areas are prone to erosion and experience frequent landslides even where forest cover has been maintained, where the protective forest cover is removed the erosion can rapidly develop.

2.3.3 Environmental aspects and biodiversity

The region contains some of Vietnam's most notable forests with high biodiversity value. The NCR lies within four of WWF's 200 Globally Important Eco-regions and contains five Endemic Bird Areas (EBA) and 63 Important Bird Areas (IBA) as identified by Birdlife International. The capacity of these forests to provide various environmental services continues to decline. Forest degradation and fragmentation is destroying valuable habitats and putting a large number of already rare vertebrate species at risk of extinction. The landscape of the ER-P includes five internationally recognized conservation corridors (ranked 'high' or 'critical' global conservation priorities see Figure 3.2 and 3.3), and includes 17 protected areas, 19 important international biodiversity areas, the Western Nghe An UNESCO Man and Biosphere Reserve and the Phong Nha-Ke Bang National Park UNESCO World Heritage Site. The region supports significant populations of 14 globally endangered or critically endangered species (Critical Ecosystems Partnership Fund (CEPF) 2012; IUCN 2013).

In addition to the protected areas, the NCR includes: 1) the Annamese Lowlands Endemic Bird Area, one of five in Vietnam, which covers the lowlands and foothills of north-central Vietnam (southern Ninh Binh, Thanh Hoa, Nghe Anh, Ha Tinh, Quang Binh, Quang Tri and Thua Thien Hue provinces) and part of adjacent central Lao; 2) about 14 IBA sites out of 59 in Vietnam; and 3) a number of Key Biodiversity Areas (KBA).

Figure 2.2 Protected areas and key biodiversity areas of the ER-P region

a) Importance of the Northern Annamites

The Annamite Range runs parallel to the Vietnamese coast, in a gentle curve which divides the basin of the Mekong River from Vietnam's narrow coastal plain along the East Sea. Most of the mountain peaks are on the Laotian side. The eastern slope of the range rises steeply from the plain, drained by numerous short rivers. According to the WWF's Global Eco-regions, the Annamite Range is made up of two terrestrial eco-regions: Southern Annamites montane rain forests and Northern Annamites rain (moist) forests. The northern Annamite lies in the Northern Central Area of Viet Nam which has been identified one of the highest biodiversity regions in Viet Nam and one of priority eco-regions for global conservation in WWF's The Global 200.

This eco-region shows strong floristic relationships with the mountains of northern Vietnam and southern China and with more southern areas of the Annamite Range. Vascular plant levels of endemism are high. Mesic lower montane forests at 800-1,200m in the northern Annamite Range generally consist of a two-tiered forest canopy reaching to about 15-25m in height. The dominant floristic elements in

this forest are the *Myrtaceae, Fagaceae, Elaeocarpaceae, and Lauraceae*, with high endemism. Also notable in this forest community is the presence of species of *Podocarpaceae. Epiphytes*, particularly orchids, are abundant and rich in endemic species. The dense canopy structure of undisturbed humid montane forest allows little light to penetrate to ground level, so understory vegetation is sparse. However, the understory in open areas of forest often supports thick stands of woody bamboo (*Chimonobambusa* and *Dendrocalamus*).

b) Biodiversity corridor along the Laos PDR border

In the ER-P area, there are three national parks (Pu Mat in Nghe An province, Vu Quang in Ha Tinh province and Phong Nha-Ke Bang in Quang Binh province) and four nature reserves (Xuan Lien in Thanh Hoa, Pu Hoat in Nghe An, North Huong Hoa in Quang Tri and Sao La in Thua Thien Hue) which have direct borders with Lao PDR. Since 2003, WWF-Viet Nam has conducted several projects such as Biodiversity Corridor Initiative, Green Corridor, CarBi and successfully connects 300,000ha of forests, connects two Sao La nature reserves (in Thua Thien Hue and Quang Nam provinces) with Xe Sap nature reserve (in Lao). The corridor creates an ideal habitat for endemic Sao La (*Pseudoryx nghetinhensis).*

In addition, the on-going project namely "Greater Mekong Sub-region Biodiversity Conservation Corridors Project – Additional Financing" jointly funded by ADB and GEF covering Quang Tri, Thua Thien Hue and Quang Nam commits to link the protected areas and their buffer zones in the above provinces and intervening biological corridors as an effective and extensive large landscape that continues to protect and maintain the rich biodiversity, ecosystem services, watershed process, enhance carbon stocks and strengthen climate resilience at the landscape level. The project helps maintain, restore and improve globally and regionally important key species populations by managing inter-connected habitat. Globally important mammal species that were considered are the Crested Gibbon (*Nomascus* spp.), namely *Nomascus siki* and *Nomascus gabriellae*, the former has a range that is limited by the Mekong River in the west and Viet Nam's coastal agricultural areas in the east and the latter has a global distribution covering eastern Cambodia, southern Viet Nam and southern Laos PDR. The second target species, the Red-shanked douc langur *(Pygathrix nemaeus),* is a primate that is endemic to Annamite ranges and currently found only in Central Viet Nam and Laos PDR. The Giant Muntiac (*Muntiacus vuquangensis*) is one of the three ungulates that were described in late 90's of the 20th century. The Giant Muntiac is endemic to Annamite ranges and is currently found only in Central Viet Nam and Laos PDR[13].

c) Climate change adaption and mitigation

Threat to biodiversity from climate change

Monitoring of past climate changes shows that as temperature increases, biomes tend to shift. Modelling of future climate suggests that forests will react by "migrating" to more favourable environmental conditions. Under natural conditions, this adaptation is possible, but where biodiversity is hemmed into small, isolated patches or 'islands' of habitat, as is the case with most Protected Areas and Key Biodiversity Areas in Vietnam, opportunities for migration will be limited. In some areas, climate change will also have negative impacts on food security increasing indirect impacts on natural systems as people are forced to exploit natural resources (as the yields of food crops decline). Crucially, the development of human settlements and associated infrastructure prevents coastal ecosystems from migrating inland.

Currently, Viet Nam has five main documents related to climate change policies namely: National targeted programme on climate change, National strategy on climate change, Green growth strategy, Resolution No. 24 of the Party's Central Executive Committee on actively responding to climate change,

[13] Greater Mekong Subregion Biodiversity Conservation Corridors Project – Additional Financing, Project Administration Manual, 2014.

enhancing resource management and environmental protection, and the Law on environmental protection, which has a separate chapter on climate change response. There are also large programs such as Supportive Program for Climate Change Response (SPRCC), support to the development of carbon market in Viet Nam, integration of climate change in the socio-economic development plans (SEDP), etc.

In the ER-P area, all provinces have Action Plans to Respond to Climate Change in Period 2011-2015 and Vision to 2020 issued by PPCs in 2011 (Thanh Hoa and Nghe An), 2012 (Quang Binh), and 2013 (Ha Tinh, Quang Tri and Thua Thien Hue)[14]. Highlighted measures to respond to climate change in these Action Plans include communication and awareness raising on climate change, rehearsal at community level, consolidation of dykes and seawalls against landslides, large reservoir upgrading to meet safety requirements, mangrove plantation, waterlogging control, switch to drought-tolerant crops, change of sowing dates, cropping patterns, calendars, varieties and cultural practices or planting date to adapt climate change. Mitigation measures mainly focus on forest protection and plantation, and energy efficiency use enhancement.

2.3.4 Socio-economic aspects population and forest dependency

According to the national census, the NCR is home to 13 ethnic minority groups[15] which make up some 11.5% of the total population (over 10.29 million in 2013 see Table 2.9 below). The largest ethnic minority populations (88% of the total) are found in the two northern provinces of Thanh Hoa and Nghe An[16]. The predominant groups in all six provinces, ordered by population, are Thai (45%), Muong (29%), Bru-Van Kieu (6%), Tho (6%), H'mong (4%), Ta Oi (4%) and Kho Mu (3%). The other groups present in the area (Co Tu and Chut in the South, Dao and O'Du in the North) have a still smaller share of the ethnic minority population. Only the Thai and Muong have populations over 100,000 persons.

Table 2.9 Ethnic minority population (habitants) data by group and ER-P Provinces

Ethnic Group	**Province**						**Total**
	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri	TT Hue	
Thai	225,336	295,132	500	0	0	0	**520,968**
Muong	341,359		549				**341,908**
Bru-Van Kieu				14,631	55,079	720	**70,430**
Tho	9,652	59,579				0	**69,231**
Hmong	14,799	28,992				0	**43,791**
Ta Oi					13,961[a]	33,385[b]	**0**
Kho Mu	781	35,670				0	**36,451**
Co Tu						13,812	**13,812**
Dao	5,465					0	**5,465**
Chut				5,095		0	**5,095**
Tay	795					0	**795**
Lao			433			0	**433**
O'Du		340				0	**340**
Other						651[C]	**0**
Total EM Population	**598,187**	**419,713**	**1,482**	**19,726**	**55,079**	**14,532**	**1,108,719**

[14] Decisions No. 2001/QDD-UBND dated of 23 Jun. 2011 of Thanh Hoa, No. 1395/QDD-UBND.DC dated of 27 Apr. 2011 of Nghe An, Directive No. 963-Ctr/TU dated of 19 Aug. 2013 of Ha Tinh, Decisions No. 1328/KH-UBND dated of 29 Oct. 2012, No. 876/QDD-UBND dated of 22 May 2013 of Quang Tri, and No. 313/QD-UBND dated of 05 Feb. 2013 of Thua Thien Hue.
[15] In the course of its investigations the SESA team found several groups not listed in the Census: Dan Lai, Pa Co and Pa Hy.
[16] A new census of ethnic minority populations was carried out in 2015, but the official results are not yet available. In Nghe An there are, additionally, very small groups such as Phong and Dan Lai that have not been recognized in the 2009 Census. There is a group called Pa Co in the South (TT Hue and Quang Tri) that also does not have separate recognition and is generally classified under Ta Oi.

Ethnic Group	Province						Total
	Thanh Hoa	Nghe An	Ha Tinh	Quang Binh	Quang Tri	TT Hue	
Total Population	**3,400,595**	**2,912,041**	**1,227,038**	**844,893**	**598,324**	**1,115,523**	**10,098,414**
% EM to Total Population by Province	**17.6**	**14.4**	**0.1**	**2.3**	**9.2**	**1.3**	**11.0**

Notes: Source is GSO Census Data 2009 for all provinces except TT Hue where the data are from the provincial CEMA, 2015 [a]The Ta-Oi in Quang Tri are almost all Pa Co according to CEMA.[b]Ta-Oi in TT Hue includes Pa Co (21,138); [C]Pa Hy, another group not recognized by the Census 2009. According to CEMA Quang Tri, the ethnic minority population there has gone up to 76,951 Van Kieu and Pa Co people, but the total population of the province was not given.

There is a clear relationship between poverty, the presence of ethnic minorities, remoteness, and reliance on forest areas. There is quite a marked difference in distribution of the different ethnic minorities over the ER-P area (Figure 3.3). The Thai, Muong and H'mong are found mainly in the north in Thanh Hoa and Nghe An, a few minorities, mainly Chut and Lao, are found in the central area of the NCR, and the Van Kieu, Ta Oi, O'Du and others are found in the southern part of the NCR. High levels of poverty correlate with generally high ethnic minority populations in the north, and overall with high forest cover (Table 2.10 below).

In the NCR, the ethnic minority groups are found in the largely mountainous districts and in communes that also have higher %ages of land classified as forest (See Figures 2.2 and 2.3. In Figure 2.2 in general the areas with high forest cover and the protected areas are located close to the international border with Lao and in Figure 2.3 it can be seen that the majority of the ethnic minorities live in the upland areas close to the border). The partial exception to this is Thanh Hoa Province where, with its large Muong and Thai populations (essentially paddy cultivators often occupying the midlands rather than highlands); the ethnic minority people are not highly concentrated in a few districts. In the four provinces where there are few ethnic minority people compared to the total provincial population, they tend to concentrated in the two to three districts per province with the highest forest cover. Despite their overall low to very low populations in the four southern provinces of the NCR (Ha Tinh especially), ethnic minorities still form a majority of the population in several target districts, and are represented to a greater degree in several districts which have higher levels of forest cover compared to the province as a whole.

The six ER-P provinces present a varied set of socio-economic conditions. Nonetheless, the mountainous regions of the six provinces which will comprise the largest part of the ER-P area and have a number of general characteristics in common, although they do vary in detail. One of the early findings of the SESA confirmed that there is an overlap between communes with higher forest cover (irrespective of areas of bare land) and communes with higher percentages of ethnic minority populations (See Figure 2.3 and for more details see the SESA Table 3.10) and higher poverty rates.

High poverty rates tied with cash poverty and vulnerable livelihoods with few alternatives in the remoter highland areas have several implications for local communities' participation in REDD+ activities and the type of activities that will be most suitable for them to participate in. Many ethnic minority groups still experience higher to much higher rates of poverty than the Kinh population.[17] This is also a reflection of the difficult nature of the areas as this is also true when Kinh families settle in mountainous areas. (See Table 2.10, and Figure 2.3.)

[17] When talking about "the poor" in Vietnam, most references in the provinces, districts and communes are to the income poverty levels established every five years, but poverty in a given commune is updated every year by the Ministry of Labour, Invalids and Social Affairs (MOLISA); these poverty lines are to assist local and regional authorities in their poverty targeting programs such as Program 30a and many others. World Bank reports on poverty in Vietnam always use consumption data as collected in regular household surveys by the GSO.

Table 2.10 Demographic data of communes surveyed: poor and near-poor households (88 communes)

Province (Communes with complete HH data in sample)	Total Population HHs	Poor HHs		Near-Poor HHs		Poor and Near-Poor
		No.	%	No.	%	%
Thanh Hoa (20)	19,938	5,822	29.2	2,855	14.3	43.5
Nghe An (25)	34,645	11,741	33.9	7,417	21.4	55.3
Ha Tinh (7)	10,019	706	7.0	622	6.2	13.3
Quang Binh (11)	11,794	3,071	26.0	2,204	18.7	44.7
Quang Tri (16)	12,558	3,814	30.4	1,377	10.9	41.3
TT Hue (12)	13,467	1,290	9.6	747	5.5	15.1
Total (88)	102,421	26,444	25.8	15,222	14.9	40.7

Table notes**:** Source: MDRI Quantitative Survey Data. Not all 102 CPCs were able to provide data as requested by the survey team; of 96 communes that did provide data, eight were incomplete and therefore omitted. All data refer to 2014. The "total population" refers to "permanently registered" HHs as it is not sure how "temporarily registered" HHs are considered for poverty calculations. No data is available as to ethnic minority versus Kinh poverty in the communes surveyed.

The socio-economic conditions presented in this section are based on the quantitative survey conducted by MDRI. In any case, as mentioned, the data were collected in 204 villages of 102 communes. This represents approximately 25 – 30% of the total communes included under the six PRAPs, and around 5 – 10% of the total number of villages. With the exception of Ha Tinh which has only a small ethnic minority population (see Table 2.11) shows that the communes surveyed have much higher ethnic minority populations in comparison with their presence in the respective provinces as a whole.

Table 2.11 Demographic data of communes surveyed: Kinh and ethnic minority households (83 communes)

Province (Communes with complete HH data in sample)	Total population HHs	Ethnic minority population HHs		Kinh population HHs	
		No.	%	No.	%
Thanh Hoa (17)	18,930	14,176	74.9	4,754	25.2
Nghe An (24)	33,980	21,876	64.4	12,104	35.6
Ha Tinh (7)	10,311	483	4.7	9,828	95.3
Quang Binh (11)	11,896	2,572	21.6	9,324	78.4
Quang Tri (16)	10,827	8,479	78.3	2,348	21.7
TT Hue (12)	10,990	4,219	38.4	6,771	61.6
Total (83)	96,934	51,805	53.4	45,129	46.6

Table notes**:** Source: MDRI Quantitative Survey Data. These data should be seen as not exact, as they do not tally in all cases with the numbers of permanently registered HHs; there are difficulties for the CPCs to maintain different data sets so that they are all consistent; they are not official census data.

The general livelihood structure of the sample population is overwhelmingly land-based. Especially for the ethnic minority respondents, their land-based activities account for 53.3% of income without taking into account activities such as collecting wood and/or NTFPs for domestic use (see Tables 2.12 and 2.13 below). Most respondents also earn income from wages, but the bulk of this is expected to be agricultural or forest-related daily wages that do not necessarily account for many days of work per month. In this respect, wage income is also primarily related to land-based activities and not public or private services. In this respect, the Kinh are more likely to have service type employment.

2.3.5 Forest dependency

Forest dependency may normally be understood as the extent to which a household relies on timber and NTFPs for its overall food security and livelihood. Forest dependency of the sample population is

somewhat difficult to calculate given the available data. Nonetheless, for ethnic minority people, 88% - 100% of them —depending on the group— are involved in forestry- or forest-related activities. For the Kinh it is about 63%.[18] Households were asked if they 'harvest' timber for self-consumption, and this resulted in 90.1% of all households replying "yes." (See Tables 2.12 and 2.13 below and Figure 2.3.)

Figure 2.3 Map showing the distribution of the ethnic minorities and poor households in REDD+ potential communes

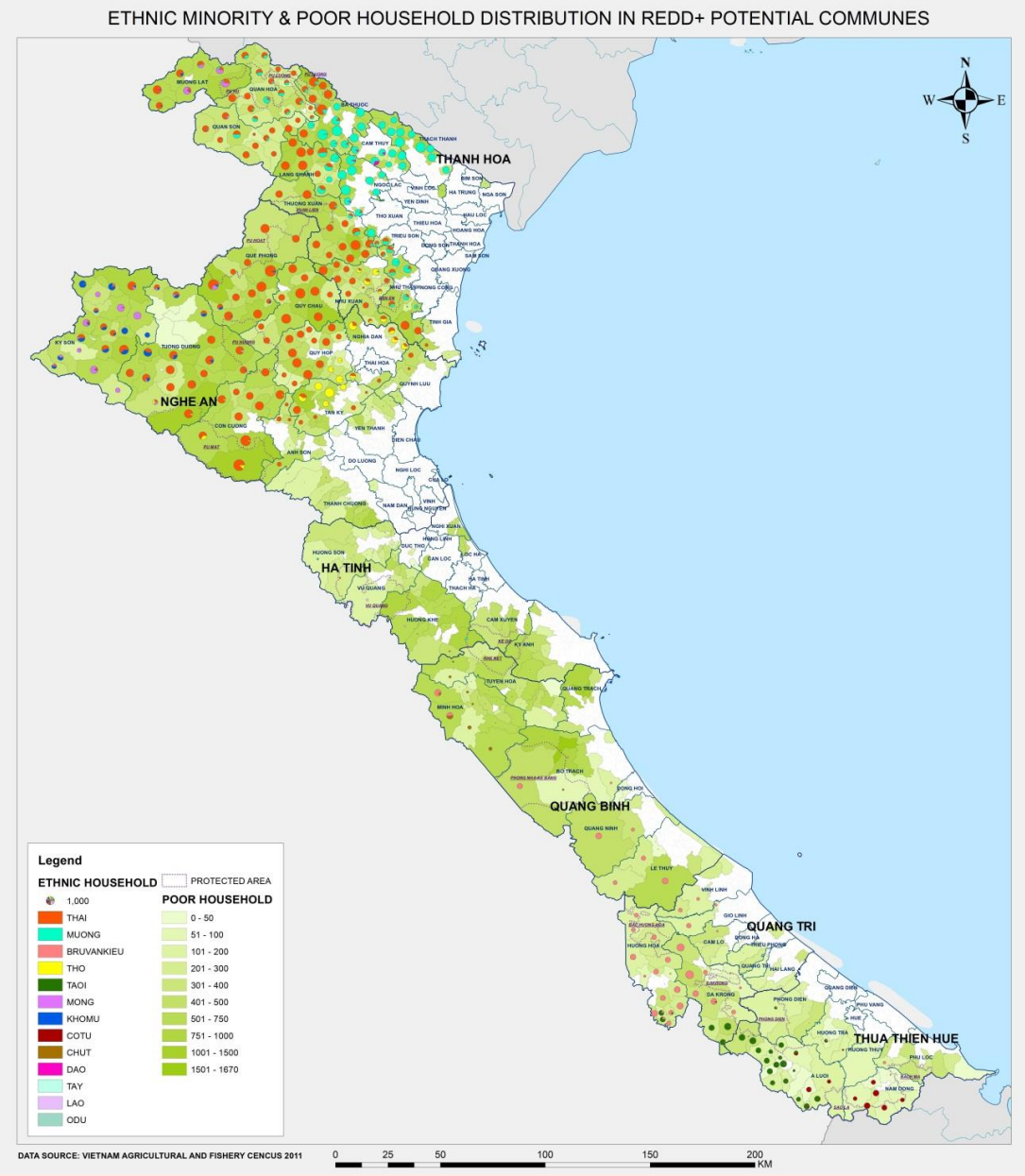


Table 2.12 Timber for domestic use by ethnicity, poverty status and gender of HH head (n=1656 HHs)

[18] This term is not well-defined but could be understood to include such things as forest protection contracts (and date will be forthcoming show this separately in the dataset) and PFES (shown, but apparently generally little among the sample population).

	HHs reporting timber harvest for own use		Purpose of harvesting timber						HHs with female primarily responsible for wood harvest	
			Firewood		House building		Furniture			
	No.	%	No.	%	No.	%	No.	%		
Overall (3,060 HHs)	1,656	54.1	1,542	93.1	294	17.8	50	3.0	1,248	75.4
Kinh (948)	352	37.1	330	93.8	38	10.8	14	4.0	221	62.8
EM (2,112)	1,304	61.7	1,212	92.9	256	19.6	36	2.8	1,027	78.8
Poor (921)	621	67.4	584	94	121	19.5	12	1.9	492	79.2
Near-Poor (615)	344	55.9	313	91	62	18.0	9	2.6	248	72.1
Non-Poor (1,524)	691	45.3	645	93.3	111	16.1	29	4.2	508	73.5
Male-Headed HH (2,660)	1461	54.9	1354	92.7	271	18.5	46	3.1	1075	73.6
Female-Headed HH (400)	195	48.8	188	96.4	23	11.8	4	2.1	173	88.7

Table notes: Source: MDRI Quantitative Survey Data. Of the overall sample population (3,060 HHs), 1,656 report 'harvesting' timber for their own use (see commentary in footnote on firewood above). Respondents could give multiple answers for 'purpose of harvesting timber.'

Although it is very much location dependent, some families do supplement their incomes through selective logging in SFCs, PFMBs and SUFs. This is, of course, an illegal activity, but with access to agricultural land-related problems, they feel there is little other choice. The local community people (mainly men) will not go to the forest for illegal logging timber if there is no market for it. Therefore, the functioning of illegal timber value chains—despite law enforcement measures—is the driver behind illegal logging. Valuable hardwoods will bring the families involved an income of several million VND when they successfully sell even just one cubic meter of timber. Working as porters for illegal loggers will also earn them much needed cash income. The risk of getting caught is not a major deterrent when people's cash needs are high and the quality of the forest still good enough for them to find the wood required by lowland timber markets.[19]

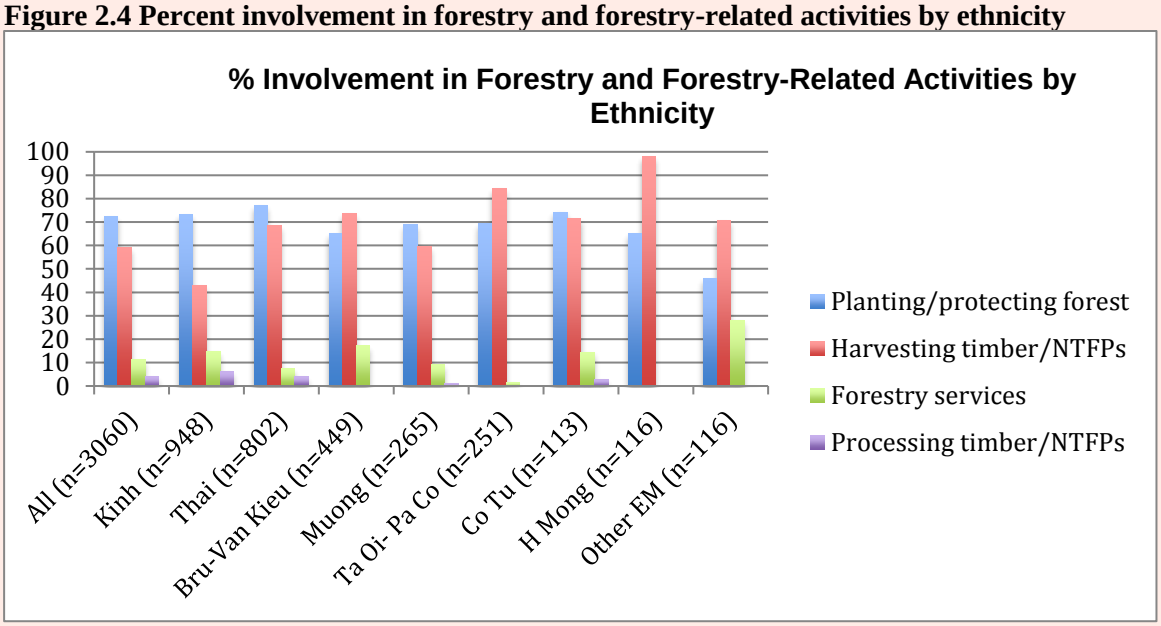
Table 2.13 Household involvement in forestry and forestry-related activities

	% households involved in forestry and forest - related activities	% households with all members involved in forestry and forest - related activities	Planting/ protecting forest	Harvesting firewood/ NTFPs	Forestry services	Processing timber/ NTFPs
All (n=3060)	76.3	9.3	72.3	59.0	11.4	3.9
Ethnicity of household head						
1. Kinh (n=948)	62.6	8.1	73.1	42.9	14.7	6.0
2. EM (n=2112)	90.1	10.4	71.8	70.2	9.0	2.5
Current economic condition						
1. Poor (n=921)	83.0	7.1	60.0	74.5	11.8	4.2
2. Near poor (n=615)	79.6	10.5	75.4	57.6	8.7	5.5

[19] Information in this paragraph based largely on extensive interviews carried out in different districts of Quang Binh province in 2012.

	% households involved in forestry and forest - related activities	% households with all members involved in forestry and forest - related activities	Planting/ protecting forest	Harvesting firewood/ NTFPs	Forestry services	Processing timber/ NTFPs
3. Non-poor (n=1524)	71.0	9.9	78.6	49.7	12.5	2.9

Figure 2.4 Percent involvement in forestry and forestry-related activities by ethnicity



From a community perspective, especially the ethnic minority people who do live closely connected to forest, the forest is crucial in underpinning their livelihoods (See Figure 2.4 above). Discussions with local communities showed that forest is indispensable for their livelihoods when forestland is also included. They make direct use of forests, especially natural forests, in the following ways:

- Land for cultivation (forest fallows under the shifting cultivation system);
- Wood for housing, firewood and other domestic purposes (making agricultural implements, boats, fencing);
- Wood for sale: both as timber and as firewood;
- NTFPs for domestic consumption (food, medicines, building materials such as roofing and walls, materials for baskets and implements, and also feed sources for animals (e.g. wild banana stalks for pigs);
- NTFPs for sale (broom grass and bamboo shoots are common in many areas; rattan, wild honey, medicinal plants and mushrooms in some areas);
- For animal grazing (where canopy not too dense); and
- For its spiritual value (home of important village spirits for some groups, where ancestors cremated).

Additionally, small farmers in the ER-P area may use their allocated forestland to plant commercial trees if it has not been categorised as "natural" forest. By far the most common commercial tree species in the ER-P area is Acacia (followed eucalyptus, rubber and pine). In Nghe An small plantations of the native timber species, *Meliaceae azedarach* (Xoan) can be found. Generally speaking, poorer rural families, especially those of ethnic minorities, are more forest dependent than the non-poor. This finding

was confirmed by the SESA team. The VHLSS results of 2012, showing income earning by sector and disaggregated by income quintile reveal that the lowest quintile (not disaggregated by urban/rural location, however) has forestry-based earnings roughly equivalent to 5.5% of their total earnings. For quintile two, this goes down to only 1.4% while for the other quintiles it drops far below 1% of total earnings (see GSO VHLSS Report, Table 5.2).

There are also more indirect means by which local people may earn income from the forest. Large forest owners such as PFMBs or SFCs (and SUFs) do hire people from local communities as daily wage labour for tree planting and tending. They also enter into mainly short-term forest protection contracts with villagers. PFES payments, mainly based on payments from hydropower schemes, are also managed largely by PFMBs and SUF MBs because of the watershed area is covered by the SUF or PFMB in the form of annual forest protection contracts. There is a difference between the two types of contracts. The former is largely regulated by the provincial governments based on central government decisions and guidelines, and results in uniform payments per hectare across the province. The latter is based on a combination of variable factors: the electricity production of the schemes, the size of the watershed for the scheme and the number of people in and around the watershed available to protect it. Thus, it is possible for villagers living near to each other (neighbouring villages and/or communes) to receive vastly different amounts per hectare depending on the scheme they fall under. It is also possible for payments to vary from year to year depending on the electricity output of the particular scheme. The SESA team learned of PFES payments in the ER-P provinces that ranged from a low of VND 5,000 per ha to a high of VND 640,000 per ha.[20]

a) Access to non-timber forest products

NTFPs are a supplementary source of income for many families in the ER-P area, however, the presence of a particular NTFP does not necessarily mean that it has any commercial value. Villagers in some areas reported that they used to sell particular products such as rattan and broom grass, but then stopped again because the rattan-buying traders stopped coming to their area (this is often due to over harvesting and the rattan buyers tend now to only visit an area about every three years). Thanh Hoa province in particular is one of Vietnam's largest producers of bamboo (*Luong*), and thousands of villagers rely on it in districts such as Quan Hoa and Lang Chanh. Bamboo has the advantage of providing a steady, income year-round while most other products are seasonal. Note that bamboo and bamboo products are currently in demand internationally. Many households in districts such as Muang Lat in Thanh Hoa would rather grow bamboo to provide additional income but are prevented on the grounds that afforestation is more important to preserve or enhance biodiversity. NTFPs remain, however, an important source of livelihood support even without sales since they have so many domestic purposes, from housing materials (roofing for example), to fencing, food and herbal medicines, and animal food. See Table 2.14 below.

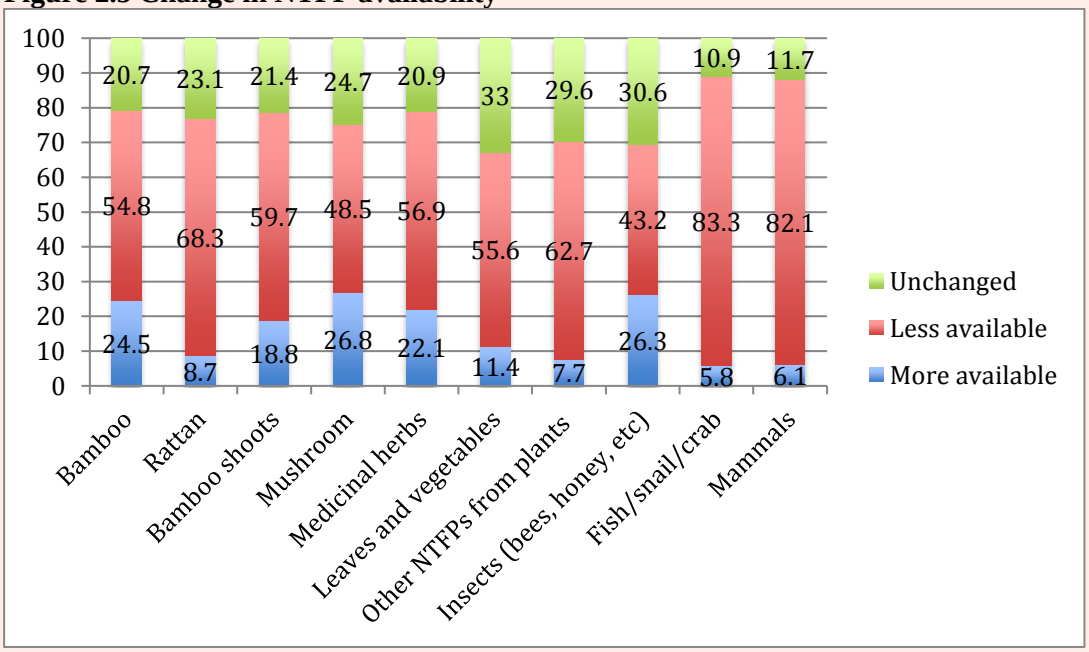
Based on the MDRI data, some NTFP collection trends are clearly seen in Figure 2.5 below, with NTFPs generally becoming less available over time. First is that the Kinh are very much less likely to report NTFP collection compared with the ethnic minority groups. In the overall sample of 3,060 HHs, 49.4% report NTFP harvesting, but it is 64% of ethnic groups and only 16.8% of Kinh. Second, if the NTFP is for domestic use, then the Kinh drop to only 9.1% while it is 52.9% of the other ethnic groups. The third trend, confirmed by other studies is that the poor rely to a greater extent on NTFPs than do the non-poor. Poor households are more likely to collect NTFPs for their own consumption than near- or non-poor. [21] As to be expected, women and girls are responsible for NTFP collection in a majority of households in all but two ethnic groups in the sample (Muong and Hmong), however, there is also labour disaggregation on some for example collection of rattan and honey is mainly seen as a male activity.

[20] Another PFES-related issue is that the provincial forest funds only directly receive payments from schemes fully within the borders of a single province; if two or more provinces are involved the scheme makes payments to the national forest fund, VNFF.

[21] Another set of data from MDRI joining together "harvesting timber and NTFPs", shows that 79.3% of poor households are involved in such activities, while it drops to 57% for the non-poor. Again, the difference between Kinh and EM HHs is significant: some 41.7% of Kinh HHs engage in timber/NTFP harvesting, while it is 73.6% of EM HHs.

Fourth, only a small minority of households (2-3%) are involved in NTFP processing, meaning they receive little to no value added for their labours, however, much of the collected NTFPs would be expected to go for home consumption.[22] For a provincial overview of NTFPs/bamboo harvested/collected, see Table 2.14 below.

Figure 2.5 Change in NTFP availability



In some areas it is inevitable that the forest MBs or SFCs on-going *de facto* control of the forest resource, particularly the best quality forests, cause resentment among local communities.[23] The SESA team found this was true especially in areas where historically (generally many decades ago) local communities' lands have been taken over by large state forest owners. They resent the fact that they can only get short term forest protection contracts that give them little control of the forest resource. In some locations (Con Cuong District, Nghe An for example), the PFMB, while allowing people to access the forest for NTFPs they restrict people from collecting commercial quantities of NTFPs within their areas.[24] In some parts of the ER-P provinces, the resentments of local communities are reflected in their involvement in illegal logging networks (Quang Binh and Nghe An are examples but most provincial Forest Protection Departments and SUF MBs are aware of similar networks) that continue to degrade forests under large forest owner management.[25]

Table 2.14 NTFP harvesting by ethnicity and poverty status (in 102 communes)

[22] Women who both collect broom grass and then make it into brooms for sale are an exception to this (observed by the SESA team in Quang Tri January 2016). The MDRI data show that although the Kinh are less involved in NTFP collection, over 7% are engaged in timber/NTFP processing compared to only 1.2% of EMs.

[23] See Phuc Xuan To et al (2014), 'A new landlord' (địa chủ mới)? Community, land conflict and State Forest Companies (SFCs) in Vietnam. *Forest Policy and Economics*, Vol. 58. The team also heard directly from villagers about their, at times, uneasy relations with SFCs.

[24] Except for Special Use Forest where all logging and NTFP is normally prohibited, but there are many cases where there are informal agreements in place with the local people; other than laws of trespass the collection of NTFP or firewood collection for domestic purposes, from SFC and PFMBs would not normally be expected to be prohibited.

[25] A report by PanNature (2015: 26) for VFD on co-management modalities between Pu Hoat SUF-MB and local communities revealed that "some villagers . . . are hired as labour to protect forest but they think they are not awarded an appropriate income [and] some villagers mentioned that "…if I cut down and sell one tree, I can earn around 30 million VND while [if] I participate in forest protection with Pu Hoat MB, I only get 7-8 million per year." In Quang Tri, the SESA team heard that villagers planned to encroach on PFMB forestland for cassava plantation because they considered it theirs anyway. Commune officials were blunt: "If the PFMB can't manage its land, they have to accept people encroaching on it to meet their basic needs".

Ethnic group	HHs harvesting NTFPs %	NTFPs harvested for own use %	Bamboo shoots %	Bamboo %	Unspecified NTFPs from plants	Leaves and vegetables	Sample size n
All	49.4	39.3	27.0	18.2	15.1	9.1	3,060
Kinh	16.8	9.1	5.7	3.0	5.6	1.6	948
Thai	66.5	57.7	36.8	33.5	25.9	0.9	802
Bru-Van Kieu	65.5	59.0	60.6	12.7	3.3	41.0	449
Muong	62.6	35.8	2.3	57.4	7.5	0	265
Ta Oi- Pa Co	68.1	59.4	42.6	2.0	31.5	24.3	251
Co Tu	58.4	31.0	18.6	10.6	25.7	5.3	113
H Mong	56	53.4	18.1	8.6	19.0	1.7	116
Other EM	49.1	42.2	43.1	21.6	30.2	1.7	116
EM total	64.0	52.9	36.6	25.1	19.3	12.4	2,112
Poor	60.7	53.4	44	19.0	16.9	16.3	921
Near poor	54.3	40.8	27.5	21.3	17.6	7.8	615
Non-poor	40.6	30.2	16.5	16.5	12.9	5.2	1,524

Table notes: Source: MDRI Quantitative Survey Data. Bamboo is somewhat different to other NTFPs in this table in that it is far more likely to be planted and harvested on people's own land rather than to be collected.

One of the symptoms of forest degradation is when NTFP availability reduces, on availability of NTFPs, people have said whether this has increased, reduced or remained the same from 2010 to 2015. People have tended to say there is now less available than before. A significant minority has said the supply remains unchanged, while the smallest number (generally 10 – 15% of respondents) say the supply has increased. An unexpected finding from the quantitative survey is that the province of Nghe An has a higher percentage of households reporting "NTFP collecting restrictions" compared to other provinces. The SESA team also found this in Con Cuong District of Nghe An.

Overall, virtually all respondents (around 98% for both Kinh and ethnic minority groups) say that forest is "very important" to them. At the same time, however, a majority (all ethnic groups) also think that remuneration from forest and forest-related sources has become less reliable with time. Of interest is that a majority of people think that either households and/or the local community should be more involved in managing the forest and not external entities.

b) Firewood

Firewood usage throughout the ER-P area[26] reported in the SESA (see Table 3.34 in the SESA) from provincial firewood statistics, shows that, most households harvest firewood (93%) and in Figure 3.29 from the SESA shows that women are in particular involved in the collection of firewood. Most firewood is reported to come from production forest areas, with a small minority mentioning protection forest and special use forest[27].

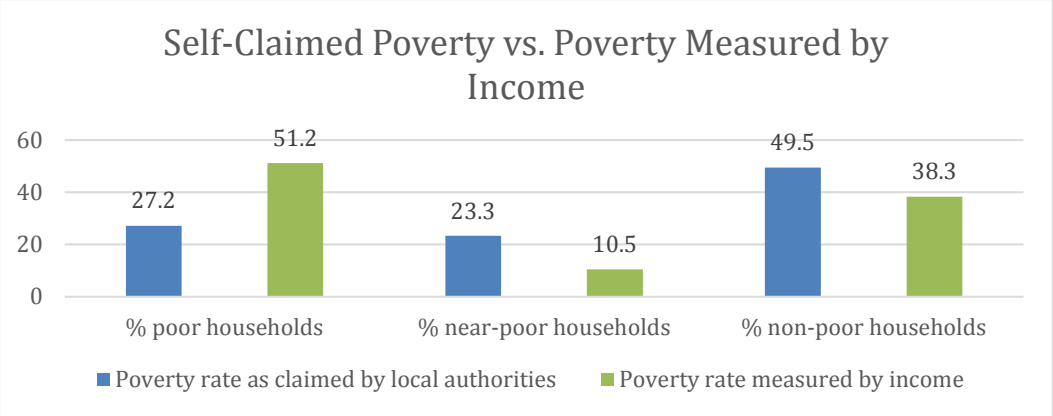
2.3.6 Poverty

The survey calculates the poverty rates of the area by two indicators: official poverty status given by the local authorities and the income poverty calculated according to the national standards.

Figure 2.6 Poverty rates (per cent poor)

[26] The figure is subject to revision, firewood may include tree cut down for timber, and the small branches may be used for firewood, but many households collect firewood by cutting dead branches from live trees, from dead trees and by picking up fallen branches.

[27] This figure is most probably under reporting as under the Forest Protection and Development Law 2004 it is illegal to remove anything from SUFs, however, informal access is often allowed with the understanding that commercial quantities of NTFPs cannot be removed.



Poor households make up a significant proportion of households in the ER-P target areas. Figure 2.6 above illustrates the difference between self-claimed and income-based poverty rates, showing a disparity between poverty as reported by the local authorities and poverty as measured through income. While just over a quarter of households were designated poor by the authorities, the poverty rate as measured by income places over 50% of the households in the program areas in this category. This reiterates the common phenomenon that the local classification of poverty may take other criteria (e.g. widowhood) into consideration, and that the households, especially those with high level of self-subsistence, often fail to fully account for all their income sources. On average, 64.2% of ethnic minorities in the area are considered poor, while a lesser 38.3% of the majority Kinh group are deemed the same. The ethnicities with the highest proportions of poor are Bru-Van Kieu and H'mong, who have over 80% living under the poverty rate, as measured by income. Not surprisingly, the majority Kinh group has the greatest percentage of non-poor households, at nearly 50%. With regard to provinces, Ha Tinh has the greatest proportion of non-poor households, while Thanh Hoa has the greatest proportion of poor households. See Figure 2.3 above showing the distribution of ethnic minorities and poverty in the ER-P.

Both of these poverty measures are subject to several drawbacks. As households have a high tendency to underreport their incomes, the income poverty status in most cases is not very accurate. The following analyses in this report use the nominative status of poverty, as this entitles the poor to official support that affect their welfare.

While ethnic minority poverty remained high especially in the northern provinces of the ER-P area during 2015, it will likely rise in 2016. The reason for this is that MOLISA has updated the poverty indicators for the period 2016 – 2020. The new rural per capita income rate has been raised from VND 400,000 per month to VND 700,000, while the near-poor income line has gone up to VND 1,000,000. In addition, the GoV now also defines people as "poor" if they have a near-poor income between VND 700,000 and 1,000,000 per month and they lack three of ten services/infrastructure items listed in the Decision; the new definition aims at a more multi-dimensional characterisation of poverty in Vietnam.[28] The major poverty measurements in use in Vietnam, however, do not capture dimensions related to social exclusion and vulnerability which may be important factors in ethnic minority poverty, especially women's, children's and the elderly.

The poorer living conditions and overall poverty of the districts and communes in the mountainous areas of the ER-P are also reflected in the number of communes that belong to "Category III" according to the definition of the Committee for Ethnic Minority Affairs (CEMA) – these are the communes with "exceptionally difficult circumstances" (see Table 2.15 below) The high forest area districts, both Program 30a and non-30a, in the six provinces tend to be those with larger numbers of Category III communes, where there are also higher poverty rates and larger numbers of ethnic minority people. The Category III classification provides a good proxy for higher poverty rates and high dependence on agricultural and forestry. Examples of Category III communes visited by the SESA team are Tam Hop

[28] See Prime Minister Decision 59/2015/QD-TTg.

and Luong Minh in Nghe An (Tuong Duong District) where poor households remain at 61% and 72% respectively (2015).

Poverty and insecure livelihoods also figure strongly in the high forest area districts. Of the four provinces that have Program 30a districts, eight of 14 also belong to the districts with the highest amount of forest and poverty.

Table 2.15 Number of communes categorized with "Exceptionally Difficult Circumstances" in high forest cover Districts

Province	Highest forest cover Districts in the ER-P Area	Total number of Communes by District	Communes classified I – III by CEMA	Category III Communes
Thanh Hoa	Thuong Xuan/30a	17	17	9
	Quan Hoa/30a	18	18	16
	Quan So'n/30a	13	13	10
Nghe An	Tuong Duong/30a	18	18	15
	Con Cuong	13	13	6
	Que Phong/30a	14	14	11
	Ky So'n/30a	21	21	19
	Quy Chau	12	12	9
Ha Tinh	Huong Khe	22	22	10
	Huong So'n	32	32	15
	Ky Anh	33	19	7
Quang Binh	Bo Trach	30	11	6
	Minh Hoa/30a	16	16	14
	Le Thuy	28	7	4
Quang Tri	Dak Rong/30a	14	14	8
	Huong Hoa	22	22	11
	Vinh Linh	22	4	1
TT Hue	A Luoi	21	21	10
	Phong Dien	16	3	0
	Nam Dong	11	11	0
Total		393	308	181

Table notes: Program 135 Commune Data are from CEMA (Decision 447/2013/QD-UBDT), total number of communes are from the Provincial Statistical Yearbook, 2014. Note that neither Ha Tinh nor Thua Thien Hue has 30a Districts.

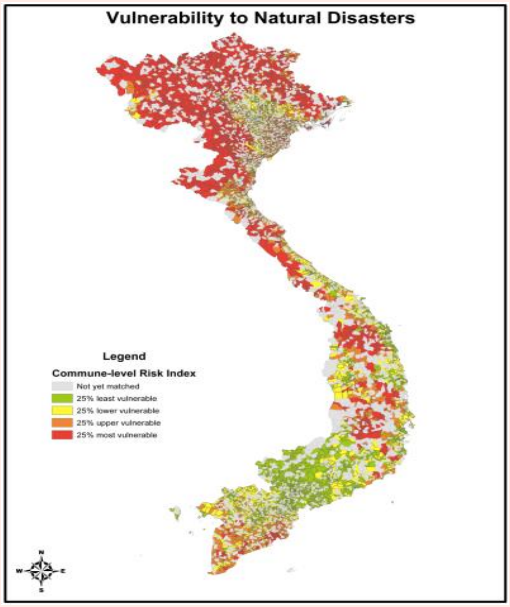
Recent poverty projections to 2020 by the World Bank[29] suggest that although there will certainly be further improvements, ethnic minority poverty in Vietnam is probably set to remain persistent and far deeper than for the Kinh with estimates of 38% head count poverty among ethnic minorities compared to Vietnam as a whole (8%).

2.3.7 Analysis of environmental issues in the ER-P area

a) Climate Change vulnerability

Figure 2.7 Vulnerability to natural disasters

[29] Gabriel Demombynes and Linh Hoang Vu (2015: 13), *Demystifying Poverty Measurement in Vietnam*. Their graph "Naive Poverty Headcount Projections for Vietnam" suggests that while the national poverty rate (using GSO data) would be 8% in 2020, for EMs it will remain at 38% (one assumes the national rate includes both Kinh and EM households).



Source: Lê Đặng Trung, Indochina Research and Consulting (IRC), June 2012

The Fourth Assessment of the IPCC characterized Viet Nam as a" hot spot of key future climate impacts and vulnerabilities in Asia"[30]. More recently, a firm specializing in risk intelligence services ranked Viet Nam as an "extreme risk" country, ranking it 13th of 170 countries in terms of its vulnerability to the impacts of climate change over the next 30 years[31]. The North Central Agro-ecological Region is the most typhoon prone region in Viet Nam, and mostly suffers from typhoon, drought, flash flood and saline intrusion. Without implementing climate change adaptation measures, when the sea level rises by 100cm, more than 2,5% of the area of central coastal provinces will be at risk of being inundated, directly affecting nearly 9% of these provinces' population[32]. Figure 2.7 shows ranking of communities by vulnerability to disasters, where vulnerability consists of hazard exposure and coping capacity. When the size of population that is exposed to disasters in mountainous regions is not as high as in coastal regions, the most vulnerable to disasters shown in Figure 2.7 would be explained by low coping capacity of the population living in the mountainous regions. In Viet Nam, rural poor people are the most sensitive, and ethnic minorities, women and children are the most vulnerable.

b) Natural disasters and extreme weather events

In ER-P area typhoon (tropical cyclone) and flood are the most popular natural disasters. Extreme weather events include higher intensity, more frequency, and longer season of typhoons[33]. Specifically:

- *Tropical cyclones:* Possible increase in intensity; increase in inter- and intra-annual variability; typhoon season starts earlier/ends later;
- *Cold front:* Decrease in incidence; season shorter; longer intervals between fronts;
- *Temperature*: Increase in normal; windy season (dry, hot westerly winds) arrives earlier/ends later; increase in number and duration of hot spells; shorter cold season in north and southern boundary of cold season moves to higher latitudes; hoarfrost in north (rare now), ceases occurrence; and increase in evaporation.

Potential impacts resulting from the changes may be increase of annual flows of rivers in the northern area of the North Central Region while decrease in the southern area. Flood peaks in most rivers will increase while dry season low flows will decline. Climate change may also seriously impact coastal ecosystems, biological reserves and forests, especially mangrove forests. Climate change will adversely impact coral reefs and maritime and estuarine sea grass beds, and salinization in coastal zones will cause the loss or retreat of mangrove forests. The accompanying loss of habitat will reduce stocks of fish, molluscs and crustaceans. The intrusion of saltwater into freshwater estuaries and coastal lagoons will

[30] Cruz, et all., Climate change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge, UK: Cambridge, University Press.
[31] Maplecroft. 2010. Big economies of the future – Bangladesh, India, Philippines, Viet Nam and Pakistan – most at risk from climate change. Climate Change Vulnerability Index. 21 October 2010. http://maplecroft.com/about/news/ccvi.html.
[32] Intended nationally determined contribution of Viet Nam, 2015
[33] MONRE, 2010: Viet Nam's second national communication to the United Nations Framework Convention on Climate Change.

cause the replacement of freshwater species by their brackish and saline water counterparts. Due to an increase in evapotranspiration, soil moisture would be reduced, and consequently the biomass growth index of forest trees could decline. Risk of forest fires in all regions will be greatly heightened, primarily during the dry-hot season. Warmer conditions will facilitate the spread of forest pests, hampering the growth of forest ecosystems. In agriculture, in the absence of adaptation measures, yields will likely be reduced for rice, maize, cassava, sugarcane, coffee and vegetables, which require more areas for planting to compensate for loss of yields. Therefore, forestland would be under the encroachment threats.

2.3.8 Analysis of the drivers of deforestation and forest degradation

The total area of forest in the NCR increased, there has been a marked shift towards poorer forests and to plantations (see Table 2.16). Spatial analysis shows a net increase in forest area due to afforestation and reforestation[34]. Gross deforestation, between 2000 and 2015, across all six provinces was 318,218 ha and this was offset by afforestation and reforestation of 758,224 ha. Thus, the net change in forest area (including both natural forests and plantations) was positive, and the total increase was 440,006 ha. Of the three evergreen broadleaf forest classes, poor forest class increased by 288,382 ha; medium forests decreased up to 2010 and then increased between 2010-2015. Rich forests decreased between 2005 and 2010 and then further by 2015. A significant part of the recorded afforestation and reforestation was from timber plantations which had grown to 749,627 ha by 2015. Forest degradation occurred on 292,469 ha, and was only partially offset by forest enhancement of 151,020 ha, leaving net degradation at 141,449 ha, (see Table 2.17).

Table 2.16 Forest cover (ha) in the NCR in 2005, 2010 and 2015

Land uses	2005	2010	2015
Natural forest	***2,041,721***	***2,133,894***	***2,187,012***
Evergreen broadleaf forest - rich	240,687	214,449	167,988
Evergreen broadleaf forest - medium	498,340	465,277	526,394
Evergreen broadleaf forest - poor	1,153,757	1,315,413	1,339,694
Other Forest	148,937	138,755	152,936
Plantations	***454,912***	***637,654***	***749,627***
Total Forest Cover (ha)	**2,496,633**	**2,771,548**	**2,936,639**

Table 2.17 Deforestation and forest degradation (ha) in the NCR, 2005-2015

Province	Deforestation	Afforestation	Net Change in Forest Area	Degradation	Enhancement	Net Degradation
1. Thanh Hoa	64,601	192,012	127,411	54,877	23,177	31,700
2. Nghe An	97,117	267,003	169,886	76,444	51,469	24,975
3. Ha Tinh	33,706	84,833	51,127	48,273	4,157	44,116
4. Quang Binh	48,256	74,545	26,289	66,991	36,587	30,404
5. Quang Tri	34,617	57,146	22,529	18,956	24,908	-5,952
6. Thua Thien Hue	39,921	82,685	42,764	26,928	10,722	16,206
Total region	**318,218**	**758,224**	**440,006**	**292,469**	**151,020**	**141,449**

The analysis of drivers of deforestation and forest degradation relies on the work carried out for the Provincial REDD+ Action Plans and is supplemented with additional data. The PRAPs used a combination of available government data, stakeholder consultations, and field visits to identify and analyze the main drivers and underlying causes of deforestation and forest degradation in the respective provinces. For the design of the ER-Program, this source was supplemented with additional reports on

[34] The information is provided in the Annex 4 on Activity Data Annex Report

drivers[35], with data collected from the national and provincial government reports and with outcomes of consultations conducted in the last two years at all levels in the six provinces. It should be noted that additional work on local drivers will be completed within the first year of the program, which will further identify local hotspots and provide inputs to revised management plans to be prepared as part of the Adaptive Collaborative Management Approach to be implemented in the program. The main identified drivers of deforestation and forest degradation in the NCR are (detailed analysis is provided in the ER-PD Section 4.1.1):

- Planned conversion of mainly poor natural forests to rubber and other agricultural land uses;
- Planned conversion of mostly poor natural forests[36] to tree plantations;
- Unplanned conversion of forests due to encroachment;
- Impacts from hydropower and infrastructure development;
- Illegal and legal logging; and
- Other minor causes.

[35] This includes a comprehensive drivers analysis carried out by McNally, R.H.G, Vu, T.P, Nguyen, T.C, Pham, X.P, Nguyen, V.D, Issues and Options: Support for the revision of Vietnams National REDD+ Action Programme (NRAP) 2016-2020

[36] The forests having wood stock from 200 m^3 per ha or more are considered as rich forests; 100-200 m^3/ha is medium and less than 100 m^3/ha is poor forests

3 Policy legal and administrative frameworks

3.1 Legal and administrative frameworks

Vietnam has a complex legal framework based on a hierarchy of codified laws, resolutions, ordinances, decrees, decisions and circulars made at different levels starting with the National Assembly. There is a high degree of complexity in the system in that many legal decisions are made at different levels. For example, for many decisions made at national level, a provincial decision also needs to be made that echoes the national level decision before it is implemented. Therefore, the PPCs guide the implementation of national programs according to the circumstances of their own provinces. An issue, for example, such as the classification of forests into production, protection or special use is a matter for the provinces to finalize with their own provincial decrees or decisions in harmony with the higher level decisions and implementation circulars. A summary of the main law affecting the program is shown in Table 3.1.

Table 3.1 Summary of policy, law and regulation issues

Law	Summary of actions covered
Law on Environmental Protection (2014)	This law provides policies and regulations on environmental safeguards, and rights and obligations of organizations, households and individuals related to environmental protection activities. The 170-article Law governs environmental protection activities; policies, measures and resources for environmental protection; and rights, obligations and responsibilities of agencies, organizations, households and individuals in environmental protection. Under the Law, national environ-mental protection must go hand in hand with regional and global environmental protection, and environmental protection must not be detrimental to the national sovereignty and security. The Law affirms that environmental protection is the responsibility and obligation of all agencies, organizations, households and individuals. Organizations, households and individuals that benefit from the environment must make financial contributions to the environmental protection. Likewise, those who cause environmental pollution, incidents or degradation must take remedies and pay compensations for damage.
Land Law (2013)	The law prescribes land use rights, land management and administration, powers and responsibilities of the State in representing the entire-people owner of land and uniformly managing land, the regime of land management and use, the rights and obligations of land users involving land in the territory of the Vietnam. Related are and Decree No. 43/2014/ND-CP dated 15/05/2014 of the Government regulations on detailing a number of articles of the Land Law; Decree No. 47/2014/ND-CP dated 15/05/2014 of the Government regulations on compensation, support and resettlement upon land recovery by the State; Decree No. 75/2012/ND-CP dated 03/10/2012 of the Government detailing a number of articles of the Law on Complaints; The Circular No. 37/2014/TT-BTNMT dated 30/06/2014 of MONRE on detailing compensation, support and resettlement upon land acquisition by the State
Law on Water Resources (2012)	The law provides for the management, protection, exploitation and use of water resources

Law	Summary of actions covered
Law on Biodiversity (2008)	The Law on Biodiversity has a distinct scope of regulation, while ensuring consistency with these laws and taking into due account orientations for the future reform of the environmental legal system. The 78-article Law provides for conservation of natural ecosystems, protection of wildlife and precious genetic resources in their natural habitats and equitable sharing of benefits from genetic resources. The Law makes stricter provisions on establishment of conservation zones. Specifically, it stipulates that a conservation zone must have two functional sections, namely a strictly protected section and an ecological restoration section. Depending on its practical conditions, a conservation area may also have a service-administrative section. A conservation zone establishment project must indicate the purpose of biodiversity conservation, satisfaction of certain conditions for the zone's establishment, the actual status of natural ecosystems, species prioritized for protection and other wild species, landscape, unique natural beauty, agricultural production and residential land areas and their use status, the number of inhabitants lawfully residing in the zone, and the land use purpose change plan.
Law on Forest Protection and Development (2004)	The law provides for the management, protection, development and use of forests; and forest owners' rights and obligations. It will be replaced in 2019 by the new Forestry Law (2017) in January 2019 (See Text Box 1)
Plant Protection and Quarantine	Decree No. 116/2014/ND-CP dated 04/12/2014 of the Government on stipulating detail and guidance on executing a number of articles of the Law on Plant Protection and Quarantine; The Circular No. 21/2013/TT-BNNPTNT dated 17/04/2013 of the Ministry of Agriculture and Rural Development on the promulgation of the list of acceptable, restricted and banned agrochemicals, and the additional lists of plants varieties allowed to be produced and traded in Vietnam
Law on Complaints (2011)	Effective on July 1, 2012, the Law on Complaints (the Law) provides complaints and settlement of complaints about administrative decisions and acts of state administrative agencies and competent persons. The Law also applies to complaints and settlement of complaints about decisions on disciplining of cadres and civil servants. The Law is expected to facilitate people, agencies and organizations in exercising their right to complain as well as enhance state agencies' responsibilities in complaint settlement. As per the Law, complaint is a request made by a citizen, an agency or organization or a state employee to a competent agency or person to reconsider an administrative decision or act which the former believes to be unlawful.
Law on Grassroots Mediation (2013)	The Law is expected to promote the participation in grassroots conciliation by the society, especially Vietnam Fatherland Front Committees. With 33 articles arranged in 5 chapters, the Law provides principles and policies on grassroots conciliation, conciliators and conciliation teams; grassroots conciliation activities; and responsibilities of agencies and organizations in grassroots conciliation activities. As per the Law, grassroots conciliation is the process whereby conciliators guide and assist the involved

Law	Summary of actions covered
	parties in reaching agreement on voluntary settlement between themselves of conflicts, disputes or law violations, except the following cases: - Conflicts and disputes that infringe upon the State's interests or public interests; - Violations of the law on marriage and family and civil transactions, which must not be conciliated as provided by the civil procedure law; - Law violations which, according to regulations, must be examined for penal liability or administratively handled; - Other conflicts and disputes which must not be conciliated at the grassroots as provided by law. The Law affirms that the State encourages parties to settle their conflicts or disputes through grassroots conciliation or in other appropriate forms of conciliation. The State also encourages prestigious persons in families, lines of descent or residential communities to participate in grassroots conciliation. Grassroots conciliation activities are provided in Chapter III with many new provisions, compared to the Ordinance. As required by the Law, grassroots conciliation will be conducted on one of the following grounds: one party or all parties request conciliation; conciliators witness or know cases or matters to be conciliated; or it is assigned by conciliation team leaders or requested by related agencies, organizations or individuals.

As a response to the address the drivers, underlying causes and barriers, the government has introduced a raft of policies and programs. Vietnam's policy framework strongly supports improvements in forest management, and policy developments contribute to the conservation and enhancement of forest carbon stocks in the NCR. The ER Program will build upon the following policies, which are described in more detail below.

- Forest restructuring and forest land allocation
- Laws related to land use and integrated planning
- Policies to promote sustainable forest management and forest certification
- Policies to address deforestation and forest degradation
- Development of the PFES scheme
- Support for the transformation of plantations

Forest restructuring and forest land allocation

The government has been actively restructuring the forest sector to enhance the effectiveness of land use and forest protection. Ongoing efforts to restructure the forestry sector may impact forest management practices during the ER-Program period. A master plan for restructuring the forest sector was approved in July 2013. The Plan includes re-organizing forest designations, strengthening competitiveness, adjusting the economic components of the forest sector, effectively mobilizing investment, and promoting development according to forestry economic and ecological regions. The new Forestry Law was passed by the National Assembly on 16 November 2017 (see text Box 1). This has made revisions in the following areas: 1) Strict management of conversion of natural forests except

for security purposes [The Prime Minister will make decisions on any case of conversion (in the past, PPC to this decision)]; 2) Logging in natural forests can only be permitted if forests are certified SFM; 3) Focus of forestry is environmental services and limited logging from natural forests; 4) Promotion of forestry business; 5) Improve forest tenure to clearly identify forest owners/users; 6) National forestry planning; and 7) Control forest products through VPA/FLEGT and multi sector engagement.

The MARD master plan and Decree 30 have created a new opportunity for "renovation, restructuring, and boosting performance effectiveness" that aims to deal with the current constraints of state-run forest-management. Forest land has been allocated to state groups (i.e. state forest companies) and to non-state groups (i.e. households and communities). Decree 118/2014/ND-CP dated December 17, 2014[37] on restructuring and development of SFCs to improve their performance calls on the large state forestland owners (PFMBs, SUFMBs, SFCs) to review and demarcate the forestland boundaries to identify the remaining forestland boundary of the organizations on maps and on the ground to allocate the land most effectively. Much of the country's forests are still managed by state entities such as Management Board (MB) and SFCs which jointly manage approximately 45% of the total forest area. Nationally, approximately 26% of forest land (3.5 million ha) is managed by about 1.2 million households.

Box 1 Summary of the new Forestry Law 2017

- Forestry Law regulates the management, protection, development and use of forests, as well as the processing and trading of forest products, previously the law only regulated management, protection, development and use of forest.
- Strengthened forest governance clearer laws on how to deal with deforestation and more emphasis on involving local communities in protection, provides for the Vietnam Timber Legality Assurance System, and includes the issuance of the criteria, processes, procedures and competence on classification of the enterprises engaged in the harvesting, transportation, consumption, processing and checking of the legality and origin of forest products.
- Change of the purpose of using natural forests is more strictly controlled, the purpose of using natural forests is not allowed to be changed into another purpose, except for important national projects.
- More emphasis on developing benefits from forests into non-timber forest products and environmental services including 'carbon'.
- Forest ownership institutions more closely follows the Civil Code 2013 (the constitution) and forests can now be preferentially allocated to ethnic minorities, households, individuals and communities with manner, customs, culture, beliefs and traditions are closely attached to forests and more emphasis on sustainble forest manageement.
- Improved recognition of the importance of forest to ethnic minorities, communities whose livelihood depends on forests, will be allocated forests attached with land to carry out agro-forestry-fishery production; cooperate and associate to protect and develop forest together with forest owners, enjoy benefit shared from forests.
- Continued support for the ACMA approach and encourages the participation from local communities; collaborate with local government to review and prepare plans for land and forest management.
- Regulation on the assessment of emission reduction from deforestation and forest degradation, sustainable forest management, conservation and enhancement of forest carbon stocks; establishment and maintenance of forest change monitoring system (in forest inventory task); development of database on emission reduction results related to forest.

Vietnam has a long-standing policy of allocating forest lands (i.e. Forest Land Allocation (FLA)) to households to address declining forest quality, rural poverty, and unsustainable land use practices. In 1993 the Land Law was passed which stipulates the rights on land given to land recipients, which are valid for 50 years on forest land, provided recipients comply with the regulations in using the land (see section on tenure below). The land distributed to households was mostly production forest land, although in practice the land was mostly barren, or with low forest value.[38]

[37] Circular 07/2015/TT-BTNMT dated February 26, 2015 of MONRE on restructuring of SFCs, guides the implementation of Decree 118/2014/ND-CP.
[38] To, 2007

In the protection forest area, FLA to local households generally takes the form of forest protection contracts. All special use and protection forest, and most of the natural forest on production forest land is still managed by government entities.

Laws on land use and integrated planning

The provinces will be required to introduce new policies which will help cross sectoral development and which will be introduced in the provinces during the lifetime of the ER-Program. These include: guidelines on sustainable forest management planning under Circular 38 No. 38/ 2014/TT-BNN which is aimed at improving participation in community forest planning and will introduce requirements for innovative cross sector planning for sustainable forest management including, plantations, NTFP, agroforestry, afforestation, high conservation value forest, etc. The Circular also supports linking planning to Department of Natural Resources and the Environment (DONRE) land use plans and infrastructure planning.

The Ministry of Planning and Investment and Ministry of Natural Resources and the Environment are supporting the mainstreaming of cross-cutting issues of sustainable development, climate change, and green growth in the formulation of the five-year SEDPs. The SEDP sets priorities for the state and provinces. This process will also be undertaken in the provinces to set provincial plans. Supporting this process will be critical in directing more support and budget towards green growth and climate change within development priorities for the provinces. Supporting assessments will be undertaken to provide information on cross sectoral development as part of the SEDPs.

Development planning is currently undergoing a major improvement with a new planning law in 2017/18. Under the revised law, environmental protection is one of key principles of planning-related activities and all national sectoral plans will be required to take account of environmental protection, biodiversity conservation and climate change adaptation. This will create the basis for integrated planning. The order and procedures of the integration process must be clearly defined, describing in full the work of the sectoral management agencies, including the land administration. This important piece of legislation will be implemented into 2018/19 and beyond.

Policies to address deforestation and forest degradation

Recognizing the issues of forest loss and degradation and the need for combating deforestation and forest degradation, strong legal and political commitments to strengthen the conservation of forests and law enforcement implementation have been recently made. These legal documents are the NRAP and Directive No. 13 (and Resolution 71 to implement Directive No. 13).

Directive 13 outlines the commitment to stop the conversion of natural forests. It highlights the key limitations and weakness in forest conservation and forest planning as: 1) deforestation, forest encroachment and illegal exploitation of forest products, especially of natural forests, persist and become increasingly complicated and the area of protection forest is gradually declining over the years; 2) planning, protection and development of forests are not well aligned with the planning of land use and economic and social development. Many economic development projects such as hydroelectricity, mining, and tourism services do not pay adequate attention to forest protection and development, seriously affecting the environment and causing forest degradation, especially to natural forests; 3) the conversion of natural forests and degraded forests into rubber plantation and agricultural production is not strictly controlled; and 4) actions against forest rangers and law enforcement officers have become increasingly fierce and serious. To resolve such limitations and weakness, it recalls responsible and active actions of the local governments and sectors. *Resolution 17* provides detailed requirements and tasks for the provinces to implement the Directive No. 13. Resolution 71 contains an Annex which provides details on the tasks of provinces for the implementation Directive No.13-CT/TW. It lists over 38 tasks and assigns coordinating agency, cooperating agency, outputs and implementing and finishing time. This provides very specific tasks that provinces must report on.

The original NRAP 2012-2015 was approved under Prime Minister Decision 799/QD-TTg, dated 27th June 2012. A review[39] of the NRAP highlighted that while some good progress had been made, it also revealed the necessity to revise the direction of the NRAP to better guide REDD+ implementation under Phase II. A key element was to identify and prioritize a preliminary set of Policies and Measures (PaMs), linking them to a detailed analysis of the drivers of deforestation and forest degradation and the barriers to achieving the "+" [40]. Based on this analysis a new Decision 419/2017 on NRAP Phase II, including the list of PaMs, was approved by the Prime Minister in April 2017. The NRAP Phase II is for the period 2017 to 2030. The Decision identified eleven work packages covering forest and non-forest interventions.

3.2 Environmental and social safeguard policies and legislation

The environmental safeguard policies and legislation of the Government of Viet Nam concerned the proposed activities in the ER program are stipulated in the following documents:

- Forestry Law (2017) – to be promulgated January 1, 2019 (see Text Box 1),
- Law on Forest Protection and Development 2004,
- Law on Biodiversity 2008,
- Land Law 2013,
- Law on the Environment 2015,
- Decision No. 16/2005/QD-BNN dated March 15, 2005 by the Minister of MARD concerning the list of major tree species for production forest plantations in 9 ecological regions,
- Decree No. 23/2006/ND-CP on the implementation of the Law on Forest Protection and Development,
- Decision No. 186/2006/QD-TTg on forest management regulations,
- Vietnam Forest Development Strategy 2006 – 2020,
- Decree No. 18/2015/ND-CP on the environmental master planning, strategic environmental assessment, environmental impact assessment, and environmental protection plan,
- Decision No. 34/2011/QĐ-TTg on adjustment and supplement of articles in Decision 186/2006/QD-TTg,
- Circular No. 27/2015/TT-BTNMT on detailed regulations of Decree No. 18/2015/ND-CP on the environmental master planning, strategic environmental assessment, environmental impact assessment, and environmental protection plan,
- Circular No. 35/2011/TT-BNNPTNT regarding the guidance on the extraction, maximized use of timber and NTFP, Decision No. 17/2015/QD-TTg on the protection forest management regulations,
- Decision No. 57/2012/QĐ-TTg on the approval of forest protection and development plan in period 2011-2020,
- Decision No. 1896/QĐ-TTg dated 17/12/2012 on approval of proposals to prevent and control invasive alien species in Vietnam to 2020,
- Circular No. 27/2013/TTLT-BVMT-BNNPTNT stipulating criteria for identification of invasive alien species and issuance of a list of invasive alien species,
- Decision No. 03/2015/TT-BNNPTNT on the list of pesticides allowed to be used and banned in Viet Nam,
- Decree No. 19/2015/NĐ-CP detailing a number of articles of the Law on Environmental Protection.

[39] McNally, R.H.G, and Nguyen, C.T, (2016), A Review of Viet Nam's National REDD+ Action Program and its Implementation, Hanoi, Vietnam

[40] McNally, R.H.G, Vu, T.P, Nguyen, T.C, Pham, X.P, Nguyen, V.D, Support for the revision of Vietnams National REDD+ Action Program (NRAP) 2016-2020

3.3 World Bank Operational Policies and safeguards

The Program is expected to trigger the following World Bank Safeguards Operational Policies (OPs): Environmental Assessment (OP 4.01); Natural Habitats (OP 4.04); Pest Management (OP 4.09); Indigenous Peoples (referred to in Viet Nam as ethnic minority peoples) (OP 4.10); Physical Cultural Resources (OP 4.11); Involuntary Resettlement (OP 4.12); and Forests (OP 4.36). Operational policies, notably those relating to gender and development are not safeguard policies *per se* but rather cross-cutting issues to ensure the social inclusiveness of projects wholly or partially financed or supported by the World Bank. Additionally, the Cancun Safeguards also apply to this Program and promotes and support safeguards that are not explicitly articulated through the above-mentioned OPs of the WB will be utilized accordingly. The safeguards as they apply to this program are included in Table 3.2 below.

Because the Program is being supported by the World Bank an Environmental and Social Management Framework (ESMF) is prepared and will ensure that specific program activities during implementation comply with the ESMF. The ESMF inter alia includes the following sections and conforms to ESMF required by the WB:

- Background and Program Description (to include components);
- Purpose and Processing of ESMF (purpose and rationale for ESMF and institutional and implementation arrangements);
- Methodology Utilized (detailed in-depth literature review, interactive discussions, field visits, and preparation of ESMF);
- Baseline Social and Environmental Data (location, physical characteristics, and socio-economic background;
- Policy and Regulatory Framework (to include both WB and GoV policies that will contribute to the regulatory framework);
- WB and GoV Safeguard Policies (To include identification of gaps and proposed gap-filling measures between WB and GoV policies);
- Potential Positive and Negative Impacts (Positive impacts, potential adverse environmental impacts, social impacts, environmental and social management processes, program environmental and social screening, environmental and social instruments, monitoring plans and indicators, and monitoring roles and responsibilities);
- Coordination and Implementation (REDD+ review, environmental and social screening, compliance and reporting); and
- Capacity Building and Technical Assistance (Implementation and management capacity for developing ESIAs and ESMPs); and Consultation and Disclosure (ESMF disclosure, public consultation, feedback and grievance redress mechanism, and establishment of grievance redress committee).

Table 3.2 Summary of triggered World Bank Operational Policies[41]

World Bank Safeguard Policies	Triggered	Proposed approach
Environmental Assessment OP/BP 4.01	Yes	The Strategic Environmental and Social Assessment (SESA) has identified potential environmental impacts including: i) soil erosion on sloping areas, and from poor maintenance tracks; ii) loss of soil fertility due to removal of biomass in harvesting; iii) increased risk of pest and disease due to monoculture plantations; iv) health risks associated with the use of pesticides and herbicides; v) loss of biodiversity and habitat fragmentation due to conversion of natural forests into plantations of Acacia by SFCs or PFMBs; and vi) possible invasive plants

[41] This table updates the 2012 "Integrated Safeguards Data Sheet" prepared by World Bank for the FCPF Grant.

World Bank Safeguard Policies	Triggered	Proposed approach
		if agroforestry or NTFP species are introduced without guidance. The Environmental and Social Management Framework (ESMF) will establish the modalities and procedures to address potential negative environmental and social impacts from the implementation activities identified in the ERPD (and PRAPs), including the screening criteria, procedures and institutional responsibilities. The specific process in the ESMF are to: (i) establish clear procedures and methodologies for the environmental and social assessment, review, approval and implementation of interventions to be financed under the program; (ii) specify appropriate roles and responsibilities, and outline reporting procedures, for managing and monitoring environmental and social concerns related to program interventions; and (iii) determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF.
Natural habitats OP/BP 4.04	Yes	This policy is triggered as the ER-P will work both within existing protected areas and other forest habitats of varying significance, although it is not expected to involve conversion of critical natural habitats. The ERPD includes activities in SUFs, and High Conservation Value Forests. The ESMF includes provisions to assess possible impacts prior to actions being undertaken on the ground. This policy will ensure that the interventions in the ER-P area take into account biodiversity conservation and critical natural habitats. During the implementation phase, monitoring activities will be established to ensure that biodiversity and critical natural habitats are not adversely affected.
Forests OP/BP 4.36	Yes	The overall program objective includes reduction of deforestation and forest degradation and interventions are expected to have significant positive impacts on the health and quality of forests. This policy is triggered due to the potential changes in the management, protection, or utilization of natural forests or plantations that could arise from REDD+ and activities may indirectly affect the rights and welfare of people and their level of dependence upon or interaction with forests. The ERPD includes activities affecting management, protection, or utilization of natural forests and/or plantation forests. Potential impacts and proposed enhancement/mitigation measures will be included in the ESMF. Forest management plans are expected to be prepared during implementation.
Pest Management OP/BP 4.09	Yes	Agricultural and agroforestry practices supported by activities under the ER-Program may involve the use of pesticides for nursery management and possible crop intensification. Impacts and risks of any potential use of chemicals in forest management and agroforestry activities, if needed, will be analyzed and mitigated through actions contained in forest management plans. The ESMF will provide guidance on development and implementation of an Integrated Pest Management (IPM) which provides principles on prevention, early detection, damage thresholds, and design, mechanical and biological control methods rather than chemical pesticides.
Physical and Cultural Resources OP/BP 4.11	Yes	This policy is triggered as the activities proposed in the ER Program could indirectly affect areas containing sites with physical cultural resources. Ethnic minority (EM) people often have close connection with forest areas, including spiritual connections, it is possible that in isolated cases REDD+ activities could interfere with villager defined sacred forest sites. The ESMF will include 'chance find' procedures and guidance on development and implementation of a Physical Cultural Resources Management Plan
Indigenous Peoples OP/BP 4.10	Yes	The ER-P includes 13 EM groups that are mainly found in the largely mountainous districts and communes that have higher percentages of land classified as forest. High levels of poverty correlate with generally high EM populations in the upland areas, and overall with more forest cover. It included the engagement of mass organizations (Fatherland Front, Farmer Association, Women's Union, etc.), NGOs, and CBOs who work on EM and were involved the consultation process. Also important was engagement at all levels with the Committee for Ethnic Minority Affairs (CEMA). The implementation of the PRAPs with PFMBs SFCs and SUFMBs can be expected to affect EMs and other forest dependent communities; PRAP implementation may also catalyze restrictive land zoning processes throughout the area that may put EM livelihoods at some risk. The ESMF will include an Ethnic Minority Planning Framework (EMPF) that will guide screening and preparation of site-specific Ethnic Minority Development Plans (EMDPs) during the implementation of the ER Program. Site-specific EMDPs will be developed based on the result of the SESA and consultations and disclosed locally before Program interventions that the EMDP supports start implementation. The EMDPs will be disclosed prior to appraisal for the activities that will be identified prior to or by appraisal. The ER-P includes mechanisms that will help address the underlying problem of inadequate consultations with communities in specific locations including a REDD+ Needs Assessment (RNA), a Social Screening Report (SSR) and a locally prioritized management plan that require an assessment of impacts and possible mitigation measures to avoid or address potential undesirable effects.
Involuntary Resettlement OP/BP 4.12	Yes	OP/BP 4.12 on Involuntary Resettlement is triggered to ensure affected persons (including land owners, land users and forest dependent communities and/or individuals) are properly consulted and not coerced or forced to accept or commit to REDD+ activities or other forest management/reforestation activities involuntarily, and that best practice approaches as

World Bank Safeguard Policies	Triggered	Proposed approach
		informed by OP/BP 4.12 are adopted. The SESA has identified and assessed the possibility of any involuntary land acquisition or restriction of access to natural resources that may occur, and management processes are included in the ESMF. A Resettlement Policy Framework (RPF) has been prepared which lays down the principles and objectives, eligibility criteria of displaced persons, modes of compensation and rehabilitation, participation features and grievances procedures that will guide the compensation and potential resettlement of program affected persons. The RPF will guide the preparation of site-specific Resettlement Action Plan (RAP). There is high potential for an involuntary restriction of access (for example, NTFPs, fuelwood collection) to legally designated production and protection forest areas and protected areas (Special Use Forests) resulting in adverse impacts on the livelihoods of affected persons. A Process Framework (PF) has been prepared to guide procedures to identify, assess, minimize and mitigate potential adverse impacts on local livelihoods by restriction of access. The PF is to ensure adequate consultations with specific communities in specific locations for proposed interventions through the preparation of process plans when working with the management board entities and with a benefit sharing agreement mechanism for the natural resources use. Site-specific RAPs and Action Plans for Access Restrictions for activities will be identified during implementation as required. The ER-P includes mechanisms that will help address the underlying problem of inadequate consultations with communities in specific locations including the RNA, SSR and locally prioritized management plans that require an assessment of impacts and possible mitigation measures to avoid or address potential undesirable effects including a benefit sharing mechanism for natural resources use.
Safety of Dams OP/BP 4.37	No	This policy is not triggered as the program will neither support the construction or rehabilitation of dams nor will it support other investments which rely on services of existing dams.
International Waterways OP/BP 7.50	No	The program does not have any investments will be located on international waterways so this policy is not triggered.
Disputed Areas OP/BP 7.60	No	Neither the program nor related investments will be located in disputed areas as defined in the policy.

According to the Carbon Fund Methodological Framework the World Bank's safeguards (OPs – see Table 3.2 above) must be adhered to for ER-Program, but the UNFCCC safeguards should also be "promoted."[42] This is also echoed in the ER-PIN. The seven UNFCCC safeguards decided by the Conference of Parties (CP) at Cancun (CP 16) comprise the following: a) consistency with national forest program and objectives of relevant international conventions/agreements b) Transparent and Effective Governance, c) Knowledge and Rights of Indigenous People and Local Communities, d) Full and Effective Participation, e) Enhanced Social and Environmental Benefits, f) and g) Risk of Reversal, Risk of Displacements. Although there is no safeguard on "gender" it is understood that this an important crosscutting topic by both the Carbon Fund/World Bank and UNFCCC.

As there are a number of program interventions in different dispersed locations and it is expected to involve the improved management of PFMBs, SUF MBs, SFCs which may create opportunities for local people through the participatory and sustainable management of local resources and forest investments, but it may also result in reduced access of local people to forest products and land or the program interventions may include minor construction of infrastructure such access tracks or village based infrastructure.

A resettlement plan or an abbreviated plan cannot be prepared since the numbers and location of displaced persons are not known at this stage. Instead, a Resettlement Policy Framework is needed to address the various types of land acquisition and resettlement that may occur during the program. The Resettlement Policy Framework lays down the principles and objectives, eligibility criteria of displaced persons, modes of compensation and rehabilitation, participation features and grievances procedures

[42] See CF (2013) Methodological Framework, Point 4.1 on the Safeguards: "With the World Bank acting as both the Trustee and the Delivery Partner of the Carbon Fund, all ER Programs will need to meet applicable World Bank policies and procedures. ER Programs also should promote and support the safeguards included in the UNFCCC guidance on REDD+."

that will guide the compensation and potential resettlement of these persons. It further describes the planning and documentation requirements for such activities under the program.

For resettlement the proposed Resettlement Policy Framework includes a Process Framework. The Process Framework will particularly help to assess and address restrictions in access to natural resources and remedies to these restrictions on a case-by-case basis. It addresses two World Bank safeguard policies: OP 4.12 on involuntary resettlement and OP 4.10 on indigenous peoples (referred to in the country context as ethnic minorities).

In the ER-P the six larger ethnic minority groups constitute about 11.5% of the total population, although in forested areas of upland districts the percentages are much higher (up to 95% of the population. The EMPF that has been prepared and a range of positive impacts are proposed as follows:

- Protection and development of natural forests to ensure the sustainability of water resources used by local ethnic minority communities;
- Longer harvesting cycle to increase the value of production forest products through producing higher-value forest products;
- Cash and non-cash benefits based on the enhancement of forest carbon stocks to improve both the living standards of ethnic minority groups and facilitate greater levels of participation;
- Improve the capacity of ethnic minority groups to sustainably manage forest land that has been allocated to them

Negative impacts that will have to be mitigated include the following:

- Restricted access to forest land will be overcome with training courses on how to increase production on remaining forest land;
- The longer harvesting cycle will result in deferred income but the costs of deferment can be overcome through micro-financing;
- The longer harvesting cycle also impacts negatively on local waged employment and reduced incomes but specific measures to offset these impacts will be introduced with ethnic minority group concurrence; and
- Ethnic minority households who are not forest owners will not benefit from cash payments made to forest owners but will benefit from demand-driven non-cash benefits to improve livelihoods.

The presence of ethnic minorities in the ER-P area is clear, but the location and involvement and circumstances for each proposed intervention could not be determined until the interventions programs/subprojects are identified during program implementation so an EMPF is prepared. This EMPF provides guidance on how EMDP for the program/subproject should be prepared to ensure consultation with affected ethnic minorities in the subproject areas and help affected ethnic minority peoples receive culturally appropriate social and economic benefits and when potential adverse effects, the impact are identified, avoided, minimized, mitigated, or compensated for.

While resettlement is not envisaged there may well be instances of restricted use to existing forest land that will result in some resettlement of small communities of forest dwellers or some may be proposed from the SUFs or PFMBs and such resettlement is not eligible for program funding which is regulated already by government Decrees. The cost of compensation and other allowances will be met by the GoV and not this Program. Similarly, reforestation or afforestation may result in the loss of existing productive agricultural land. Compensation for such activities will be met by the GoV and not the Program.

There are World Bank financed infrastructure projects in several of the six provinces, most notably two hydropower projects in the upland area, but there are also transport projects including intra-provincial

highways (in the coastal plain). The hydropower projects trigger more significant environmental and social safeguards than the transport infrastructure projects because they are located in close watershed areas that were originally forested and are located very close to protected area nature reserves with international levels of biodiversity.

The SESA reviewed and discussed the effects (social and environmental) of HPPs[43], roads and other infrastructure in the ER-P area and the report on deforestation and degradation drivers, and include some specifics and suggestions for follow up studies etc. on the Trung Son and Hoi Xuan HPPs as necessary - this is due to the Trung Son and Hoi Xuan HPPs being under construction and are two of the largest HPPs in the ER-P area and are part of a cascade of potentially five HPPs and the two individual HPPs[44] and are expected to have considerable impacts[45] on three protected areas two of which are recognised for international levels of biodiversity and on the forested areas in the upland watershed area of Thanh Hoa province which is shared with the ER-P.

The SESA noted that the HPP two schemes have the potential to add emission risks to the ER-P area of the ER-Program area, but as the projects have their own impact assessments, ESMFs and an ESIA, they are assumed to have adequate mechanisms for safeguard management and monitoring. A "partial" cumulative impact study funded by Trung Son HPP is reported to be underway. The FCPF program team are not required to review the Trung Son HPP and are not required to set up a monitoring activity for the Trung Son HPP or Hoi Xuan HPP through the ER-P ESMF - as noted above this would in effect duplicate what is already in place and similarly for the Hoi Xuan HPP.

The ER-Program is not required to review or monitor other development projects for impacts and safeguards compliance. There are a number of large development projects with funding, for example, from JICA, ADB, WB, LuxDev, IFAD, KfW, BMZ, BMUB etc., within the ER-P region. The assumption is that these projects will be required to follow their own safeguards. (See Table 3.3 below for a summary of the overlapping safeguards and other significant donor projects (see Table 3.5) in the NCR (also see Table 3.4 for a comparison between GOV and WB policies)).

Table 3.3 Overlap of ESMFs and ESIA with other major WB projects in the NCR

Project	Issue	Challenge to the ER-P	Findings from SESA work to-date	Proposed safeguard approach
Trung Son HPP WB loan funding	Overlapping of project area communes;	Overlapping of project area communes;	HPP in buffer zones of the Pu Hu and Xuan Nha NRs;	The HPP project has its own safeguards that are followed and monitored
	Overlap of ESMFs	SESA (and ESMF) issues, how to address the social and environmental risks: 1) socio-economic issues; 2) deforestation and degradation; and 3) impacts on the protected areas (PAs)	Aware of social and environmental challenges; these include encroachment and degradation of forest land a probably lack of replacement agricultural production and forestland due to the terrain in the area Impacts of Trung Son HPP with related to the two SUFs (PAs) were addressed in	Trung Son HPP completed the mitigation measures related to the two natural protected areas as required in the project EMP. Trung Son HPP and the community to address

[43] Notably two large HPPs are under construction and funded or guaranteed by the WB i.e. Trung Son 260MW HPP (WB loan) and Hoi Xuan 102 MW HPP (WB MIGA) and these are expected to be part of a proposed cascade of five HEP. There are other large schemes e.g. Ban Ve HPP, in Nghe An, (~320MW) but construction was completed in 2010.

[45] Trung Son and Hoi Xuan Hydropower project impact assessments.

Project	Issue	Challenge to the ER-P	Findings from SESA work to-date	Proposed safeguard approach
			detail in the ESIA, and mitigation measures included in the EMP were addressed by Trung Son HPP owner.	
Hoi Xuan HPP WB MIGA	Overlapping of project area communes;	Overlapping of project area communes	Close (~34km) downstream to Trung Son HPP; the HPP is in buffer zones of Pu Hu and Pu Luong NRs	Project expected to have its own safeguards that are followed and monitored (Cat A MIGA and WBG)
	Overlap of Hoi Xuan HPP ESIA		Aware of social and environmental challenges in the area; these include a probable lack of replacement agricultural production and forestland due to the terrain	Hoi Xuan HPP to resolve
Both projects	Benefit sharing mechanism	Overlap of BSMs and PFES – probable different approaches	Payments for forest environmental services – normally require clear forest ownership	Communes in the Trung Son HPP and Hoi Xuan HPP from the ER-P BSM may eventually receive PFES from the two HPPs
Both projects	Feedback and grievance mechanism	Overlapping FGRMs	National and provincial FGRMs under development; potential for overlapping grievances	Communes in the Trung Son HPP and Hoi Xuan HPP would be able to apply to the ER-P FGRM
Other projects including infrastructure (HPP, roads, irrigation)		The applicability of REDD+ safeguards in the ER program area with various future ER interventions being implemented from multiple sources of funding	Potential for land loss, loss of access, and environmental challenges including road construction planned in SUFs.	The other projects expected to have their own safeguards that are followed and monitored
Forest Sector Modernization and Coastal Resilience Enhancement project	Previously excluded overlapping project area and ESMFs	Technically challenging areas, implementation of BSM	Limited consultation with the communes and other stakeholders, now included in the project	The Coastal Project ESMF should take precedence in that project area

3.3.1 Gender in the program area

The 2013 Constitution of Viet Nam upholds women's equality, and there is a 2006 Law on Gender Equality, and the 2013 the Land Law consolidates that women's names also be included on Red Books rather than simply "head of household." Additionally, there are national and provincial strategies to 2020 to promote women's rights. Among the mass organizations, the Viet Nam Women's Union (VWU)

promotes gender equality and women's participation in development. Despite this, however, gender equality has not yet been mainstreamed in reality. Rural women's concerns, whether Kinh or ethnic minority, are not yet taken seriously enough in areas that greatly impact their livelihoods: land, agriculture and forestry. These remain male-dominated professions where gender mainstreaming has yet to take place and for example, in some of the provincial DARD or forest protection offices, the only women working there are the accountants. Cadastral officers are, more often than not, male.

The first legal reference to husbands' and wives' equal rights to property was Decree 70/2001/ND-CP detailing the implementation of the Marriage and Family Law of 2000. It stated that all documents registering family assets and land use rights must be in the names of both husband and wife. The Land Law of 2013 also enshrined women's usufruct rights to all types of land. Nonetheless, women's rights remain less than men's. There are several reasons for this. The Vietnamese system of household registration identifies a "household head." This has unfortunately resulted more or less in men automatically being named the "head" of the household except where there are women-headed households (generally through widowhood, abandonment and/or divorce). In the past, this automatic naming of one person as head of household led to thousands of Red Bos being issued in the names of men only; those issued already have never been updated to include women's names on them.[46] In the ER-P area, for example, many Red Bos issued before around 2005 do not have wives' names on them in contravention of Decree 70 because local land authorities lacked both awareness and capacities to carry out the provisions in this Decree.

Another issue related to women's land use rights is that when they have been allocated agricultural or forest land it is often less than that which men are allocated because a female-headed household likely has less labour than a male-headed household.[47] This is because in some localities, land is allocated based on the available labour in the household at the time of allocation. The less the availability of labour can result in less the land the land being allocated to households with more labour to undertake labour intensive wet rice production.

As mentioned above, common property rights are not formally recognised in Viet Nam with the emphasis towards individual and household property rights that suit the Kinh majority but not large numbers of ethnic minority communities. This also has a negative effect on women, as with their still reduced land rights, they rely more heavily than men do on common property rights to meet livelihood needs for themselves and their families. Women, for example, maintain a greater interest in forest in terms of NTFPs. More women than men will go to the forest to search for NTFPs, whether for sale or for domestic use. Ethnic minority women are more likely to have knowledge of different forest foods compared to men or to Kinh women. Thus, women are more concerned about reducing availability of both NTFPs and of firewood in their areas. While NTFP collection is fairly arduous work, and does not result in large incomes, as mentioned women require steadier sources of income to make food purchases for their families. In the areas visited there are few such steady sources of income available, as cropping is generally done on a once yearly basis, and most small livestock such as poultry are not raised for income generation purposes.

Gender inequality vis-à-vis land use rights, including forest land rights, has the potential for serious negative implications for women's abilities to benefit under REDD+ on the same scale as men. Under PFES-type schemes that require formal land tenure arrangements, women are sure to be disadvantaged. Additionally, to this, a woman-headed household may be left out of forest protection contracting because of labour shortages in the family (or indeed unwillingness/ unavailability to go on forest protection patrols. When women are represented to a much lower extent on land titles, it also may mean a reduced availability of credit for productive investments (this does not apply to VBSP loans which are based on group joint liability). If REDD+ payments are excessively delayed (performance-based), then there is

[46] Among some of the ethnic groups that are particularly patriarchal in their orientation (Hmong and Dzao are examples), this results in a doubled disadvantage for women in that they have no customary or hereditary rights to land and neither do they have a legal right if their name is not on the Red Bo.
[47] See USAID (2013) *Country Profile. Property Rights and Resource Governance, Vietnam*, p. 11.

almost no way for women-headed households, or poor households in general, to participate equally with households that can afford to wait for delayed payments for labour outlays.

At the local level, it is noticeable that women tend to speak up less in mixed gender groups than when they are in women-only groups. This tendency is less marked among the Kinh than among the ethnic minority women because of the language factor-fewer labour-aged ethnic minority women have had the opportunity to go beyond primary school (if that) compared with the Kinh. Thus, ethnic minority women feel much shier to speak up, partly because of gender relations and expectations and partly because of their command of the Kinh language. Official meetings, however, are virtually always conducted in Kinh. Moreover, there is still a tendency to call "heads of household" for village meetings. If women are to attend, it needs to be explicitly mentioned. Otherwise, if written information is provided on a CPC signboard for example, it is nearly always in Kinh.

This language barrier has many implications for ethnic women's access to information and services and their ability to participate actively in consultations. It also has implications for their active participation in local planning, and other discussions, that may have strong impacts on their livelihoods. They may attend a village meeting but be unable to give an opinion (without anyone really noticing because it is usual for men to speak up more than women). A lack of confidence in use of Kinh language skills will also affect ethnic minority women's mobility and their willingness to attend, for example, commune-level meetings or training sessions. This has especially serious implications for female-headed households which were identified to the SESA team as being among the poorest in the villages visited.

The objective of the Gender Action Plan (GAP) is to promote women's participation in the program and share in the benefits, maximize positive gender equality impacts as well mitigate possible risks and negative impacts. The GAP has three approaches: (1) provide opportunities for and strengthen the role of women in local economic activities; (2) disseminate information about environmental sustainability and social risks to men and women; and (3) increase female representation in the sector and in decision making positions.

These strategies seek to address limited availability of sustainable livelihoods and gender equality in livelihood opportunities, unequal impact from the poor environmental sanitation due to female higher exposure and gender defined responsibilities, low female representation in government institutions and decision-making processes.

3.3.2 Environmental safeguards

An environmental assessment was carried out as part of the regional SESA and this included a review of the proposed ER-P and PRAP activities and this data has been used in the development of the ESMF. The ESMF includes Environmental Protection Guidelines and will ensure that critical natural habitats and sites of cultural significance are screened out as part of the site selection process. The program as a whole deals with sustainable forestry development, and the SUF and PFMB activities specifically address measures to improve natural habitats of (in the case of the SUFs most have biodiversity of international importance see SESA Annex 1.7). Program activities would be carried out in accordance with the ESMF.

3.3.3 Social safeguards

No resettlement and no land acquisition are expected under the program. Since exact impacts cannot be determined beforehand, a draft Resettlement Policy Framework has been prepared to address any possible impacts mentioned above in accordance with the provisions of OP 4.12 on Involuntary Resettlement. The Resettlement Policy Framework includes a Process Framework for the proposed work with SUFs, PFMBs and SFCs. The Process Framework will assess and address any restrictions in access to natural resources faced by local communities and provide for remedies to these restrictions on a case-by-case basis. The Process Framework incorporates other social safe guard policy that applies to this project, i.e. OD 4.12 on Indigenous Peoples. Program activities would be carried out in accordance with the Resettlement Policy Framework.

Indigenous Peoples (Ethnic Minorities) in the program area will benefit from the program. They may, however, need additional support to fully utilize the provisions of the project. There are ethnic minorities living in and around most of the SUFs and PFMBs are eligible for inclusion in the program. To ensure that ethnic minority communities benefit from the program and are not adversely impacted, a draft Ethnic Minority Development Framework has been prepared and Program activities would be carried out in accordance with the Ethnic Minority Development Framework.

3.4 Additional work for the ERPA

Additional work is required for the signing of the Emission Reduction Payment Agreement (ERPA) and this includes work on the development of the carbon title and the benefit sharing plan.

3.4.1 The carbon title

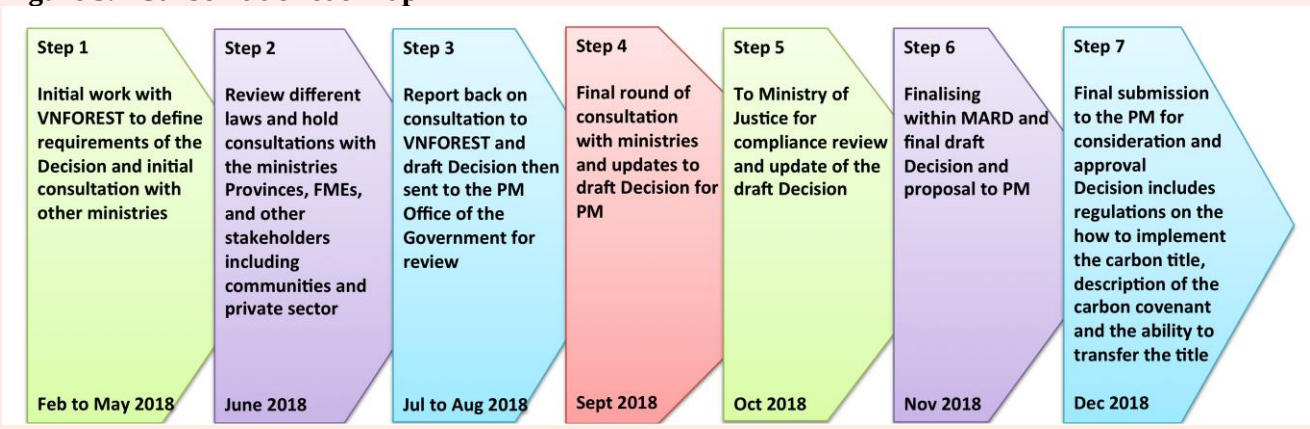
Carbon is a new (yet to be established) interest in land and is associated with plantation/ natural forest tree cover, which is considered as an asset attached to the land and is managed through a combination of the forest law and land law. No carbon title has yet been established, and therefore, the government will need to establish a statutory basis for the ownership and protection of carbon rights, and the carbon title to facilitate trading of the carbon title (i.e. the title to ERs) to the Carbon Fund.

As a carbon right is an interest in land, it would be expected to be dealt with in similar ways to other interests in land, i.e., it can be transferred, surrendered or extended and the details of this would be included in management regulations in the form of the "carbon title". The carbon title will be issued by MARD in collaboration with MONRE who would be responsible for recording the title and recording any carbon covenants that would be applied to existing and new LURCs that may be located within the areas of the carbon titles. This approach follows the Law on Forest Protection and Development and Land Law that jointly deal and regulate assets that are attached to land. Both laws assign exclusive management and decision-making rights to the state. This includes the right to regulate any benefits and profits generated from natural forest. Just like the state owns all land and manages this for and on behalf of the people and, provides a clear and indefeasible title under the Land Law, the government will issue a similarly indefeasible guaranteed carbon title in accordance with the new Prime Minister's Decision (see Figure 3.1 below). As the state issues the carbon title, this can also be transferred by the state.

The carbon title (i.e. the registration of a carbon right) would relate only to ownership of the benefits and liabilities of carbon sequestration from the land, and any guarantee of the value of the carbon may have i.e. the value of the carbon, would be based on the contractual agreement of the ERPA and the agreed market price set in the ERPA. The transfer of carbon title, therefore, would not confer ownership of land.

To secure the carbon title, it is proposed that a carbon covenant of use (this will provide regulations to control or modify certain aspects of land use, aimed at protecting the carbon resource) will be included into the LURCs (land use title). Such a carbon covenant would set out how the land is to be used or managed over a period of time and would be intended to ensure preservation of the trees or continuation of land management practices that sequester the carbon (for example, it could encourage longer rotations for plantations, SMF, planting or keeping native species). The land owner who has entered into a carbon covenant would have obligations to the owner of the carbon right (the state) even if the title is transferred by the state and this would, for example, include fire protection as is already required in all cases of the forest management entities. The regulations of carbon covenant would be added to the LURCs (including any LURCs the SFCs have) and would effectively be additional lease conditions currently administered by the General Department of Land Administration (GDLA) through the land administration land registration system. This would be a straightforward normal process of land administration and is done quite easily at the District and Provincial Level Land Registration Offices, as relatively few LURCs would be affected.

Figure 3.1 Carbon title road map



3.4.2 The benefit sharing mechanism

A Benefit Sharing Mechanism (BSM) for the ER-P has been designed and agreed upon by stakeholders at the national, provincial, and the commune level (a commune is made up of a number of villages or communities). The BSM is designed to ensure that carbon benefits (Monetary and Non-Monetary) are shared in an equitable and effective manner with all relevant stakeholders who will have a direct impact on generation of emissions reductions in the ER-Program area, including most importantly local forest-dependent communities.

The proposed BSM is implemented through the Adaptive Collaborative Management Approach (ACMA see text Boxes 3 and 4 and Figure 5.1), which is a process that supports the interventions proposed through the ER-P including the BSM and is being operationalized by the proposed Forest Management Councils (FMCs). The ACMA is a collaboration between Forest Management Entities (FMEs), communes and communities and uses a community orientated approach to benefit sharing for sustainable management of forests and is used to integrate relevant benefits of the ER-P into improved local forest management and helps to target the forest dependent communities. The ACMA has focused on forested areas managed by Protection Forest Management Boards, Special Use Forest Management Boards and State Forest Management Boards and includes local representation, including villages, located inside and around the FME. Leadership of the FMC is committee based and follows legal resolutions from the local District People Committees. A benefit sharing plan is required to be included in the ERPA the following Figure 3.2 shows the BSP road map.

Figure 3.2 Benefit sharing plan road map

3.4.3 The Potential categories of beneficiaries

Vietnam has been developing benefit sharing mechanisms for some years as national policy and the government has already piloted and incentivized BSM approaches that involved benefit sharing of forest resources and a pilot monetary approach for REDD+ where it was agreed that approximately 94%[48] of the carbon monetary benefits will be available for sharing and utilization and the remaining 6% is proposed to cover the management and M&E costs. A particular focus of the ACMA is that it targets collaboration between ethnic minorities and the FMEs and encourages them to work together (See Text Box 3 and 4 and Figure 5.1) as interdependent beneficiaries meaning that they have shared goals and benefits as the FME stand to benefit from improved forest management and forest cover and the communities have direct and indirect benefits of improved crop production and greater role in management of the local forest resources. The majority of the benefits from the BSM under the ER-P will be shared by stakeholders in the FMCs, and will focus on:

- Forest dependent villages and the poor households who make up the most important forest users and are often the most vulnerable to food security issues; and
- Other local stakeholders, including: 1) the managers of the forests (PFMB, SUF and SFC); 2) Provincial, District People's Committees and Commune People's Committees; and 3) Mass Organizations[49] which play a role in the management of the commune and the use of the land and forest resources.

3.4.4 Monitoring the Benefit Sharing Mechanism

The BSM is a performance, results-based approach and only those directly involved in achieving these results will be the beneficiaries. The performance of management of the forest will be monitored through the provincial forest monitoring system (PFMS) and Measurement, Monitoring and Reporting (MMR) forest monitoring process, however, detailed performance criteria have not yet been established. The BSM will be monitored as follows:

- The government will ensure that the BSM complies with relevant laws, decrees and circulars as per routine governmental monitoring for projects and programs that focus on natural resource management principally at the provincial level but also supported through the district administration in collaboration with the FME management and at finally at the commune level (the lowest legal level). An independent monitoring team with experience in the implementation of BSMs will be appointed to provide independent and periodic annual reports on the BSM and the safeguard requirements. The independent monitoring team will also undertake spot monitoring on a random basis of the FMCs and will provide feedback and recommendations to both the FMC and the government (also see Section 14 of the ERPD). Local village beneficiaries as part of the processes associated with the FMC will also be encouraged to undertake their own participatory monitoring of the BSM as a commune responsibility;
- The FMC has a role in monitoring local benefit sharing arrangements as defined in the local management plan for the FME, this is also supported by the PFMS which works at the village and commune level and provides forest data to the province and then to the Forest Management Information System (FORMIS); and

[48] As proposed in the 25th December 2015 Decision: 5399/QD-BNN-TCLN "Issuing regulation on piloting REDD+ benefit distribution under the framework of UN-REDD Viet Nam Phase II" this implemented in six pilot provinces including Ha Tinh Province (part of the ER-P) and will run until June 30th 2018. As this is a three-year pilot, the figures 94% and 6% (and others) in the Decision may be reviewed after the pilot is concluded and as lessons learned are reviewed, and would be a useful addition of lessons learned for the development of the final Benefit Sharing Plan.

[49] These are at the commune level and include the Fatherland Front, Vietnam Women's Union, Youth Union, and Farmers Union and local NGOs

- For the overall ER-P BSP, this is based on the FMC performance that would be monitored by the CPMU and PPMU M&E system, including safeguards, and with supporting information coming from the PFMS and the proposed MMR system (see Section 9.2 and 9.3 of the ER-P, and Section 3 of the SESA.

3.5 Gap analysis

There are differences between the Government of Vietnam's Laws, policies, regulations related to land acquisition/resettlement, and the World Bank's OP 4.12 on Involuntary Resettlement. The following Table 3.4 highlights the key differences to establish a basis for the design of the principles to be applied for compensation, assistance and livelihood restoration support for the affected households, which will be applied under this project.

Table 3.4 Comparison of Government of Vietnam and World Bank's policies related to involuntary resettlement

Subjects	**World Bank's OP 4.12**	**Government of Vietnam**	**Program Measures**
1. *Land Property*			
1.1. Policy objectives	PAPs (Project/ Program Affected Persons) should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of program implementation, whichever is higher	Not mentioned. However, there is a provision of support to be considered by PPC to ensure they have a place to live, to stabilize their living and production. (Article 25 of Decree 47). In case the amount of compensation/support is not enough for resettled people to buy a minimum resettlement plot/apartment, they will be financially supported to be able to buy a minimum resettlement plot/apartment (Article 86 of Land Law 2013 and Article 27 of Decree 47)	Livelihoods and income sources will be restored in real terms, at least, to the pre-displacement levels or to levels prevailing prior to the beginning of program implementation, whichever is higher.
1.2. Support for affected households who have no recognizable legal right or claim to the land they are occupying	Financial assistance to all program affected persons to achieve the policy objective (to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of program implementation, whichever is higher)	Only agricultural land used before July 1, 2004 is eligible for compensation. Other cases may be considered for assistance by PPC if needed.	Financial assistance of an agreed amount will be given to all PAPs, regardless of their legal status, until their livelihoods and standards of living restore in real terms, at least, to pre-displacement levels.
1.3. Compensation for illegal structures	Compensation at full cost for all structures regardless of legal status of the PAP's land and structure.	No compensation	Compensation at full replacement cost will be given for all structures affected, regardless of legal status of the land and structure.
2. Compensation			
2.1. Methods for determining compensation rates	Compensation for lost land and other assets should be paid at full replacement costs,	Compensation for lost assets is calculated at price close to transferring the assets in local markets or the cost of newly-built structures. Provincial People's Committees are granted to identify compensation prices for different categories of assets. Independent land valuator can be used to determine land prices, which will be appraised by land appraisal board before Provincial People's Committee approval.	Independent appraiser identifies replacement costs for all types of assets affected, which are appraised by land appraisal board and approved by. Provincial People's Committees to ensure full replacement costs.

Subjects	**World Bank's OP 4.12**	**Government of Vietnam**	**Program Measures**
2.2. Compensation for loss of income sources or means of livelihood	Loss of income sources should be compensated (whether or not the affected persons must move to another location)	Assistance in respect of income loss is given only for registered businesses. Assistance measures to restore income sources are provided.	All income losses are to be compensated and, where necessary to achieve the objectives of the policy, development assistance in addition to compensation will be provided.
2.3. Compensation for indirect impact caused by land or structures taking	It is good practice for the borrower to undertake a social assessment and implement measures to minimize and mitigate adverse economic and social impacts, particularly upon poor and vulnerable groups.	Not addressed.	Social assessment has been undertaken and measures identified and being implemented to minimize and mitigate adverse impacts, particularly upon poor and vulnerable groups.
2.4. *Livelihood restoration and assistance*	Provision of livelihood restoration and assistance to achieve the policy objectives.	Livelihood restoration and assistance measures are provided. No follow-up for full livelihood restoration after resettlement completion.	Provision of livelihood restoration and assistance measures to achieve the policy objectives. These will be monitored as detailed in the RAP
2.5. Consultation and disclosure	Participation in planning and implementation, specially confirming the eligibility criteria for compensation and assistance, and access to Grievances Redress Mechanisms	Focus mostly on consultation during planning (consultation on draft plan of compensation, support and resettlement and plan for training, career change and facilitating job searching); information sharing and disclosure.	Consultation and participation incorporated into RAP design, along with information sharing with PAPs and stakeholders.
3. Grievance redress mechanism			
	Grievance redress mechanism should be independent	The same governmental body makes decisions on compensation and resettlement, and also handles grievances at the first step. However, complainants can go to court at any steps as PAP wishes.	More effective Grievance and Redress mechanisms are to be established, built on the existing governmental system, with monitoring by an independent monitor
4. Monitoring and Evaluation			
	Internal and independent monitoring are required	Citizens are allowed to supervise and report on breaches in land use and management on their own (or through representative organizations), including land recovery, compensation, support and resettlement (Article 199, Land Law 2013). There are no explicit requirements on monitoring of the resettlement works, including both internal and independent (external) monitoring	Both internal and external (independent) monitoring is to be regularly maintained (on a monthly basis for internal and bi-annual basis for independent monitoring). An end-of-program/ project report will be done to confirm whether the objectives of OP 4.12 were achieved.

3.6 Other projects and program safeguards

See Table 3.5 below for other significant projects and programs in the NCR.

Table 3.5 Significant donor projects in the ER-P NCR

Project/ program	Province	Safeguards	Status	Overlap	Summary social and environmental impacts	Potential issues
VFD Program	Thanh Hoa and Nghe An	USAID requirements, annual Environmental Mitigation and Monitoring Plan (EMMP)	Implementation	Yes	Minor	None
JICA 2	All provinces	JICA safeguards applied	Implementation	Yes	Minor	None
Trung Son HPP	Thanh Hoa	World Bank ESIA Resettlement plans Ethnic Minority Development Plan Community Livelihood Implementation Plan EMPs Independent monitoring	Completed on December 2017	Yes	Influx of followers; Resettlement; and significant indirect impacts on Pu Hu and Xuan Nha NRs	Forest land and agricultural shortages for resettlement; degradation and deforestation impacts; Mitigation measures for impacts on the two NRs have been addressed during project implementation
Hoi Xuan	Thanh Hoa	World Bank Group Multilateral Investment Guarantee Agency (MIGA) Environmental Social Review Summary (ESRS); Resettlement Livelihood and Ethnic Minority Development Plan (RLEMDP) Environmental and Social Impact Assessment (ESIA)	Under construction	Yes	Influx of followers Resettlement and serious impact on Pu Hu and Pu Luong NRs	Forest land and agricultural land shortages for resettlement; degradation and deforestation impacts Poorly executed short term mitigation and unmitigated long term impacts on important NRs Cumulative impact presumed to be included in above study; only just underway
Dam rehabilitation	Thanh Hoa; Nghe An;	World Bank ESIA	Recently started		Small scale resettlement issues at	Rehabilitation of irrigation dams with safety risks;

Project/ program	Province	Safeguards	Status	Overlap	Summary social and environmental impacts	Potential issues
and safety improvement project	Quang Binh; Ha Tinh	Dam Safety Framework Resettlement Policy Framework Ethnic Minorities Policy Framework Environmental and social management plan (ESMP) Grievance Redress Service	Thanh Hoa - Dong Be; Nghe An – Khe Gang, Khe San Quang Binh- Phu Vinh Ha Tinh - Khe Nhay (not)		all four sites; As the dams are for rehabilitation (not new builds) the social and environmental issues are expected to be quite limited; Dam safety is an issue in all the selected sites	downstream populations at risk are quite significant
Ba Thuoc 1	Thanh Hoa	EIA was approved by the relevant local authority, the People's Committee of Thanh Hoa Province on 25/05/2009. CDM project	Completed or near completed			None
Ba Thuoc 2	Thanh Hoa	As above	As above			None
BCC	Quang Tri and TT Hue	ADB safeguards	Implementation	Yes, in the two provinces	Generally expected to be relatively minor and generally positive as the project supports the trans boundary biodiversity corridor	None
UN-REDD	Ha Tinh	UNFCCC				
Improving the resilience of vulnerable coastal communities to climate change related impacts UNDP Green Climate Fund	Thanh Hoa, Thua Thien Hue	UNDP's Social and Environmental Screening Procedure (SESP); reference was made to its Social and Environmental Standards (SES); Also Green Climate Fund's (GCF) Annex III, Interim Environmental and Social Safeguards of the Fund (GCF/B.07/11, pp. 36-38); Annex XIII, Gender Policy for the GCF (GCF/B.09/23, pp. 84- 91): Resulting in an Environmental and Social Management Plan	Funding proposal for and including: Regeneration of 4,000 hectares (ha) of coastal mangrove storm surge buffer zones (Approx. 2016-2021)	Minor for the ER-PD in the two provinces	4,000 hectares of mangroves will be rehabilitated and/or planted to function not only as storm surge buffers, but also to provide ecosystem resources that can support coastal livelihoods.	Implemented under the Water Resource Directorate of MARD

4 Potential impacts and mitigation measures

4.1 Description of the planned actions and interventions under the ER-Program

All six provinces in the ER-P area have released their draft Provincial REDD+ Action Plans (PRAPs), in which anticipated activities are proposed to be implemented in the ER-P area and these are gradually being approved by the Provincial People's Committees (PPCs) the activities may change (see Box 2) over time particularly as the policies and activities of the NRAP come under consideration. Drivers of deforestation and forest degradation have been identified in all six PRAPs and include:

(i) Planned conversion of mainly poor natural forests to rubber and other agricultural land uses;
(ii) Planned conversion of mostly poor natural forests[50] to tree plantations;
(iii) Unplanned conversion of forests due to encroachment;
(iv) Impacts from hydropower and infrastructure development;
(v) Illegal and legal logging; and
(vi) Other minor causes.

Based on these drivers, activities proposed for the program are shown in Box 2. It is recognized that many drivers originate from outside the forestry sector and not all are tackled by the proposed activities in the PRAPs, and almost all activities are similar to those of the past forest management interventions. For example: land and forest land have been allocated for many years, but due to policy change and financial and human resources constraints; allocated lands are not physically demarcated leading to disputes among certificate holders. Small forest holders are incapable of protecting their forest, particularly if the forests are far away from their home. They are not trained to manage and use effectively forestland allocated to them, taking into account the fact that most natural forest allocated to the small holders are poor quality so that they are unable to benefit from the resources. For ethnic minority group the situation is worse due to poor transportation condition and limited access to markets.

On the other hand, in areas/provinces where there is market for pulp and paper raw material, small forest holders can make benefits from Acacia plantation and some families become better off from forest plantation. However, currently pulp and paper raw material market depends solely on the Chinese market may pose a risk for the smallholders. Moreover, the rapid growing monoculture plantations make biodiversity in the area poorer and it can be viewed as risky investment by some people, who do not have enough land for food crop cultivation and forest plantation, leading to encroachment into the protection and/or special used forests.

Although the PRAPs present prioritized activities in different provincial plans, such as the socio-economic development plans, forest protection and development plans and/or action plans for climate change response as well as roles of various Government agencies (PPC, DPC, CPC, Dept. of Planning and Investment, Finance, Agriculture and Rural Development, Natural Resources and Environment, etc.), there are often limited connections between the various plans and agencies, particularly when there are conflicts of interest among them.

[50] The forests having wood stock from 200 m^3 per ha or more are considered as rich forests; 100-200 m^3/ha is medium and less than 100 m^3/ha is poor forests

Box 2 Proposed ER-P and PRAP activities

(Note: PdF- Production Forest; PtF-Protection Forest; nat.-natural; Plt-planted; rgnt-regeneration).

Proposed ER-P and PRAP activities in ER Program Area

No	Summary Activities	Forest type	SFC/PFMB /SUFMB	Communities/ HHs/CPC
1	Land/forest allocation to individuals, HHs and communities	PdF (planted-plt)		x
2	Capacity building for forest protection forces		x	x
3	Increase of forest protection, management and development effectiveness	PdF (natural and planted)		x
4	Implementation of grassroots coordination rules among Gov. Agencies			
5	Awareness raising and communication			x
6	Large timber plantation development	PdF (plt)	x	x
7	Tending, regeneration and enrichment by indigenous tree species	PdF, PtF (nat., poor, regenerated or bareland w/rgnt trees)	x	x
8	SFM development and implementation	PtF, PdF(nat., plt)	x (priority SFC)	
9	HHs livelihood improvement from forest gardens and dispersed trees	Indig. and fruit trees		x
10	NTFP development	PdF, PtF (nat., poor, regenerated	x	x
11	Development of a value chain for products from forest plantation	Acacia, Pinus and Eucaluptus plantation for raw material		x
12	Forest biodiversity assessment	Natural forest	x	

4.1.1 Potential impact issues

Based on the proposed activities listed in Box 2 above several potential environmental impacts are identified as below:

Soil erosion triggered by poor management practices such as:

- Comprehensive vegetation clearance followed by burning during site preparation;
- Excavation of tree stumps/roots using machines in sloping areas;

- Cultivation, planting and harvesting of agricultural crops on sloping areas;
- Improper construction and poor maintenance of access tracks;
- Soil disturbances during harvesting operations and yarding of logs; and
- Cutting/removal of native vegetation along drainage canals and stream banks.

Soil erosion: The problem of soil erosion will be aggravated by steep slopes, and heavy rainfall such as that occurring in the provinces in September to October. On site, soil erosion leads to loss of top soil and soil fertility, reducing productive capacity of the site and in the following rotations. Off site, eroded soil results in siltation and sedimentation of reservoirs, rivers and streams may trigger a series of adverse consequences such as reduced water quality, lower water holding capacity, and impacts on aquatic life. This is a serious concern because some of the proposed plantation sites are situated above the reservoirs, which are supplying irrigation water for rice paddy production and/or hydropower plants.

Loss of soil fertility: Loss of soil fertility as a consequence of soil erosion as described above, and by the burning of vegetation in site preparation, and removal of biomass in harvesting.

Pest and disease infestation: Risk of pest and disease infestation increases with the increasing area of monoculture plantations especially through the use exotic species, such as Acacia which has the potential to bring new pests and diseases. The use of pesticides to control important pests and diseases could have several potentially adverse environmental impacts, including on the health of the workers applying them and community health, and adverse impact on biodiversity.

Loss of biodiversity and habitat fragmentation: Impact of smallholder planted forests on biodiversity and habitat will be small to moderate even if little biodiversity remains in small forested areas. It is essential to maintain what remnants of HCV or forest areas that provide important ecosystem services regardless of their extent. The conversion of natural forests into larger plantations of monoculture, such as Acacia by SFCs or PFMBs has reduced biodiversity by an estimated 25% of species; birds, amphibians and reptiles also reduce from 40% to 60%[51]. However, the ER-Program would have positive impact on biodiversity, if native species can be planted along with the fast-growing species, or if three or more clones of acacias (hybrid) are planted in each plantation area. Efforts will be made to ensure that HCV forest is preserved and protected wherever possible, this an easier task where the HCV forest is contiguous with SUFs, but if more problematic where it is isolated, however, most HCV is found close to the SUFs which are already the last havens in many provinces for natural forest. Efforts are in fact under way in provinces with known HCV forest to have that included into existing SUFs or set ups as new SUFs or at least included in a 'biosphere' e.g. Nghe An, Quang Tri, TT Hue. It should also be noted that more effort through improved policy and for example through the new Forest Law (November 2017) is under way to exert more control on conversion of natural forest.

Invasive alien plants: It is possible to have invasive alien species in the plantation if agroforestry or NTFP species are introduced without proper control at planting stage. They are one of the greatest threats to biodiversity, impact adversely upon biodiversity, potentially resulting in a decline or elimination of native species - through competition, predation, or transmission of pathogens – and trhough the disruption of local ecosystems and ecosystem functions. This damage is aggravated by climate change, pollution, habitat loss and human-induced disturbance. Currently, two invasive alien species threaten forest plantations and/or gardens in Vietnam including: *Mimosa Diplotricha (trinh nữ móc)* and *Mimosa Pigra (trinh nữ thân gỗ, trinh nữ đầm lầy, mai dương* or *vuốt rồng).* *Mimosa Pigra* also occurs in scattered locations in thousands of hectares in Quang Tri, Ha Tinh, Quang Binh and Thua Thien Hue.[52]

Fire risk: Risk to plantation damage caused by fire is expected to be minimal, if plantation species

[51] National environment report, 2014 - Rural environment, MONRE 2014.
[52] Pham Van Lam and Pham Binh Quyen, *Mimosa Pigra* invasive alien – an invasive alien species difficult to prevent, biodiversity threats, 2010.

are limited to Acacia and Eucalyptus species, which are less susceptible to fire than *Pinus merkusii*.

Table 4.1 Potential social risks and potential environmental impact

Component, Subcomponent, and Activities	Potential impacts on environment	Proposed mitigation measures
Component 1 Strengthening enabling conditions for emission reductions		
1.1 Strengthening and implementing policies controlling conversion of natural forests	– Improved landscape management; possible loss of remnant natural forests but dependent on location in the watershed, i.e. most ridge crests remain forest covered; isolated non ridge remnants most at risk	– Strengthen forest governance (law enforcement for forest protection and management (propaganda, patrol, control) – Improve dissemination of forest conversion policy and improvements to land use planning, and policies related to the community as the regulation was developed. (check ERPD and SESA). – Improve forest monitoring providing feedback into planning and management process and discussion with local communities through the ACMA to improve forest protection and management and agree to designate areas for livelihood related activities including NTFP collection (reduces pressure on NTFPs)
1.2 Strengthening forest governance and law enforcement	– Improved forest governance should eventually be generally positive and contribute to protection and maintenance of biodiversity – Development/revision of forest policy and regulation might result in negative outcomes during implementation	– Thorough review of the TORs and outputs of these policy and regulation activities to ensure that potential impacts and mitigation measures are addressed – Improve transparency, encourage the participation of community in discussing and improving forest management; – Improve forest monitoring providing feedback into planning and management process and discussion and local communities through the ACMA to improve forest protection and management and agree and designate areas for livelihood related activities
Component 2: Promoting sustainable management of forests and carbon stock enhancement		
2.1 Conservation of natural forests	Generally positive, some clarifications of forest natural forest boundaries, some possible impacts on livelihoods, i.e. improved conservation of natural forest may not include unfettered or continued access to all forest areas.	– Implement collaborative management of natural forests between FMBs, SFCs and communities through the ACMA improved forest planning and management process and discussion with local communities through the ACMA to improve forest protection and management and agree to designate areas for livelihood related activities to reduce pressure on critical forest areas – Promote implementation of community-based forest management
2.2. Enhancement of carbon stock in plantations (Through the implementation of various forest economic models aimed at improving the natural regeneration, and transformation of acacia to long term plantations)	Generally positive, few impacts expected as the activity mainly focuses on existing plantations (i.e. no new plantations, enrichment planting with native *spp.* included) and extending and improving management. Impacts would location dependent, possible minor habitat damage or in exceptional circumstances minor loss of poor quality remnant natural forest. (See detailed reviews of the different proposed models below)	– Implement collaborative management of natural forests and plantation areas between FMBs, SFCs and communities (through the ACMA) – Apply codes of practice, and follow forest management advice from DARD and FPD, and improved monitoring
Forest and plantation models proposed under 2.2		
Forest protection of existing natural forest through contracts; around SUFs, PFMBs, and SFC (economic model 1)	Generally positive, possible overexploitation of NTFPs	– Implement collaborative management of natural forests and plantation areas between FMBs, SFCs and communities (through the ACMA)
Natural assisted regeneration of medium quality forest / avoiding degradation (no planting); located mainly in SUFs (model 2)	General longer-term benefits due to habitat improvements leading to improved biodiversity	– Same as above

Component, Subcomponent, and Activities	Potential impacts on environment	Proposed mitigation measures
Natural regeneration and enrichment planting of poor natural forest. Located mainly in SUFs, i.e. normally uninhabited (model 3)	Possible initial minor habitat damage where enrichment planting occurs	- Same as above
Transformation of Acacia plantation (models 6 and 7) target area is SFC PFMBs and some smallholders	None expected as areas expected to be already planted to Acacia;	- Follow plantation management recommendations
Afforestation Reforestation with pure Acacia and mixed species and offsetting of infrastructure and development (models 4,5,8)	Possible loss of remnant natural forest due to plantation development leading to the clearing of natural forests; Risk is believed to be moderate and will be limited to a small area	- Follow planting recommendations, and policy guidelines for conversion of forest
Coastal forest and mangrove protection, enrichment planting of degraded forest and mangroves, afforestation/ reforestation coastal and mangrove forest (Models 9, 10, 11)	None expected; An environmental concern risk of plantation development leading to the clearing of natural forests; Risk is believed to be moderate and will be limited to a small area;	- Follow planting recommendations, and policy guidelines for conversion of forest
2.3 Enhancement and restoration of natural forests (Through assisted natural forest regeneration, enrichment planting and potential restoration of sand break forest and mangroves. These activities are the subject of a dedicated ESMF which covers eight provinces overlapping the six in the ERPD for that project some extracts are provided)	Generally positive, longer-term benefits due to habitat improvements leading to improved biodiversity, possibility of very limited impacts on livelihoods, i.e. potential reduced or planting time access to forest areas under regeneration. Possible overuse of pesticides for seedling and unintended introduction of invasive species.	- Implement collaborative management of natural forests between FMBs, SFCs and communities (through the ACMA) to reduce effects of the reduced access to certain part of forest i.e. identify alternative areas and or reduced access agreements for a period of time - Identification of conservation orientated livelihood and sustainable forest use models designed not to impact on natural forest in SUFs, PFMBs and SFCs
	In some locations possible use of exotic species which potentially may reduce biodiversity, however, possible use of exotic spp. (*Casuarina* and *Acacia*) likely only in the 'sand break forest' which are already areas of low biodiversity (i.e. often areas of bare sand or some 'sand break' areas may already be sparsely populated by exotics from previous attempts to introduce afforestation but these often suffered very poor survival rates); therefore the impact is not expected to be significant in the 'sand break' forest areas. Potential impacts of plantation and/or protection of coastal forest and mangrove during pre- planting and planting phase is considered moderate and could be mitigated. It may involve conflict regarding land ownerships since most of the coastal forests are classified primarily as protection forests and they are under the direct management of the government (CPCs, PFMBs, SUFMBs, or private entities) as well as increasing use of pesticides and/or toxic agrochemical during seeding development process and caring of young plants.	- Careful planning of afforestation, the Coastal Resilience Enhancement Project has been designed to promote participation of local communities, they will need to enable active participation of all stakeholders, so that any issues could be adequately identified and mitigated. The specific sites for planting and protection of coastal forests in each province were selected based on the following criteria: Specified for coastal forests in the sectoral master plan and provincial land use plan provided by DARD, and the forest inventory; land ownership/use and vulnerability to weather; adjacency of coastal forests. In the proposed project design, the investments will be spread across 168 communes. The implementation of this will give priority to protecting existing stands of coastal forests followed by carrying out enrichment planting. These priority activities will be implemented while conducting site assessments for the new plantation areas. The implementation of new plantation and enrichment planting activities will also be done based on a prioritization of the areas. The latter is determined using information on three factors: Vertical and horizontal distance from the coast; Level of difficulty for planting (this refers to the site conditions); Availability of seedlings and suitable land (the latter applies for mangrove plantation). Planting activities will occur land areas where there is evidence that coastal forests (i.e., mangroves and sandy soil forests) existed before.
Component 3. Promotion of climate smart agriculture and sustainable livelihoods for forest dependent people		

Component, Subcomponent, and Activities	Potential impacts on environment	Proposed mitigation measures
3.1 Improve climate smart agriculture (Through Identification of conservation orientated livelihood models designed not to impact on natural forest in SUFs, PFMBs and SFCs)	Limited possibility of negative environmental impacts, for example, not all activities chosen by communities and forest management entities may not be rigorously forest or biodiversity conservation supportive; identification of conservation orientated livelihood models designed not to impact on natural forest in SUFs, PFMBs and SFCs	- Identification of livelihood and sustainable forest use models designed not to impact on natural forest in SUFs, PFMBs and SFCs. Example of livelihood activities will be provided in the PIM
3.2. Diversifying and sustaining livelihoods for forest dependent people (Through promotion of sustainable use and development of NTFPs in the forest areas and or climate smart sustainable agriculture)	Generally positive, some possible impact on the forest. Possible pollution to the environment and human health due to waste generation and pesticide use in climate-smart agriculture activities and agriculture value chains	- Improved forest planning and management processes and discussion and local communities through the ACMA to improve forest protection and management and designate agree areas for livelihood related activities - Promotion of sustainable use and development of NTFPs in the forest areas - Mitigation measures to be developed and included in the ESMP for implementation

4.2 Mitigation of social risks

As noted, one of the most important social and livelihood issues for many rural communities is improved and secure access to land. The following Table 4.2 provides a summary of the additional social risks and mitigations included in the ER-P.

Table 4.2 Summary of approach to the mitigation of social risks through processes included in the ER-P

ER-P Activities	Potential socio-economic risks	Proposed mitigation measures
Component 1: Enabling conditions for emission reductions		
1.1 Strengthening and implementing policies controlling conversion of natural forests	Potential for reduced access to forest and NTFP resources for forest dependent communities through improvements to forest governance	Improved forest monitoring providing feedback into planning and management process and discussion with local communities through the ACMA to improve forest protection and management and agree to designate areas for livelihood related activities including NTFP collection. OP 4.12 and OP 4.10 will apply
1.2 Strengthening forest governance and law enforcement	Similar to above but some possible impacts on livelihoods i.e. Improved governance may not include unfettered or continued access to all forest areas.	Improve transparency, encourage the participation of community in discussing and improving forest management. Ensure that ethnic minority people who agree to participate in the FMC are in broad agreement with the FMEs as to whether it is necessary to restrict access to the forests and if necessary no household should be worse off as a result. In such instances OP4.12 will apply. A similar provision must apply to those ethnic minority households who do not agree to participate in the FMC.
		Identification of conservation orientated livelihood and sustainable forest use models designed not to impact on natural forest in SUFs, PFMBs and SFCs. However, where households that are negatively impacted are able to secure livelihoods by being offered alternative livelihoods within the provisions of OP4.12.
Component 2: Promoting sustainable management of forests and carbon stock enhancement		

ER-P Activities	**Potential socio-economic risks**	**Proposed mitigation measures**
2.1 Conservation of natural forests	Generally positive, some clarifications of forest natural forest boundaries, some possible impacts on livelihoods, i.e. improved conservation of natural forest may not include unfettered or continued access to all forest areas.	Implement collaborative management of natural forests between FMBs, SFCs and communities through the ACMA improved forest planning and management process and discussion with local communities through the ACMA to improve forest protection and management and agree to designate areas for livelihood related activities to reduce pressure on critical forest areas. OP4,10 will be triggered to ensure all ethnic minority groups who agree to participate in the FMC will benefit but if not OP4,12 will apply to ensure that involuntary resettlement impacts – such as when boundaries between core and buffer zones are resolved by the FMC – will be mitigated.
2.2 Enhancement of carbon stock in plantations	Generally minor socio-economic impacts expected see review of various models below	Implement collaborative management of natural forests and plantation areas between FMBs, SFCs and communities (through the ACMA). OP4.10 will apply where there is more than one ethnic minority group or where there is at least one ethnic minority group and the Kinh ethnic majority group (are not so many instances) but this is specific to ethnic minority groups who either have legal or legalizable access to plantation forest land or are employed to maintain the plantation land.
Forest and plantation models proposed under 2.2		
Forest protection of existing natural forest through contracts; around SUFs, PFMBs, and SFC (economic model 1)	Possible gender and exclusion, issues; Possible social impacts if land was previously used for agriculture or restrictions placed on accessing forest for NTFP collection	To ensure ethnic minority women or other poor and vulnerable groups are not excluded the provisions of OP4.10 apply and the GAP highlights how it is necessary to ensure full gender exclusion. However, where restrictions are to be imposed restricting access to forests to collect NTFPs and this negatively impacts on women and their households then the provisions of OP4.12 will apply because the impact results in loss of livelihoods.
Natural assisted regeneration of medium quality forest / avoiding degradation (no planting); located mainly in SUFs (model 2)	Possible gender and poverty issues related to access to forest; Possible change or impact on livelihoods if restrictions placed on accessing forest for NTFP collection	Same as above
Natural regeneration and enrichment planting of poor natural forest. Located mainly in SUFs, i.e. normally uninhabited (model 3)	Possible gender and poverty issues related to access to forest; Livelihood issues	As above
Transformation of Acacia plantation (models 6 and 7) target area is SFC PFMBs and some smallholders	Possible boundary demarcation issues; Limited impact as expected that area already planted to *Acacia*	If and where there are boundary demarcation issues and the livelihoods of ethnic minority groups either living in existing FMEs (not too many according to the SESA) or in contested buffer zones (likely to be more instances) then OP4.12 will apply because affected persons may lose all or a portion of their livelihoods, especially if production forestry is one of the main sources of livelihood.
Afforestation Reforestation with pure Acacia and mixed species and offsetting of infrastructure and development (models 4,5,8)	1) None expected in areas already having plantations; 2) Offsetting of infrastructure possibility of some land acquisition; Most offsetting to occur in a SUFs or PFMBs	If land is to be acquired by the FMC to ensure that it can meet targets agreed upon for the reduction of carbon emissions than OP4.12 will apply. However, as per the ER-P design and articulated in the ER-PD it is preferred that land is not acquired. If there is "voluntary gifting" by individuals or groups or whole villages this made be explicitly stated as per the principle of Broad Community Support but where one or more households do not agree with this principle than OP4.12 applies to such households.

ER-P Activities	Potential socio-economic risks	Proposed mitigation measures
Coastal forest and mangrove protection, enrichment planting of degraded forest and mangroves, afforestation/ reforestation coastal and mangrove forest (Models 9, 10, 11)	Possible boundary and resource access and use issues; Possible social impacts if land previously used as agriculture; or restrictions placed on NTFP collection	Where there are restrictions on access to the use of land whether to harvest NTFPs in the forests or on land that has been converted, whether legally or not, from forest land to agricultural land, the provisions of OP4.12 apply if affected households are impacted negatively.
2.3 Enhancement and restoration of natural forests	Possibility of very limited impacts on livelihoods, i.e. potential reduced or planting time access to forest areas under regeneration.	Implement collaborative management of natural forests between FMBs, SFCs and communities (through the ACMA) to reduce effects of the reduced access to certain part of forest i.e. identify alternative areas and or reduced access could include rotation of area or use of areas at particular time (depending on NTFP) agreements for a period of time. Where this occurs the provisions of OP4.12 will apply but also the provisions of OP4.10 will apply if one or more ethnic minority group are likely to be marginalized during the processes associated with the ACMA.
Component 3: Promotion of climate smart agriculture and sustainable livelihoods for forest dependent people		
3.1 Improve climate smart agriculture	Possible gender and poverty issues; Possible access to forest issues;	Selection of the livelihood support should be targeted to contribute to reduce forest dependency; Similar to above discussions through the ACMA with FME to design best approach that fits with local forest dependency and use and climate smart agriculture that best suits the local area and market conditions. OP4.12 will apply if there are any restrictions to be imposed that lead to households not been able to reduce their dependency on the forests and unable to increase their dependency on climate smart agriculture.
3.2. Diversifying and sustaining livelihoods for forest dependent people	Possible gender and poverty issues; Possible access to forest issues;	Selection of the livelihood support should be targeted to contribute to reduce forest dependency; Similar to above discussions through the ACMA with FME to design specific approaches that reflect local forest dependency and use and climate smart agriculture that best suits the local area and market conditions. The provisions of OP4.12 will apply where necessary.

4.3 Mitigation of environmental risks

Plantation development and the conversion of natural forests

The biodiversity of the region contains some of Vietnam's most notable forests with high biodiversity value. The landscape of the ER-P includes five internationally recognized conservation corridors (ranked with a 'high' or 'critical' global conservation priority (see Section 3.2.4 and Figure 3.2 for further details) and includes 17 protected areas 19 important international biodiversity areas. An important environmental concern is the perceived risk of plantation development leading to the clearing of remnant natural forests which may in particular impact on the connectivity of regional biodiversity corridors and high conservation value forest[53]. However, the risk to the corridors currently being addressed through a number of international donor funded projects and while it is believed to be moderate risk this is limited to a relatively small area in three provinces. Similarly, the risk of conversion of remaining remnant natural forest elsewhere to plantations is most likely specific and more likely to occur in the areas of predominately low soil fertility in the low and midland areas, and overall is likely to be moderate. As an indication of the scale of the potential impact, preliminary analysis of the period 2000-2010 (a period which included significant investment in new plantations) time series data indicates that conversion of natural forest to plantations accounted for only 21,920 ha in the NCR. This represents about 1% of the

[53] In addition to the ER-P work the protection of biodiversity corridors is supported through projects funded by the ADB, WWF (BMZ, KfW) and USAID.

existing total natural forest in 2000. Two-thirds of that conversion was on poor evergreen forest. Since this period, stricter regulations on monitoring possible conversion of forests has been introduced, through Notice No. 191/2016 on measures to restore sustainable forests to respond to climate change 2016 – 2020. This emphasizes the actions to be taken to ensure the non-conversion of natural forests for other land use purposes, including degraded natural forests to plantations and a ban on logging from natural forests. This highlights that the risk while locally severe is not likely to be significant overall.

The following design features will ensure that the development of new plantations only takes place in areas which are designated as bare land/non-forest. There is still the possibility that some areas of remnant natural forest will have a mixed mosaic comprised of natural forest (as well as bare/non-forest land), and therefore would have limited local potential risk of natural forest conversion. For this reason, the following mitigation approaches are to be applied at the stage of detailed intervention planning (during program implementation) and activity implementation and monitoring (ESMF Section 4):

- **Land use planning and design of program field activities**: site-level activities are expected to cover about 360,000 ha, of which the development of new plantations covers approximately 53,000 ha (about 7,000ha is included in the Forest Sector Modernization and Coastal Resilience Enhancement Project funded by the World Bank which has its own safeguards measures including non-conversion of natural forests). Plantation development (i.e. afforestation/reforestation (AF/RF)) activities under the ER-P will be primarily with smallholders (approximately 48,000 ha), with just over 5,000 ha for SFCs and a very limited amount of afforestation/reforestation at PFMBs. This design feature would be a safeguard as the main environmental concern is that the conversion of natural forests into large plantations of monoculture, such as Acacia by SFC or PFMBs has reduced biodiversity by 25% of species; birds, amphibians and reptiles also reduced from 40% to 60%[54]. Production forests allocated to households with standing natural forest will not be selected for AF/RF activities. There will also be no AF/RF activities at protected area sites or sites with HCVs, therefore helping to ensure that plantations will have minimal/no impact on high conservation values in forests and non-forest areas. In some cases the HCV forest is already mapped around the SUFs mainly as a result of conservation projects such as the KfW's support to Phong Nha Ke Bang SUF and the ADB's Biodiversity Conservation Corridors project, however, there is still a problem nationally as HCV forest is not recognized. In addition, the ACMA (which is described in of the ERPD Section 15 and text Boxes 3 and 4 in the ESMF) serves as an additional safeguard to prevent the conversion of natural forest (see Figure 5.1). Furthermore, the ER Program will also work through the FMCs to ensure that plantation establishment follows SFM practices and does not replace natural forests. This will include support for mapping of remaining forest areas, awareness and capacity building, linking plantation development to FSC certification, and tying benefit sharing to the protection of natural forests. DARD and FPD at the provincial level have an important role in reviewing any plans for the conversion of natural forest including review of any national land use plans, VNFOREST also reviews any conversion of natural forest.

- **Codes of practice for plantation development:** Guidelines (detailed guidelines will be developed in the PIM and summary guidelines are continued in this ESMF) will used to support the development of plantations which promote good practice in the location, planning, establishment and management of plantations which can lead to improved plantation success and ensure the maintenance and where possible enhancement of HCV and environmental services. The detailed guidelines will prescribe environmental impact management measures in nine main areas: site selection, species selection; management regime, plantation establishment; plantation tending; integrated pest control; fire prevention and control; access and harvesting; and monitoring and evaluation. Site selection is of utmost importance as the primary means for mitigating the threat of natural forest loss. As part of site selection, village-level landscape planning is stipulated.

[54] National environment report, 2014 - Rural environment, MONRE 2014.

- **Independent monitoring**: The ER Program will support a comprehensive M&E system which will included processes for qualitative and quantitative bottom-up data collection from the commune for forest cover monitoring and reporting (see Table 4.8 and Section 14.2 of the ER-PD). Participatory forest monitoring under the proposed ER-P will be integrated into a modified annual monitoring of forest and forestry land program to be implemented by the FPD, which has the mandate and human resource capacity (at all levels of administration from commune to national level), to engage with forest owners and local communities[55]. Local communities are expected to participate in the monitoring, pilots are now in place in three provinces in the NCR and they are planned for all provinces to introduce the commune PFMS to mobile and electronic equipment such as tablets for forest monitoring system that will link with FORMIS

The potential environmental impacts mentioned earlier in Section 4.1 above can be avoided/mitigated by taking the following land use planning and forest management measures:

(Additional references for guidelines on forest and plantation measurement including species selection land preparation and tending will be included in the PIM these have been developed for KfW, ADB and World Bank Forest Projects these generally extensive documents with much detail. Also see Annexes for additional details.)

- S*election of sites* to ensure high productivity and profitability of plantations with minimal impacts on the environment and the local communities.

- Implementation of *landscape level planning* in each participating village and compliance to the landscape plantation plan and design must be strictly monitored. Forest cover must be maintained on very steep slopes, watercourses and ridge crests.

- Proper *selection of species* that matches the site and management objectives. Planting of native species in a mixture with exotic, fast growing species should be encouraged. Only native species shall be allowed in SUFs and in the native species areas of the protection forest management area.

- Adoption of good *silvicultural practices* in plantation management. In this regard, extension and training should be strengthened.

- Development and adoption of *environment-friendly, non-chemical methods of pest management*, with primary reliance on prevention and biological and silvicultural control rather than on the use of pesticides. (See Annexes for additional details.)

- *Forest fire prevention and control* must be an integral part of the management plan for village or commune plantations (this is already an integral part of SUFMBs, PFMBs and SFCs forest management). (See Annexes for additional details.)

- *Access tracks* must be designed, constructed and maintained with the least impact on soil erosion and the environment in general. Adequate and well designed drainage is an important part of the design of any access track.

- *Harvesting* of wood and other forest plantation products must be done in a manner to minimize soil disturbance.

[55] Consistent with the Criterion 16 of the FCPF Carbon Fund Methodological Framework.

4.3.1 Details on the environmental assessments and mitigation

In more detail, the environmental issues and mitigation measures for each proposed generic activity are presented as below:

Land/forest allocation to individuals, HHs and communities for plantation

Forestland allocated to group for planting production forest, it is anticipated that the forest owners shall have rights to maximize the benefits from the forestland area. They have rights to decide on tree species, quantity and quality, as well as timing and techniques for planting and cutting trees based on market signals. If these forest owners have no or little knowledge on forestry, such as site selection and preparation, tree species and seedling choice, silvicultural methods for tree tending and cutting, etc., they may fail in getting benefits from the plantation and become poorer. Furthermore, without proper knowledge they may create adverse environmental impacts, such as 1) *soil erosion* due to wrong site selection on steep slope; 2) *contamination of soil and water resources* by the improper application of pesticides and fertilizers, especially when in combination with the site selection next to upstream of a river/stream; 3) *biodiversity* reduction by monoculture and/or improper application of pesticides; 4) *habitat fragmentation* if fire breaks are not designed properly.

Therefore, when allocating forestland for smallholders for forest plantation, concrete criteria should be based on the natural conditions (forest and soil types, site, etc.) and forest owner's ability of forest plantation in these conditions and includes the following:

- **Capacity building:** This is expected to be required for forest protection forces and improvements to management and development effectiveness including forest fire control or trail/road making in forest. It should be noted on issues of *erosion* and *habitat fragmentation* when designing fire breaks and/or silviculture infrastructure.

- **Implementation of grassroots coordination rules among government agencies:** When implementing coordination rules among Government agencies, due attention should be paid to the specialized requirements of each agency. For example, patrol roads of border guards may cause *habitat fragmentation*. Therefore, the border guards and forestry agency of the area should to consult each other and suggest the best possible design for the patrol roads.

- **Awareness raising and communication on forest protection and development law for local people:** No environmental issues are foreseen.

- **Large timber plantation development:** The large timber plantation will be conducted mostly by SFC where the sites and technical procedures are not new for them. For other forest owners, particularly non-forest private companies, and smallholders should be provided training on sustainable forest management including site selection, silviculture techniques, harvesting techniques, tree species composition to avoid *soil erosion, land degradation, water source contamination, habitat fragmentation and biodiversity reduction.*[56] (Also see Annex 11.10)

- **Risk of plantation development activities leading to the clearing of natural forests target areas:** An environmental concern is the perceived risk of plantation development activities leading to the clearing of natural forests; however, this risk is believed to be moderate and will be limited to a small area. The development of new Acacia plantations by the ER-P is expected

[56] The WB FSDP have an extensive library of very useful detailed and lengthy technical reports that are appropriate for the ER-P area and include: Toolkit for FSC Group Certification; Smallholder Plantation Design Standards; Growth and Yield Monitoring; Basic Silviculutre Techniques (a number of volumes); Fertilizer Application Regimes; Seed Source Strategy and Quality of Plant Materials; Mixed Species Plantation Guide Book; Similarly there are extensive references from other KfW forest projects some of which were implemented in the ER-P and include guides and manuals on SFM and CFM and plantation management and also from the Forest Sector Support Program (FSSP), for example, this also includes Land Use Classification, Planning and allocation of Forest Land. Generally these are available through VNFOREST and Management Board of Forest Projects.

only be approximately 27,750 ha over seven to eight years and coastal reforestation planting is 4,423 ha.

- **The role of the ACMA**: The ER Program will work through the ACMA which is also a key mechanism in the approach to mitigations (see text box 4 and Figure 5.1) as it is based around the interactions of both the communities and the FME which should jointly ensure that plantation establishment follows SFM practices and does not replace natural forests. The ACMA will include a place for dialogues and support for mapping of remaining forest areas, awareness raising and capacity building, linking plantation development to FSC certification, and tying benefit sharing to the protection of natural forests. Furthermore, simple codes-of-practice will contribute towards ensuring viable, sustainable and environmentally compatible plantation management among plantation owners.

- **Monitoring forest change**: The ER Program's MMR system will identify and quantify any natural forest that is converted to plantations across the entire accounting area. A preliminary analysis of the 2000-2010 time series indicated that conversion of natural forest to plantation accounted for only 21,920 ha in the NCR, which is about 1% of the existing total natural forest in 2000. Two-thirds of that conversion was done on poor evergreen forest. The methodology applied for both the Reference Level and the MMR takes a forest inventory approach across the landscape that will measure all activities at the landscape scale, integrating changes from ER Program projects with all other changes taking place in the landscape. The MMR system will follow the time series of change for each parcel, from the beginning of the reference period, and any change from natural forest to plantation will not be counted as Afforestation or Reforestation, and no credit will be claimed for removals.

- **Tending, regeneration and enrichment by indigenous tree species:** The activities are carried out in various sites in natural production and protection forests, and bare lands by all forest owners, from state companies to smallholders. Therefore, all issues and impacts mentioned in above activities 1, 2, 4 and 6 are applied.

- **SFM development and implementation:** No environmental issues are foreseen however, issues such as location of HCV forest will also be taken into consideration e.g. use of HCV forest agreements (Forest Protection Contracts) around Phong Nha Ke Bang SUF.

- **HHs livelihood improvement from forest gardens and dispersed trees:** The issues and impacts mentioned in activity 1 applied. However, since the gardens and dispersed trees have much less area than production forest plantation in activity 1 so the issues and impacts may not be critical ones.

- **NTFP development:** The issues and impacts mentioned in activity 1 are applied.

- **Development of a value chain for products from forest plantation:** The issues and impacts mentioned in activity 6 are applied. If wood processing is acceptable as a sub-activity in the program, more environmental issues should be addressed, such as noise, wastewater, solid wastes, and air pollution.

- **Forest biodiversity assessment:** No environmental issues are foreseen. All SUFs National Parks etc., are required under MONRE's Biodiversity Law on the status of the biodiversity of the SUFs. It is anticipated that some biodiversity assessment can be funded through the REDD+ fund.

4.4 Guidelines for mitigation and enhancement measures

4.4.1 General approach to mitigation measures

Where possible adverse impacts on habitats and species as a direct or indirect result of development must always be avoided. For exmaple, it is normaly to move the site boundary to avoid damaging a particular habitat feature, or to carry out works at a time of year when vulnerable species are least likely to be present. However, in many cases it is also necessary to design specific mitigation measures that will significantly reduce the impacts to the habitats in or next to the site and the wildlife species that they support.

Mitigation must be realistic and effective, and should aim to build on cumulative indigenous, local, national and international knowledge of habitats and species and the potential adverse impacts that may affect them. It is therefore advisable to engage the services of a biodiversity specialist and local people to advise and assist with the design of effective mitigation. Mitigation must be designed around the specific ecological systems on the site and impacts of the development, to maintain the environmental conditions that exist at the site, that are paramount to the existence of the habitats and species that the site supports e.g. temperature, slope aspect, availability of natural light, avoidance of light pollution, prevailing wind etc.

A monitoring schedule should be built into the design of mitigations that details how often and for how long the mitigation will be monitored. It must also include prescriptions for review of monitoring data and a mechanism by which the mitigation can be altered if found to be ineffective in any way. To do so, a specific and measurable goal must be clearly stated prior to the development of mitigation measures.

Activities should avoid or minimize loss, degradation, destruction and fragmentation of habitats, protect valuable habitat components; avoid rare or threatened species or communities. Habitat fragmentation is a common issue in the design of forest plantations and general principles to reduce the impact are:

- Avoid environmentally sensitive areas;
- Try to connect forest than rather than plan fragments of forest;
- Identify the goals for any proposed mitigation;
- Mitigation measures should include a range of species and particular care is required for fauna and avifauna communities and ecosystems, mitigation measures should include biodiversity corridors to connect fragmented habitats and enable wildlife to move easily between habitats;
- Understand conditions and populations adjacent to structures;
- Conduct and support targeted research, and
- Monitoring should be an integral part of the construction and management process.

A generic Environmental Code of Practice (ECOP) has been prepared for the Forest Sector Modernization and Coastal Resilience Enhancement Project and this is included Annex 11.2 with updates for this ESMF and it will be included in the bidding and contract documents. The contractors will also be required to prepare Site ESMP for subprojects including setting up a grievance redress mechanism (GRM) and initiate and maintain close relations and consultation with local authorities and community. The subproject owners will also hire qualified consultants to conduct periodic monitoring and reporting on contractor performance as well as and safeguard issues and actions undertaken during the subproject implementation.

4.4.2 Environmental screening

The Law on Forest Protection and Development (2004), recognizes three types of forests by use purposes: 1) special used, 2) protection and 3) production forest. The SUFs are for conservation of national forest biodiversity and ecosystems and forest biological gene sources, and for providing recreation services. The protection forests are used mainly to protect water sources and land, prevent

erosion and deforestation and contribute to regulating climate. The two forest types are maintained with the environmental protection purposes and if managed properly both of them contribute positively to the environment. However, where production forest occurs in the same landscape as protection forest areas any activity carried out in that area should be follow the environmental safeguards outlined below.

The production forest is used mainly for production in combination with protection and contribution to environmental protection. Most activities to be carried out in the production forest will need to be strictly designed, implemented and monitored to avoid/mitigate adverse environmental impacts, particularly in buffer zones of the special use forests.

4.4.3 Environmental assessment procedures for the ER-Program area

The following Table 4.3 provides a summary of practical safeguard mitigation measures drawing of lessons learned from the FSDP project. (See Annex 11.1, 11.2 for more details)

Table 4.3 Environmental safeguards mitigation measures

No.	Plantation management	Environmental safeguards mitigation measures
1	***Site selection***	(i) No plantation allowed on slope >25°; (ii) Suitable climatic and soil conditions. (ii) Care and attention should be taken to identify HCV forest and any other area of important biodiversity such as IBA or KBAs
2	***Plantation design***	(i) On slope 20°-25°, planting density lower than normal one; (ii) If next to a stream, a stream protection reserve established >5m of each side of the stream bank where native vegetation retained, and not allowed any clearing, ground disturbance and/or timber harvesting; (iii) Promotion of planting mixture of species, three or more clones; and different age/structure of plantations.
3	***Plantation establishment***	(i) Broadcasting burning not allowed in site preparation; (ii) Debris in site preparation and weeding be retained on site as sources of nutrients; (iii) Full cultivation allowed only on slopes >15°; (iv) Planting holes or strip cultivation on slopes 16°-20°; (v) Contoured planting holes in 20°-25° slopes; (vi) Intercropping allowed on slopes >20° and no intercropping root crops allowed >15°.
4	***Tending***	(i) Spot weeding employed; (ii) Vegetation debris from weeding, pruning and thinning left on site as mulch; (iii) Thinning and pruning be carefully planned and implemented; (iv) Only spot fertilization using inorganic fertilizers will be allowed; broadcast fertilization is prohibited.
5	***Pest control and invasive species management***	(i) Integrated Pest Management (IPM) be applied as much as possible with primary reliance on prevention, early detection, damage thresholds, and design, mechanical and biological control methods rather than chemical pesticides; (ii) Do not allow the use of pesticides that are unlawful under national and/or international laws; do not allow the procurement or use of pesticides and other chemicals specified as persistent organic pollutants under the Stockholm convention. Avoid the use of herbicides and pesticides near water sources and their contamination with pesticides residues when cleaning the equipment used. Only pesticides under World Health Organization Class II and Class III categories be used, specific to the particular pest, and have low toxicity to non-target organisms; (iii) Only workers and farmers trained on the safe handling, storage and use of the chemicals can apply pesticides.
6	***Fire prevention and control***	All plantation blocks over 100 ha shall have firebreaks of between 10-20 m wide and should utilize stream courses and fire resistant native vegetation wherever possible.
7	***Harvesting***	For slopes >15°, logging coupes not exceed 10ha with at least 60m between adjacent coupes logged the same year; (ii) For slopes < 15°, logging coupes not exceed 20ha, with at least 30m between adjacent coupes felled the same year; (iii) Ground vegetation be preserved as far as possible during logging and the site be re planted in the year following logging.

No.	Plantation management	Environmental safeguards mitigation measures
8	***Access road construction and maintenance***	(i) Absolute minimum density of secondary extraction tracks; (ii) Tracks encroaching into stream protection corridors permitted only at points of crossing in areas of stable, moderate terrain; (iii) Stream crossings be rock-stabilized drifts, culverts be employed only in extreme cases where drifts are not practical; (iv) Tracks: a maximum width of 3 m, a maximum favorable grade of 15° and a maximum adverse grade of 10°; (v) Cut and fill slopes be avoided wherever possible; (vi) No yarding of logs be permitted on the surface of tracks; (vii) Track rights-of-way be lightly slashed and vegetation cover be maintained on the running surface wherever possible;(viii) All tracks on side-slopes be out-sloped or equipped with water drainage-bars to dissipate energy and disperse water onto stable areas down slope; and (ix) Tracks be properly maintained with drainage ditches.

4.4.4 Plantation development and the protection of natural forests

An environmental concern is the perceived risk of plantation development leading to the clearing of natural forests. However, this risk is believed to be moderate and will be limited to a small area. The site-level activities are expected to cover around 360,000 ha, of which the development of new plantations covers only approximately 53,000 ha (of which around 7,000 ha will be attributable to the World Bank's coastal forests program). The ER Program will work through the ACMA to ensure that plantation establishment follows SFM practices and does not replace natural forests. This will include support for mapping of remaining forest areas, awareness and capacity building, linking plantation development to FSC certification, and tying benefit sharing to the protection of natural forests.

The small-holder plantation activities have the potential to reduce pressures on remaining areas of natural forest, providing that the respective products are substitutable in the market. With provision of adequate extension services, proper choice of species, and environmentally sensitive cultural practices, the ER-P could also lead to the rehabilitation of many degraded lands and contribute to improvements to community livelihoods.

Simple codes-of-practice will contribute towards ensuring viable, sustainable and environmentally compatible plantation management among plantation owners, particularly when linked to eventual FSC certification. (See the FCPF Refs on FSC mentioned in Footnote 55)

Plantation, seedling, and tendering may create site specific impacts due to types of activities and locations of the subproject areas. From safeguard point of views, it is important to ensure the followings during site selection, seedling, and tendering stages:

Species should be selected on the basis of their overall suitability for the site and their appropriateness to the management objectives. To enhance biodiversity conservation, native species are preferred over exotic species for watershed restoration programs and for some plantation situations. Exotic species should be used only if their overall performance over the long-term is demonstrably greater than that for native species. Exotic species shall be monitored to detect unusual mortality, disease or insect attacks and adverse ecological impacts. No new exotic species shall be introduced on a large scale until local trials and experience demonstrate that they are ecologically adapted, non-invasive and have no significant ecological impacts on other ecosystems.

As great a variety as possible of clonal materials (i.e. *Acacia* spp.) should be made available to planting sites. In the Forest Sector Modernization and Coastal Resilience Enhancement as a general rule, it is proposed not more than 20% of the plantings in any one commune, and no area of plantation greater than 30 ha shall be to a single clone. Where a range of clonal materials is not available, clonal plantations

should be surrounded by blocks of other plantation species or by sanitation corridors of native vegetation.

4.4.5 Ethnic minority development strategy

It is estimated that about four of the 14 SUFs pre-identified during program preparation have a population living in the protected areas and all SUFs have a population living in their buffer zones and that these populations mostly comprise of ethnic minority people. The improved management of the protected areas may create opportunities for local people, but may also impact their use of natural resources. Special measures need to be taken to ensure that program activities are culturally appropriate to the needs of local communities. The overall design of the program needs to take into account the special needs of ethnic minority people. This has been done in two ways: 1) social screening criteria (SSR) have been designed for the review of inclusion of the PFMB, SUFMB and SFC ensure compatibility with OP 4.12; and 2) a Resettlement Process Framework has been prepared to address the eventuality that reduced natural resource use is warranted for conservation of important biodiversity. It sets the rules of engagement between the forest management entities and local communities in setting up ACMAs and negotiating acceptable Benefit Sharing Mechanisms. This framework is laid out in the Resettlement Policy Framework.

4.4.6 Restriction of access to natural resource use in SUFs by local communities' use

The SUFs require special consideration. Improved management of SUFMBs may necessitate or result in restrictions of access by local people to forest products and land. The resettlement policy framework applies in cases where restriction of access leads directly to curtailed options of resource use and limiting access to forest resources[57]. MARD has prepared a **Process Framework** included in the draft Resettlement Policy Framework, in accordance with OP 4.12. The Process Framework addresses the eventuality that the program objective of conserving important natural forest and biodiversity, as documented in the RNA, SSR and Operational Management Plans, necessitates reduction of present uses of natural resources in the SUF. The PFMBs and SFC do not have the same legal restrictions so the Process Framework would not necessarily apply to those to forest entities.

The purpose of the Process Framework is to establish a process by which communities potentially affected by restricted resource access and the management authority of an SUF engage in a process of informed and meaningful consultations and negotiations to identify and implement means of reducing or mitigating the impact of restricted resource access. It further describes the planning and documentation requirements for such activities under the project.

4.4.7 Pest Management

The ER-P will not procure large amount of pesticides or other agrochemicals. The program, however, triggers this policy as it is likely that the support of seeding activities and the protection and/or plantation of forests and the livelihood development activities (under Components 2 and 3) may involve the purchase of small amounts and/or increase in use of pesticides and/or other agrochemicals related to livelihoods activities (e.g. fishery, agroforestry, crop production etc.).

The ESMF describes below when the regulations/institutional frameworks related to pest management when a Pest Management Plan (PMP) has be prepared and/or adoption of good practices such as application of an integrated pest management (IPM) approach will be considered during the preparation of ESMP for the subproject. Safeguard training and capacity building will be designed to increase

[57] Under the Law on Forest Protection and Development (2004) collection of NTFPs from SUFs is severely restricted even though this may be difficult to implement in practice. The revised Law on Forestry (2017) to be promulgated in 2019 does all some relaxation of this.

knowledge of famers on safe use of pesticides including safe storage and disposal of used packages. (See Annex 11.8 and 11.9)

To mitigate potential impacts as the program will prepare and implement a mitigation plan aiming to increase famer's knowledge on Government regulations, policies, and/or technical guidelines related to safe use (application, storage, and disposal) of pesticides and agrochemicals likely to be used by farmers. This will include the application of an IPM practice that are appropriate for the agriculture productions (rice, shrimp, aquaculture, etc.) in the subproject area through training and other capacity building activities.

The activities will be incorporated and implemented as part of the ESMP. There are many IPM programs and on-farm pilot activities aiming to reduce the use of pesticides and fertilizers therefore knowledge and implementation experience including some training manuals and/or other communications tools (radio/TV program, public materials, etc.) are available. If preparation of a PMP is required the following principles should be considered:

- The program activity will not finance the purchase of fertilizers, pesticides, or other toxic agrochemicals. In normal conditions, if pesticide use is considered to be the necessary option, only pesticides registered with the government and the international recognition will be used and the program will also provide technical and economic information for the type and amount of the chemicals. The program will also consider other options (including the management of non- harmful chemicals) that can also reduce reliance on the use of pesticides. The measures will be incorporated into the subproject design to reduce risks related to the handling and use of pesticides by farmers.

- During the preparation of the ESMP/PMP for a subproject, the subproject owner will identify the need for training and capacity building in close consultation with the local authorities and other key stakeholders including chemical suppliers to enhance close cooperation and understanding among them. The subproject will apply IPM practices in line with the national IPM program and aquaculture/shrimp farming management programs being implemented by MARD as a means to minimize the potential negative impact of the increased use of fertilizers, pesticides, and toxic chemicals. Main activities may include training, sharing of knowledge and experience in the use of fertilizers and chemicals through research surveys, study visits, and/or selecting safe use of non-chemicals, other techniques.

- The PMP will identify the agency responsible for implementation including fund flow and reporting arrangements. DARD will be responsible for planning and implementation of PMP activities while farmers will be responsible for actively participation during the planning and implementation. CPMU will be responsible for supervision and monitoring of the ESMP including PMP activities after it has been approved by WB. The activities will be planned and implemented in close consultation with farmers, local authority, and local community organization especially women. The implementation budget will be included as part of the ESMP cost and the activities, outputs, and impacts will be monitored as part of the ESMP implementation.

4.4.8 Invasive species

Mimosa Pigra is a widespread difficult to deal with invasive species and is already well established in many areas. The intentional or accidental introduction of alien, or non-native, species of flora and fauna into areas where they are not normally found can be a significant threat to biodiversity, since some alien species can become invasive, spreading rapidly and out-competing native species. Forest operators should not intentionally introduce any new alien species (not currently established in the country or region of the project) unless this is carried out in accordance with the existing regulatory framework for such introduction, if such framework is present, or is subject to a risk assessment to determine the potential for invasive behavior. Operators will not deliberately introduce any alien species with a high risk of invasive behavior or any known invasive species and will exercise diligence to prevent accidental

or unintended introductions. Operators should also take precautions to prevent the spread of existing exotic species as a result of forestry operations. Management techniques include procedures to ensure that equipment (e.g. trucks) are power washed prior to moving from an infested area to an un-infested area.

4.4.9 Forest fire

Most natural forests and plantations face significant fire risks at some time. In natural forests, the opening of the forest canopy through selective logging usually leads to an extra ground level vegetation. This is often accompanied by an increased ignition hazard due to the presence of forestry workers or members of the public who use forestry roads for access. Forest fire prevention and control activities must be an integral part of the operational plan for plantation area and complied with Decree No. 09/2006/ND-CP (Regulation on the Prevention and Fighting of Forest Fires). This calls for a plan to establish a fire control unit, define roles and responsibilities, and detail prevention, public education, patrolling, enforcement and fire response programs. To avoid and/or mitigate the risk, the following measures will be considered:

- Selection of tree species and planting season are suitable with natural condition of the proposed areas to prevent habitat disturbance;
- Selection of suitable cultivation techniques with site conditions of the proposed areas;
- Applied silvicultural techniques to be trained;
- Selection of quality seedlings which are suitable with difficult site conditions;
- Mixed-species plantation should be prioritized; and
- Forest fire risks – assess the risk of wildfires caused by natural events (e.g. lightning strikes) or human.

Development of a fire risk monitoring system

Preparation of a formal fire management and response plan supported by the necessary resources and training, including training for workers in the use fire suppression equipment and evacuation. Procedures may include coordination activities with local authorities.

Conducting the training on forest fire prevention plans

Forestry operations should be equipped with fire suppression equipment appropriate for the size of operations and that meets internationally recognized technical specifications (e.g. fire beaters and knapsack sprayers, small portable water pumps and tanks, and water tankers).

Undertake regular removal of high-hazard fuel accumulations (e.g. through thinning and prescribed burns). Time thinning and prescribed burns to avoid forest fire seasons. Prescribed burns should adhere to applicable burning regulations, fire suppression equipment requirements, and typically must be monitored by a forest guard or dedicated fire protection plantation worker.

Establishment and maintenance of a network of fire breaks of less flammable materials or cleared land to slow progress of fires and allow fire-fighting access. The width of a fire break is normally from 10 - 15 m and needs to be maintained every year.

4.5 Application of the Forest Stewardship Council (FSC) principles for sustainable forest management (SFM)

The Forest Stewardship Council promotes the following processes and forest management activities:

- Forest management shall respect all applicable laws of the country, international treaties and agreements to which the country is a signatory and comply with all FSC Principles and Criteria.

- Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.

- The legal and customary rights of indigenous peoples to own, use and manage their lands, territories and resources shall be recognized and respected.

- Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

- Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.
- Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by doing so, maintain the ecological functions and the integrity of the forest.

- A management plan - appropriate to the scale and intensity of the operations - shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.

- Monitoring shall be conducted - appropriate to the scale and intensity of forest management i to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

- Management activities in high conservation value natural forest communities shall maintain or enhance the attributes that define such forests. Decisions regarding high conservation value natural communities shall always be considered in the context of a precautionary approach.

- While plantations can provide an array of social and economic benefits and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forest communities. Plantations should be planned and managed in accordance with the preceding nine principles

- The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the plantation management plan, and clearly demonstrated in plan implementation.

- The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods shall be used in the layout of the plantation, consistent with scale. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.

- Diversity in the composition of plantations is preferred so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and stand structures.

- The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. To enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only where their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease of insect outbreaks and adverse ecological impacts.

- A proportion of the overall plantation area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to return the site to a natural forest cover.

- Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rates of harvest, road and trail construction and maintenance, and the choice of species shall not result in long-term soil degradation or adverse impacts on water quality, quantity or substantial deviation from natural stream course drainage patterns.

- Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries.

- Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessments of potential on-site and off-site ecological and social impacts (e.g. natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being). No species shall be planted on a large-scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use and access.

- Plantations established in areas converted from natural forests (Natural forests are forest areas where most of the principle characteristics and key elements of native ecosystems, such as complexity, structure and diversity are present, and include primary and secondary forest ecosystems as defined by FSC-approved national and regional standards of forest stewardship) after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly for the conversion. Further extensive detailed guidelines are also available from the various Forest Projects that support FSC including WB FSDP, Plantation Operation Manual and FSC Guidelines And Toolkit, and KfW Forest Projects e.g. KfW projects 3, 6, 7 etc.

4.6 Community forestry management policy and experience in Vietnam

Vietnam has much experience of Community Forest Management (CFM) the organization of CFM would be dependent on the local situation i.e. is there any community forest, and this would be managed through the ACMA which includes details on how the ACMA would work. However, the program design takes the following into account:

- The extent to which the livelihoods of local communities depend on and use trees in the program and adjacent areas;

- The institutional, policy, and conflict management issues involved in improving the participation of indigenous people and poor people in the management of the trees and forests included in the program area; and

- Forest product and forest service issues relevant to indigenous people and poor people living in or near forests in the program area, as well as opportunities for promoting the involvement of women.

The benefit sharing plan for CFM would be discussed through the ACMA and would normally be determined by harvest limits, which are based on a percentage of the tree diameter growth over five years. Based on this, the community through the ACMA can develop an equitable sustainable 5-year or longer harvest plan.

Proposed mechanism for benefit sharing among forest users include:

- Benefit sharing must be both equitable and transparent and be discussed as part of the functions of the ACMA;
- Community forest management is considered as a livelihood development or poverty alleviation form of forestry, and the income generated from selling timber and non-timber forest products can be used for common community interests and as a direct form of compensation or income for communities;
- Based on the growth data over five years, benefits can be calculated for each stage of the 5-year CFM plan; and
- Comparing the actual number of trees from each forest plot against the SFM guidelines, the community can calculate which trees can be harvested. SFM is therefore used as a control for determining harvesting rates and benefits to be shared.

CFM would and benefit sharing would be organized through the ACMA and village meetings to decide on the following issues:

- The amount that households can harvest annually for their personal consumption; and
- The amount of surplus trees (if available) that can be harvested to contribute to the village fund for forest management.

4.7 Danger from and mitigation of UXOs

The parts of the program area were significantly affected by previous conflicts during the Indochina War and risk assessment of residue UXOs may need to be conducted in some areas, especially in Ha Tinh, Quang Binh, Quang Tri and Thua Thien Hue provinces. The program activities will be conducted only after completion of this assessment. This is not a rapid process. Are there any estimates of when the full area would be potentially available to the range of ERP interventions? The Program would need to liaise with and provincial authorities and who in turn would be aware of the critical issues and areas from the local military and the de-mining NGOs which already operate in the program area where UXO's are found. It has been standard practice for many years for any construction activity to include a UXO survey these are by necessity very detailed. Therefore, it is anticipated that UXO risk assessment and survey will be conducted for all the subproject sites, once they are identified, and UXO clearance (if needed) will be carried out by qualified agencies, usually a specialized army unit. Construction activities will not be allowed prior to UXO clearance.

5 Procedures for review clearance and implementation of safeguard instruments

5.1 Safeguard screening and impact assessment

The ER-P aims to support programs that would not create adverse impacts and due harm to local communities and to the environment. Any residual impacts will be addressed in line with the world bank

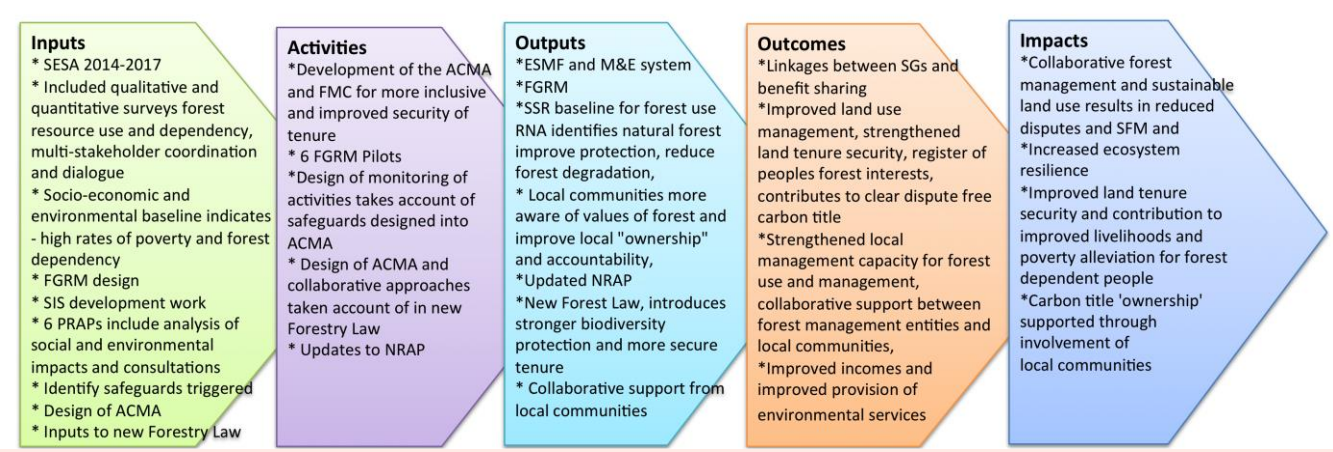
safeguards policies. Environmental and social screening and impact assessment will be done, together with the preparation of safeguards documents, mitigation measures including public consultations. A REDD+ Needs Assessment (RNA) which will include a Social Screening Report (SSR), combined with needs (SERNA), will ensure that local communities (both commune and villages) must be further consulted during the development of the REDD+ approach proposed by the forest management entity. The ER-P will provide templates[58] for the RNA and SSR. The linkages between the SERNA process and the ACMA are shown in Figure 5.1 below. A summary of the ACMA is shown in text Box 3 and also see text Box 4).

The RNA will be conducted by the forest management entity to assess the current forest resources, priorities, capacity, forest encroachment or deforestation/ forest degradation hot spots. The RNA is seen as a set of rapid assessment tools, among them a roster for the measurement of forest management, conservation management effectiveness and a list for the identification of major deforestation and degradation threats. In addition, it identifies activities likely to address those threats and establishes a baseline for monitoring the impact of activities supported by ER-P. In detail, it comprises the following tools:

- Overview of the PFMB, SUFMB and SFC basic data;
- Deforestation and forest degradation threat assessment;
- Use of the Management Effectiveness Tracking Tool (mainly for the SUF but this has also been modified for use in PFMBs by the Vietnam Forest Delta Program);
- List of internationally important elements of biodiversity/ HVC forest known areas of HCV forest include forest adjacent to Phong Nha Ke Bang, Bach Ma, Pu Mat etc., in fact most of the SUFs in the ER-P area have at least some HCV forest on the border of the SUF;
- Ranking of identified direct threats (as above) to internationally important elements of biodiversity, their description (reasoning) and identifying activities that would reduce fully these threats;
- Ranking of threats in terms of area, intensity and urgency, and identification of activities to minimize the threats; and
- Proposed forest management and forest conservation activities.

[58] A detailed framework for socioeconomic monitoring and impact assessment will be developed by the PMU for inclusion in the Program Implementation Manual/ Operation Manual team, and include the various steps along which the social monitoring process should be carried out, identification and listing of indicators, and guidelines for village and group meetings, setting up the ACMA

Figure 5.1 Linkages between the ACMA and safeguards



Once RNA are completed, they should be presented to local authorities and villagers from the forest areas, core or buffer zone areas for their feedback, their comments, their reservations or support through commune and village level meetings, documented by Social Screening Reports (SSR).

The SSR will include a social screening assessment of communities in and around the forest management entity and in particular will help the management board or SFC identify deforestation forest degradation hotspots and help facilitate a dialogue with the communities with a view to understanding some of the socio-economic pressures the communities faces that result in, for example, deforestation or encroachment and encouraging and generally leading to forest degradation pressure on the PFMB, SUF or SFC.

The SSR will also be used to help identify solutions in the form of activities funded by the ER-P to help reduce current deforestation/ forest degradation pressures and these will be assessed for possible socio-economic and environmental impacts and mitigations as necessary.

The SSR show local communities will be involved in the development of the RNA in which proposed activities are prioritized. The SSR would include – apart from a detailed description and interpretation of the livelihood situation of affected people –information that will contribute to the setting up of the ACMA and agreements under Benefit Sharing Mechanisms (BSM) and on small-scale livelihoods support activities.

The purpose of the SSR is to, firstly, guide PFMB, SFC and SUF management entities in eliciting local peoples' considerations and needs and incorporate them into planning, and secondly, to promote good working relationships between forest management entities and local communities on forest management, conservation and resource use issues.

The SSR proposal provides information and proof that:

1. Information in the RNA on the use of forest resources natural resources in the PFMB, SFC and SUF was derived from consultation with local communities whose lives are affected by the forest management entity;

2. The RNA has been reviewed and revised with inputs from these local communities and their representatives; and

3. For any activities that restrict local communities' access to resources that are integral to their livelihoods and cultural practices, PFMB, SFU SUF management entities have negotiated and reached an agreement with local communities on acceptable levels of local use of specified resources and forms of mitigation.

A standard format for the SSR will be developed based on an open questionnaire that contained the following issues:

1. General socioeconomic data on the PFMB, SFC, SUF and buffer zone(s), including data on a) population (demographic features, ethnic composition and poverty status), b) livelihoods (status of agriculture and forest land use, crops grown), c) forest resources (forest size, classification, conditions, ownership; and d) forest dependency);

2. Socio-economic data from selected (visited) buffer zone communes;

3. Forest use data with case studies from visited villages;

4. Documentation of the consultations with villagers on the results of the RNA (and this will become the basis of the ACMA);

5. Risk assessment of social and economic consequences of proposed REDD+ and forest conservation activities;

6. Documentation of resource use agreements reached under BSM;

7. Documentation of small scale livelihood support activities under BSM;

8. Data on resettlement issues; and

9. Certification through local authorities.

The SSR provides evidence that information gathering, consultations and negotiations with local communities were part of village and commune level meetings that include forest users (male and female), local forestry staff members, commune leaders and authorities, and members of commune's social organizations[59].

[59] Linking Livelihood Issues with Biodiversity Conservation in Special Use Forests, Forest Sector Development Program, Hans-Dieter Bechstedt 2013.

The Adaptive Collaborative Management Approach (ACMA)

The proposed BSM works through the ACMA which supports a collaborative process approach that is managed by a Forest Management Council (FMC) which is tasked to develop sustainable forest management involving the different Forest Management Entities (FME) and communities that live within and around the boundaries of the FME (these include Special Use Forests - protected areas in Vietnam, Protection Forest Management Boards and State Forest Companies).

- There is a strong legal basis for the ACMA which has developed over time and is supported by through a series of Decisions and Decrees;
- VNFOREST has experience of the operation of the ACMA type approach in three formal pilots based on (Decision 126) and through an additional 63 SUF sites, nationwide, and these were supported over a period of about three years;
- The FMC would involve and be supported by the FME management, District and Commune People's Committee and village communities;
- The ACMA is set up to specifically involve poor forest dependent communities, baselines and information on the status of the communities is collected through:
  - A REDD Needs Assessment (RNA) which reviews forest inventories, forest resource use and identifies forest degradation hot spots;
  - A Social Screening Report (SSR) which helps set a socio-economic baseline encourages the FME to develop a collaborative and understanding of community needs of the forest dependent communities and in turn this contributes to improve a sense of local ownership, responsibility and accountability;
  - An updated management plan is an output from the RNA and SSR process helps set management priorities and targets work with the forest dependent communities focusing on where hotspots of degradation and deforestation occur;
- The BSM includes the registration of individual forest interests required to be in line with the Civil Code, this also removes the risk of extinguishments of an individual's rights which under Vietnam's laws would have implications for a clear Carbon Title;
- The FMC implements the BSM through a locally developed bespe local forest benefit sharing plan which combines sustainable approaches to forest resource management with locally appropriate livelihood support (which can be funded through CF financing plan, but is also supported by GOV);
- The ACMA process is funded by the CF through small grant mechanism which would be managed through the REDD+ fund and the BSM arrangement (as specified in Section 6.2.1) and is also supported by pre-existing government investment Decisions that support forest dependent communities around SUFs;
- Support for livelihoods is pro-poor and choices of investment are sensitive to natural forest and biodiversity conservation and can be taken from a list of tried and tested activities from previous, and on-going, conservation and forest management projects and these can also be modified to meet local conditions;
- Detailed Operational Guidelines on how to implement the ACMA working through the FMC will be developed, and the proposed Guidelines would be based on the previous experiences and lessons learned from the three formal pilots and additional 63 participating SUFs;
- Categories of beneficiaries are easily identified and prioritised through the FMC and the FMEs, communities and individuals - through individual registration of interests in forest use - all have been tried and tested in the formal pilots under Decision 126 and 63 participating SUFs; and
- Monitoring of the BSM is comparatively straightforward and is focused on the performance of the FME and the FMC and can be performance orientated as was previously developed under the three pilots in Decision 126 and the additional 63 participating SUFs.

Box 3 Summary of the ACMA

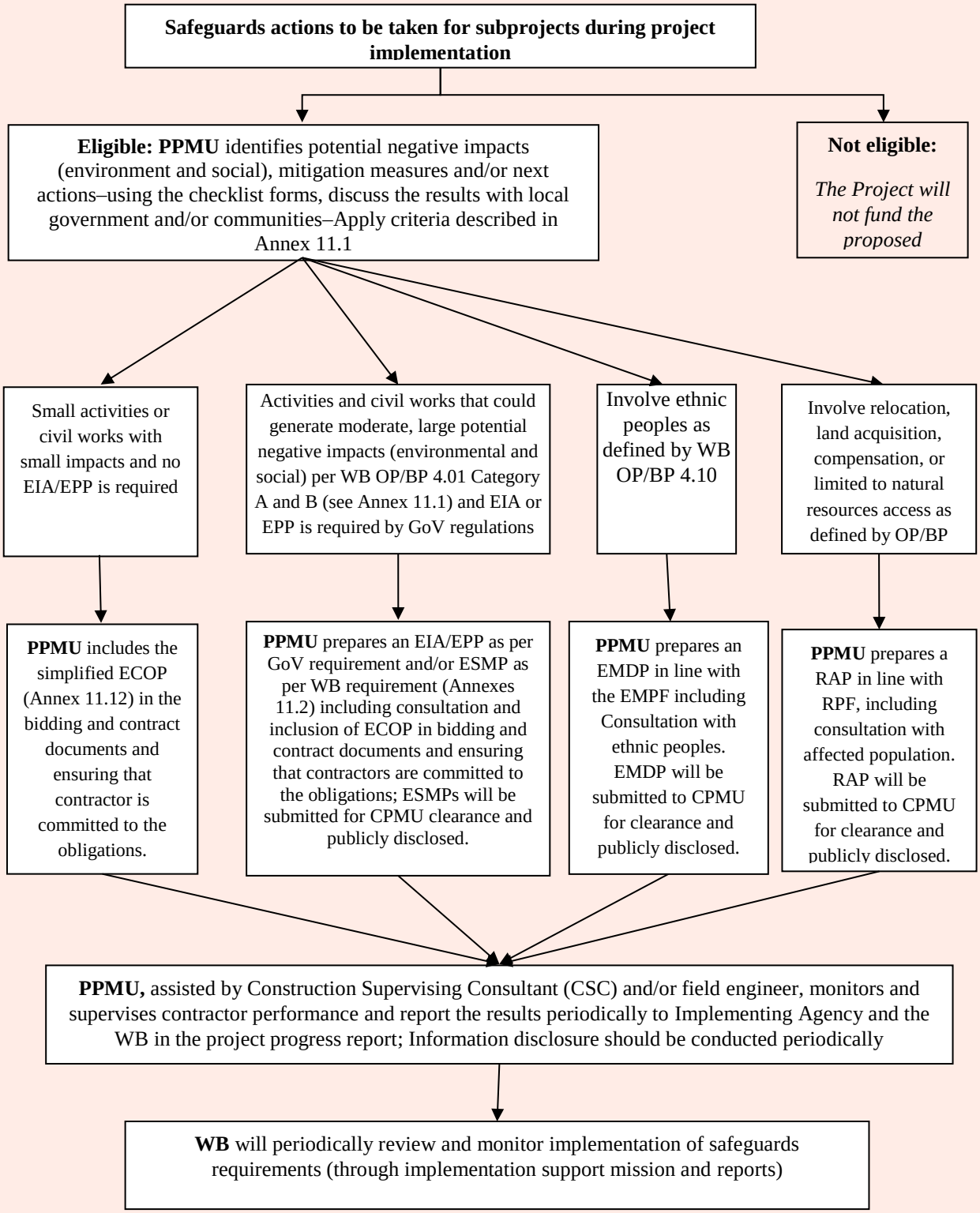
5.2 Development of REDD+ investment activities and subproject documentation

As above RNA, SSR activities and outputs contribute to the documentation of investments in the PFMB, SFC and SUF MB and contribute to the Management Plan and OMPs and also to the setting up of the ACMA and the BSM/ BSP.

5.3 Review, approval and disclosure of subproject safeguard instruments

Main objective of the ESMF process is to ensure that the subprojects and other project activities to be financed by the ER Program will not create adverse impacts on the local environment and local communities and the residual and/or unavoidable impacts will be adequately mitigated in line with the WB's safeguard policies. The ESMF comprises 4 steps and the process is schematically shown in the figure below. Given the nature of subprojects/ activities the ESMF process for ER Program will be applied to Components 1, 2, and 3. This section briefly describes key steps while more details are provided in annexes.

Schematic Flowchart for Safeguard Actions for Subprojects



This section briefly describes key steps while more details are provided in annexes.

- Step 1: Safeguard screening and impacts assesment;
- Step 2: Preparation of safeguard documents as required including development of mitigation measures and public consultation;
- Step 3: Safeguard clearance and information disclosure.
- Step 4: Safeguard implementation and monitoring (Section 6)

Processing policy related activities under Component 1 will follow the interim guidelines of the Bank's Operations Policy and Country Services, Operational Risk Management (OPSOR): *"Interim Guidelines on the Application of Safeguard Policies to Technical Assistance Activities in Bank-Financed Projects and Trust Funds Administered by the Bank".* All the policy and regulation development activities will be conducted through active participation of local authoritites and communities, and the ECOP for small works will be applied to all work contracts to be carried out under Components 2 and 3.

Step 1: Safeguard Screening and Impact Assessment

This step aims to confirm the eligibility of subproject and/or activities to be financed by the Project as well as identify the potential environmental and social impacts of the subprojects/activities including categorization of the subproject into A, B, or C, identification of WB safeguard policy to be triggered, and identification of safeguard documents to be prepared as required by OP/BP 4.01, OP/BP 4.10, and OP/BP 4.12 (see details in *Annex 11.1).* The subprojects/activities categorized A per OP/BP 4.01 will not be eligible for financing by the ER Program. PPMUs will be responsible for signing the screening forms for Components 2 and 3 while CPMU will endorse the signing. Consultation with WB safeguard specialists during the screening process can be sought.

Step 2: Development of Safeguard Documents

This step aims to prepare safeguard documents in line with the issues identified in Step 1. Guideline for the preparation of EIA and ESMP are provided in *Annex 11.2* while those for RAPs and EMPDs are provided in RPF and EMPF, respectively. PPMUs will be responsible for preparation of safeguard documents for Components 2 and 3. Given the nature of small activities, preparation of ESMP will not be required for community-based activities. Consultation with WB safeguard specialists for complex subprojects is highly recommended.

It is also necessary that PPMU will also prepare documents (EPP, EIA, etc.) as required by the GoV EIA regulation[60] and secure approval of responsible agencies.

Step 3: Review, Approval, and Disclosure of Safeguard Documents

The CPMU and PPMUs are responsible for review of the subproject/activity safeguard documents and get them approved by the responsible government agencies before approval and commencement of subproject works.

All safeguard documents will be posted in the official website MARD and the project provinces, and hardcopies will be available at CPMU, PPMUs, and the subproject sites in Vietnamese. A notification will be published about the disclosure and comments will be sought within one month of the disclosure date. The English ESMP will be disclosed at the WB's external website.

Step 4: Review, Safeguard implementation and monitoring (see Section 6)

[60] GoV procedures (namely, Decree No. 18/2015/ND-CP dated February 14, 2015 of the Government on environmental protection planning, strategic environmental assessment, environmental impact assessment, and environmental protection commitment, and Circular No. 27/2015/TT-BTNMT dated 19 May 2015 of the Ministry of Natural Resources and Environment on strategic environmental assessment, environmental impact assessment, and environmental protection plan).

6 Implementation arrangements

6.1 Summary of Implementation arrangements

Safeguard Implementation, Monitoring, and Training. The institutions for forestry and agriculture sector management are arranged from the center down to provincial and district level. At the national level, MARD, as implementing agency will be responsible for the preparation and supervision of ESMF implementation. During ER-P implementation, the PPMUs at provincial and district levels will be responsible for preparing and ensuring the effective implementation of environmental and social safeguard measures (such as ESMPs, social assessments/screen and codes of practice) and regularly liaising with local authorities and communities. The ER-P will support the REDD+ Needs Assessment (RNA) which will include a Social Screening Report (SSR); collectively the Social and Environmental REDD+ Needs Assessment (SERNA). The SERNA process would ensure that consultation and disclosure of activities and investments and identify any safeguard instruments which would apply. In addition, it identifies activities likely to address those threats and establishes a baseline for monitoring the impact of activities supported by ER-P. Site level activities will mainly be implemented through the PFMBs SUFs and SFCs. Provincial Project Management Units (PPMU) under DARD will be set up throughout the decentralized structures. They will work closely with MONRE and DONRE for implementing safeguards.

Since implementation of safeguards is the sole responsibility of PPMU, qualified social and environment specialists are to be hired and placed in the PPMUs in all six provinces. These specialists would be responsible for supporting the implementation and monitoring of safeguards. The Specialists will support the development of safeguards documents (RAP, EMDP, ESMP) based on the social assessment/EIA and the REDD+ Needs Assessment (RNA) which will include a Social Screening Report (SSR). Local communities (both commune and villages) would be further consulted during the development of site specific ER Program activities proposed by the forest management entity as well as the safeguards documents. Furthermore, the specialists will work in close collaboration with the CPMU and will collate all monitoring safeguards reports to be fed into the national monitoring system within the CPMU.

Capacity building on safeguards instruments will be provided to PPMU, PFMB, SUFMB and SFC levels. The Provincial Forest Management System (PFMS) which is being incrementally introduced in all six ER-P provinces and involves communes and village communities in reporting on forest cover and will feed into Forest Protection Department's system of monitoring. In addition to continued awareness raising on REDD+ and sensitization to socio-economic and environmental and biodiversity issues, it is expected that specific training on the project's safeguard instruments will be required at the PPMU, PFMB, SUFMB and SFC levels.

Implementation arrangements for implementing ER Program

Central level: The government retains the authority for overall central/state management of forest protection and development nationally, with MARD accountable to the government. In January 2010, MARD established the Vietnam Forestry Administration (VNFOREST), tasked with advising and supporting the minister in managing the country's forests (Decision 04/2010/QDTTg). MONRE is another key agency, responsible for the implementation of land and forest policies. MONRE is in charge of land administration while MARD is in charge of forest management.

Provincial level: The Provincial People's Committees (PPCs) undertakes state management of forest development and protection in their localities. PPC chairpersons are accountable to the Prime Minister in relation to the management of all state forest resources and forest areas in their localities (provinces and cities). Provincial units of MARD, DARDs contain a forestry section to assist the PPCs in carrying out their duties. There are also Provincial Advisory bodies to provide guidance and advice to the PPC and DARD.

District level: District People's Committees (DPCs) undertake state management of forest development and protection in their localities/ district areas. DPC chairpersons are accountable to the PPCs for cases of forest damage or loss in their localities. DPCs appoint Divisions of Agriculture to carry out their tasks. Each division is allowed to employ one or two forest staff members responsible for monitoring forestry activities.

Commune level: Commune People's Committees (CPCs) undertake state management of forest development and protection in their localities/communes. CPC chairpersons are responsible to the DPCs for any mismanagement of forest causing damage or loss of forest cover. Communes appoint special forest staff to carry out their tasks. Although the Forest Protection and Development Law stipulates that communes in areas with forest cover must recruit forest staff, budget constraints may hamper this. Below the commune is the informal system led by the heads of the villages. Heads of villages are important intermediaries between national laws and local use. Commune authorities, responsible for field-level activities, often lack the necessary competence to oversee large areas of forest and carry out proper monitoring. This is a major reason for the general approach of the ER Program to strengthen forest governance at the local level through collaborative with greater involvement of local communities.

Although there is strong vertical integration within the forest sector in Vietnam there are however, examples where provincial management has not followed national decisions, for example in the case of provinces wanting to prioritize economic development and rubber expansion over forest protection. To further strengthen vertical integration in the forest sector Directive 13 from the Prime Minister in 2017 has highlighted the need to ''strengthen the effective coordination between central and local levels among ministries/sectors to drastically and effectively carry out the examination, inspection, supervision and timely and strictly legal acts of violation of laws''. This and previous Decisions place more control over forests back to the central authorities and more responsibility for any conversion with the sub national authorities. This will further strengthen vertical integration. The arrangements for institution and implementation of ER-P in the NCR are briefly presented in Table 6.1 and Figure 6.1

Table 6.1 Main responsibilities of ministries and management entities

Ministry or management entity	Main responsibilities with the ER Program
The Ministry for Agriculture and Rural Development (MARD)	MARD is responsible for rural development and the promotion of agriculture, fisheries, forestry and irrigation in Vietnam. MARD is the program owner, with the management and responsibility for use of ODA funds, preferential loans, programing of counterpart funds (according to Decree 16/2016/ND-CP). As part of this Program MARD is accountable to the Government of Vietnam to ensure the following: (i) issuing Decisions to organize the program implementation; (ii) approving master plans for Program implementation; synthesizing and approval of the annual work programs and implementation plans; (iii) issuing guidelines for the procedures for procurement in accordance with the current law on procurement; (iv) organization of monitoring and evaluation of the program implementation to ensure that the Program is conducted in line with the progress, quality and objectives set out; (v) be responsible for the management and use of ODA funds and preferential loans under its management; and (vi) fulfill its tasks and rights in accordance with the current law, implementation of international conventions; ODA agreements and preferential loan.
Vietnam Forestry Administration (VNFOREST)	VNFOREST is tasked with advising and supporting the minister in managing the country's forests. Responsibilities include forest governance responsibilities for implementation of regulations issued by the Government; monitor natural forest resources and forest inventory; guide integrated production of agriculture, forestry, socio-economic development; improve forestry and forestry product exploitation; guide and govern forestry handing over, rent, reclaim, change use of forestry; perform governance responsibilities for forestry rangers; take the leading role in preventing deforestation and degradation; perform governance responsibilities for prevention of forest fires and other disasters; and deploy preventive and restorative measures. VNFOREST is the focal agency for REDD+ and is responsible for coordinating all efforts and activities among government agencies, private organizations, NGOs, CSOs and international

Ministry or management entity	Main responsibilities with the ER Program
	development partners in REDD+ implementation. VNFOREST reports to the National Steering Committee on the progress of REDD+ activities. VNFOREST coordinates and works with MONRE to prepare national reports on Climate Change (national communication to the UNFCCC) and directly assists MARD in the development of policies related to the authorization of ER-P and the transfer of carbon emission reduction rights. VNFOREST supports the Management Board of Forestry Projects to update the annual database, coordinating the ER-P forest monitoring system of the provinces to ensure that it is consistent with the ER-P requirements and the national forest monitoring system.
Ministry of Natural Resources and Environment (MONRE)	MONRE has the primary responsibility for the oversight and facilitation of environmental quality standards, land administration and sustainable natural resources use and conservation, including land use planning and is responsible for preparing the 10-year strategy and 5-year action plans for natural resources and environment protection. MONRE has the principality forcing responsibility for managing the response to climate change[61] and is the national focal point to the UNFCCC. Within the Program MONRE (DONRE) will support the process of forest land allocation and land use planning.
The Ministry of Planning and investment (MPI)	MPI is responsible for mainstreaming sustainable development and climate change into Vietnam's strategies and development plans. MPI and MONRE are supporting the mainstreaming of sustainable development and climate change responses in the formulation of the five-year SEDP and budget estimates (post-2015 climate change and green growth financing response). The SEDP places "response to climate change, natural resources management, and environmental protection" as a prioritized objective and requires that consideration of sustainable development, climate change, and green growth be integrated into the preparation, appraisal, and approval of investment programs that are funded by the state budget'. It will direct all sectors and provinces to develop their development plans and make budget allocations to operationalize these priorities. This will be a key process which will be supported throughout the life of the Program.
National Steering Committee on Sustainable Forest Development and REDD+ (NCSFR)	This National Steering Committee on Sustainable Forest Development and REDD+ replaces the National Steering Committee on Forest Protection and Development Plan 2011 – 2020. A key responsibility of NCSFR, Chaired by the Vice Prime Minister, is to facilitate cross-sectoral coordination among the ministries, agencies and localities in implementing effectively sustainable forestry development program (Decision 886) and the NRAP. The committee's members include representatives from eleven relevant ministries and agencies (MARD, MONRE, MPI, Ministry of Education, Ministry of Transport, MOLISA, Ministry of Public Security, Committee of Ethnic Minority Affairs, State Bank of Vietnam and VNFOREST). Each Ministry is responsible for development and management of relevant networks under the government administrative areas of that ministry. Participating ministries and agencies are embedded in the formal decision-making processes for forest protection and development and REDD+, which stimulates inter-ministerial communication and allows sectoral perspectives and interests to be integrated into the right direction. This Committee plays an important role in highlighting the role of drivers of deforestation, for example infrastructure and/or agriculture on forest targets and the need to introduce new national policies (for example to halt infrastructure development). The Province REDD+ Steering Committees (PRSCs) will inform the National Steering Committee.
Management Board for Forestry Projects (MBFP)	The Management Board of Forestry Projects was set up to ensure program management and implementation in accordance with Decisions of MARD. It has the following responsibilities: manage and utilizes ODA funds and preferential loans, program counterpart funds; submit to MARD the overall plan and annual plans; implements procurement in accordance with the

[61] Within the mandates of MONRE, Department of Meteorology, Hydrology and Climate Change (DMHCC) is assigned to co-ordinate climate change-related activities while Department of Legal Affairs (DLA) advises on the legal aspects of climate change including legislation development. Environmental management responsibility in Vietnam is spread over many ministries and implementation responsibility is often devolved to provincial and district levels.

Ministry or management entity	Main responsibilities with the ER Program
	current regulations on procurement; negotiates, signs, monitors the implementation of the contracts and addresses the problems arising in accordance with the authorization; miscarries out monitoring and evaluation of the program in accordance with the legal requirements and regulations; guides the CPMU to prepare final reports, outputs and program liquidation reports in accordance with the legal regulations.
Vietnam REDD Office (VRO) and Sub Technical Working Groups	The VRO is located in VNFOREST and was established in 2011 to coordinate and manage the design of the tools and processes to implement the NRAP. The VRO is responsible for strategic development and daily management of the NRAP. The VRO is also responsible to help coordination and promotion of REDD+ activities at the central and provincial level and in providing support for the implementation of the program. This includes supporting Sub-Technical Working Group[62] (STWGs), which provide guidance on a number of REDD+ issues in Vietnam. Currently there are five STWGs.
Central Program management unit (CPMU)	The CPMU for the program has the following tasks including: (i) assisting the Program Owner to prepare the overall planning and annual detail work plans; (ii) assisting in preparation and implementation of the Program; (iii) assisting in procurement and contract management; (iv) assisting and in managing disbursement and financial and asset management; (v) setting up and in managing the M&E of the program and monitoring and reporting on implementation status; (iv) in preparing completion reports and the final report and liquidation reports forth program; (v) other tasks as agreed within the Program. The CPMU works as a focal point to support the Steering Committee and the Management Board of Forestry Projects in managing and organizing the implementation of the program to comply with the objectives and regulations in the program document, laws, regulations and donor policies.

6.1.1 Coordination across agencies at the national level

Since the issuance of target program on sustainable forestry development program and the NRAP, a Steering Committee on Sustainable Forestry Development and REDD+ (NSFDR) is set up based on a Steering Committee of Forest Protection Plan. The NSFDR is chaired by the Vice Prime Minister and members are leaders of relevant ministries such as MARD, MONRE, MOF, MPI, MOI etc. This steering committee provides direct coordination and guidance to line ministries that are responsible for sectors related to the ER-P implementation. In addition, it also provides guidance, coordinates and directs MBFPs, CPMU by monitoring the management and organization of implementation of the program as a whole to achieve the objectives, progress, quality and efficiency as set out in the current regulations non the program management and implementation.

Both the NSCFPD and the CPMU at central level will deal with cross-cutting issues at the national (and sub national) level, and facilitate the coordination between the different ministries, departments, general departments under MARD, MONRE and MPI to enhance the synergy and the unified direction across the central level to the grassroots level. The CPMU, under the direct guidance of NSCFPD and MBFPs, carries out the tasks as assigned and will coordinate with the State Steering Committee Office on Sustainable Forestry Development and REDD+ implementation (SSFDRO, which was formerly the VRO).

6.1.2 Implementation at the subnational level

At the sub national level there are number of institutions that will be engaged in the overall implementation of the ER Program; most critically:

The Provincial People's Committee

The PPCs are the managers of the components and activities that are implemented in the provinces. They have responsibilities and rights as follows (in accordance with Decree 16/2016/ND-CP): approve

[62] The STWGs include six working groups: Safeguards, REDD+ implementation, REDD+ financing and governance, Private sector involvement, MRV, Benefit Sharing/ Distribution Systems.

decisions on the organization of the management and implementation of staff structures; approve annual provincial workplans; in guiding procurement in accordance with the current laws, international ODA requirements; and organizing, monitoring and evaluation of the components conducted by the provinces. The PPC is ultimately responsible to ensure that the ER- Program, the NRAP and Directive 13 (and Action Plan 256) are implemented in the Provinces. The PPCs have established the Provincial REDD+ Steering Committees to advise them.

The Provincial REDD+ Steering Committee

All ER-Ps provinces have a Provincial REDD+ Steering Committee (PRSC). They provide direction and advice on implementation of the PRAPs. A particularly important role of this group is to support cross sector coordination. The PRSC is a multi-sectoral committee with representatives drawn from most provincial departments (including DARD, DONRE, FPD, DPI, DOF etc.). The PRSC will be closely involved to support these cross-cutting interventions. PRSCs provides guidance, and coordinate and direct DARDs and PPMUs to implement the program activities in a manner complying with the targets, progress, quality and efficiency as set out in the Program Documents, Agreements and relevant Laws. The PRSC also supports the PPCs to provide general advice, to review annual working plans and to ensure the coordination and linkage with the relevant agencies.

Departments of Agricultural and Rural Development and Provincial Project Management Units (PPMUs)

The provincial DARDs are the leading provincial agency, coordinating all activities of the programs, projects, organizations, and individuals in the provinces. They are responsible for: 1) organizing counterpart funds (for the components and activities carried out by the provinces); 2) organizing the management and implementation of staff structure in accordance with the decisions of the PPCs; 3) effectively managing and using ODA funds, counterpart funds; 4) preparing and submitting to the PPC the annual program implementation plans; 5) conducting the procurement in accordance with the current laws on procurement; negotiating, signing and monitoring the implementation of the contracts and addressing any problems arising in accordance with their authority; and 6) guiding the CPMU to prepare final reports, outputs and liquidation reports in accordance with the laws.

DARD will establish Provincial Program Management Units (PPMU) which are the management units for supporting program implementation and are responsible to the PPCs, DARD and CPMU in managing and organizing the program in three provinces. PPMUs are under the guidance of the CPMU who provide expertise, inspection, monitoring and evaluation for all the components and activities in the provinces in the manner complying with the targets, progress, quality and efficiency as set out in the Program Documents, Agreements and relevant Laws. DARD assigns tasks for the PPMUs. To improve efficiency currently, the PPMUs are integrated with the FCPF project PPMUs (Quang Binh, Quang Tri and Thua Thien Hue), the Vietnam Forests and Delta project PPMUs (Thanh Hoa and Nghe An, the VFD Program and UN-REDD Program are due to close in 2018, however, PPMUs in the ER-P provinces including Ha Tinh will continue.

DARD/PPMUs will work closely with different ministries and departments to implement the ER Program, particularly when addressing cross cutting issues. These include:

- The Department of Planning and Investment (DPI) is the focal agency for the SEDPs. DPI leads and coordinates with DOF and DARD to allocate province budget and other funding resources to forest protection and development and socio-economic development in relation to the PRAPs. It will be involved in integrating the PRAP implementation with other relevant programs and projects, especially the SEDP, in the province. Also working with DPI and DONRE the program will support improved cross sectoral land use planning by undertaking deeper analysis of land use dynamics to recommend optimal ways to meet targets across sectors.
- Department of Natural Resources and the Environment (DONRE) is the provincial focal agency for land use, and land allocation (including the issuance of LURC Red Books). DONRE leads and coordinates with DARD to advise the PPC on directing the People's Committees at district level to check and finalize procedures for land and forest allocation and issuance of land use certificates in accordance with Plan 430/QD-UBND dated 02 March 2010 by the PPC and its

subsequent plans. The Program will be working closely with DONRE on land allocation from forest land within Forest Management Boards and/or Commune People's Committee. Joint-Circular no. 07/2011/TTLT-BNNPTNT-BTNMT provides guidance for coordination between MARD and MONRE to perform tasks on the allocation and lease of forests. The new Law on Forestry (2017 and promulgated in 2019) will provide the opportunity to improve coordination with the Land Law and contribute to further improvements to the process of FLA.

- DONRE also supports the process of Environment Impact Assessment of development projects. An important piece of developing cross sectoral legislation is the Law on Access to Information, approved by the National Congress in 2016 which will go into effect on 1st July 2018. Chapter II of this law concerns regulations addressing information transparency/disclosure, including a description of what types of information that the state must widely disclose This legislation will ensure that groups are able to access information and challenge decisions, for example, in terms of infrastructure, mining and agriculture development inside forest areas. Working with DONRE there will be effort to put this Law into operation and provide support to local communities to benefit from this Law.
- Police and Ministry of Justice: The Forest Protection Department is responsible for cooperation and collaboration with government organizations, the army and forest owners to implement forest protection in their administrative areas. At both commune and district level cooperation with communities is supported in relation to training and guidance on planning forest protection and forest fire prevention, as well as information exchange and evaluation (Decree 119/2006/ND-CP and Decree 74/2010/ND-CP). Decision No. 39/2009/QD-TTg issued the regulation on coordination between forest rangers and militia forces in the protection of forests while Circular 29/2007 provides for coordination across Ministries (MARD, Police, Ministry of Justice and the Supreme People's Court) for forest violations. It is recognized that although the cross sectoral policies exist there is the need for more resource to support these cross sectoral institutions. They will be further supported in particular provinces.
- Department of Finance (DOF) monitors the spending for PRAP implementation and program implementation and coordinates with DARD to formulate financial management mechanisms and policies for PRAP implementation; formulate guidelines for management and use of REDD+ funds at all levels; and monitor stakeholders to ensure their compliance to guidelines for management of REDD+ funds. The PRSC, will play a central role in monitoring these cross sectoral interventions. As highlighted in Section 4 of the ER-PD and linked to the NRAP; this committee will be required to monitor cross cutting activities. Initial indicators of progress have been identified and will be further developed. The Steering Committee will report to the PPMU, PPC and will also feed up results to the National Steering Committee on Forest Protection and Development Plan. Given the importance of this Steering Committee funds will be set aside to strengthen it throughout the life of the Program.

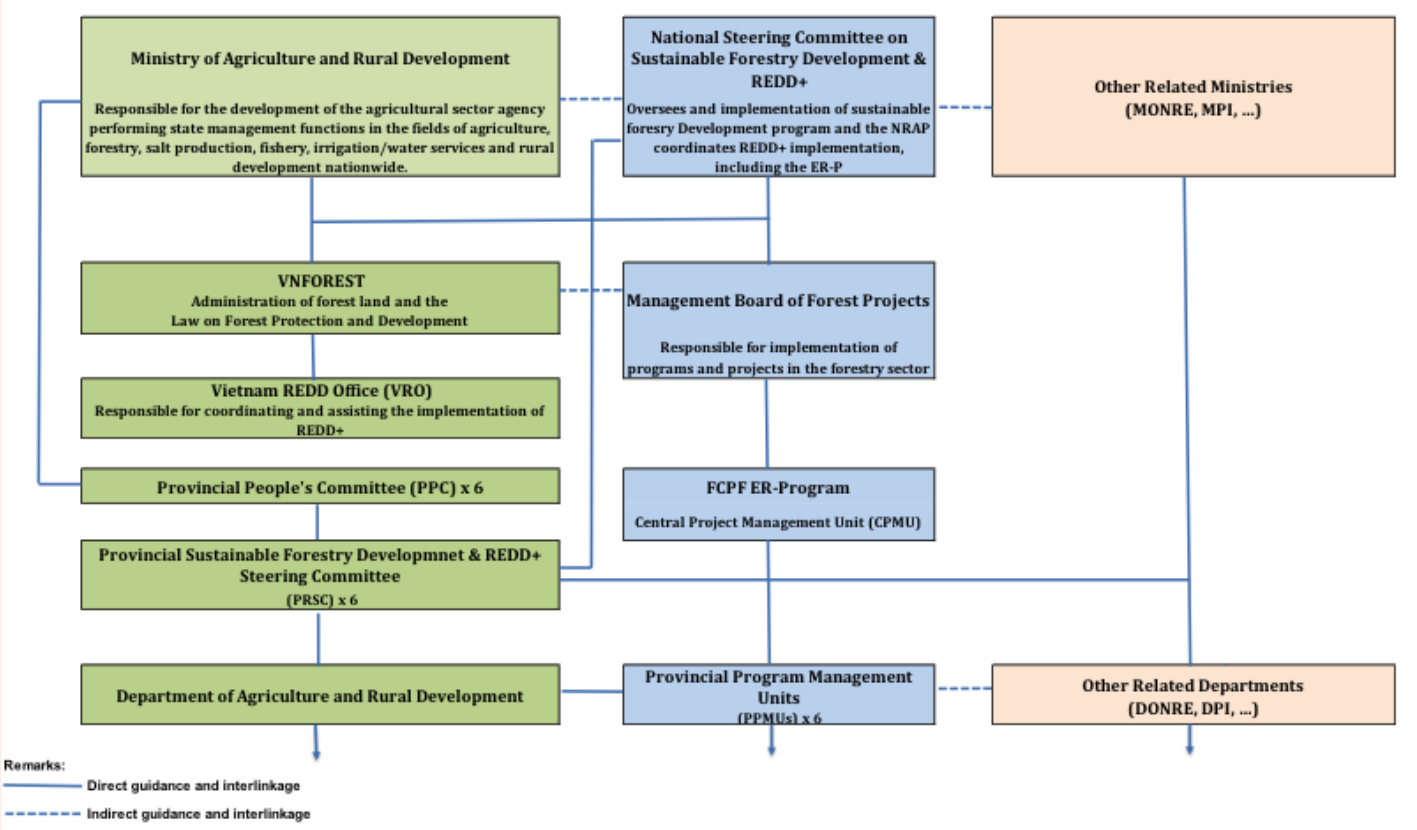
6.1.3 Site level management and implementation

Critical to success of the ER Program will be the institutional arrangements at the site level. This must be both multi-sectoral and inclusive of the different stakeholders affected. At the site level activities will be mainly implemented through the MBs and SFCs. It should be noted that SUFs, PFMBs and SFCs require permission from provincial authorities to implement many operation-related measures; they only have a limited degree of freedom regarding operational decisions.

At the site level the ER-P will adopt the ACMA (See Section 15 on Benefit Sharing Arrangements of the ER-PD) through which MBs and SFCs will work with forest dependent communities, legal community entities and smallholders. Institutional arrangements are designed for implementing ER Program activities across land use designations and for implementing benefit sharing plans. They will build on the existing management structures of the forest management entities by facilitating collaboration between managers and users of forests. Committees established will include representatives of: the forest management entity, the DPC, the CPC, the villagers in the buffer zones of the forest management entity and newly established community entities. Cross sectoral collaboration

involvement of the DPC will be critical, as the forest management entities themselves do not have legal jurisdiction over most agricultural land. Also, only the DPC, which acts on behalf of MONRE, is legally empowered to issue LURCs to forest land to individuals, households and communities. Mass organizations, especially the Vietnam Women's Union and the Fatherland Front together with an Ethnic Affairs Officer (if one is appointed), will be represented. ACMA Committee members will meet at least once monthly to discuss and approve ER-P related activities. Establishing such institutional and implementation arrangements will be critical to ensuring broad stakeholder engagement and cross sectoral implementation. Further details of the institutional structure of the ACMA are provided in Section 15.2. of the ER-PD and in Boxes 3 and 4 in this document.

Figure 6.1 Organizational structure for implementation of the ER-P



Provincial REDD+ Steering Committees (PRSCs)

All ER-Ps provinces have a Provincial REDD+ Steering Committee, which is due to play a critical central coordinating role in the provinces for the ER-P and in planning integrating forestry with other sectors. The PRSC is multi-sectoral committee with representatives drawn from most provincial departments (including DARD, DONRE, FPD, DPI, DOF etc.) and is tasked with improving cross sectoral planning, promoting REDD+, coordinating the design and implementation of the PRAPs, monitoring, maintaining and improving forest cover, improving forest governance and improving land use planning. The PRSC is to provide policy options to the PPCs on REDD+ provide linkages to CCAP. The PRSC is also expected to include SUF MB and PFMB representatives therefore helping them to have a say in forest and land use planning.

Departments of Agricultural and Rural Development and PPMUs

The provincial DARDs are the leading provincial agency, coordinating all activities of the programs, projects, organizations, and individuals in the provinces are responsible for implementation of the components, interventions and the activities carried out by the provinces, and are responsible for: 1) organizing counterpart funds (for the components and activities carried out by the provinces); 2) organizing the management and implementation staff structure in accordance with the decisions of PPCs; 3) effectively managing and using ODA funds, counterpart funds; 4) preparing and submitting to the PPC the annual program implementation plans; 5) conducting the procurement in accordance with the current laws on procurement; negotiating, signing and monitoring the implementation of the contracts and address the problems arising in accordance with their authority; 6) guiding the CPMU to prepare final report, outputs and liquidation reports in accordance with the laws.

The DARDs will set up a PPMUs which are the management unit focal point for supporting PRSCs PPCs and program implementation and will b responsible to the PPCs, DARDs and CPMU in managing and organizing the program in the province. The DARDs assign tasks for the PPMUs in accordance with the PPMU's establishing Decisions. The PPMUs will be expected to work closely with DONRE

SUFMBs, PFMBs and SFCs to manage and implement program activities on the forestland area managed by the SUFMBs, PFMBs and SFCs.

DARD advises the PPC on REDD+ related functions and responsibilities to the Steering Committee on Provincial Forest Protection and Development Plan for 2009-2020 for the implementation of the PRAP; and provides advice, as necessary, on the establishment of a PRSC with representatives from DARD, DONRE, DPI, Department of Finance, DOST, Labor, Invalids and Social Affairs and Districts as necessary.

DARD is the main executing agency for the PRAP implementation and inter-sectoral coordination at the provincial level. DARD should lead, coordinate, and integrate the PRAP implementation with other ongoing projects and programs under the jurisdiction of DARD including but not limited to the FPDP, PFES program, forest land allocation (DARD leads and coordinate with DONRE to complete the land and forest allocation within the province), forest inventory work, NRAP, 30a and 135 Programs.

Institutionally, DARD coordinates the work of the newly integrated Sub-Department of Forest Protection (Sub-FPD) for forest allocation, monitoring, forest governance, distribution and enforcement of the PFPDF for PFES; the Center for Agriculture and Forestry Planning and Design (CAFPD) for forest inventory, allocation, and mapping; and the Agriculture Extension Center for extension service provision for livelihoods development.

Currently, the PPMUs are currently integrated with FCPF program PPMUs (in the cases of Quang Binh, Quang Tri and Thua Thien Hue), VFD project PPMUs (in cases of Thanh Hoa and Nghe An, the VFD Program is due to close in 2018, but the ER-P PPMU would continue), and UN-REDD Program PPMU in the case of Ha Tinh.

Department of Natural Resources and Environment

The DONRE is the provincial focal agency for land use, natural resources, and climate change related projects and Programs in charge of the Land Use Master Plan (LUMP), CCAP, and land allocation (including the issuance of LURC red books). DONRE ensures that the PRAP is implemented in coordination with the LUMP and CCAP and that the land allocation is conducted smoothly in line with forest allocation that is under DARD. DONRE leads and coordinates with DARD to advise the PPC on directing People's Committees at the district level to check and finalize procedures for land and forest allocation and issuance of land use certificates in accordance with Plan 430/QD-UBND (or equivalent for each province) dated 02 March 2010 by the PPC (of each province) and its subsequent plans; and integrates REDD+ implementation in land use planning at different levels.

District management agencies

The provinces can establish program management units at the district and communal levels to help manage and implement the program activities on the forestland area managed by the districts and communes.

Other project management agencies

The provinces can establish project management units at the district and communal levels to help manage and implement the project activities on the forestland area managed by the districts and communes.

- Special Use Forest Management Boards (SUFMBs) and PFMBs: manage and implement project activities on the forestland area managed by the SUF and PFMB. Protection forests are designated primarily for watershed protection function, usually having undulating terrain located within watershed catchment areas. Most the protection forests that are in the ER-P include areas of both protection and production forest. SUFs are the protected areas in Vietnam and are under threat from encroachment and illegal extraction of logs, hunting and in many areas over harvesting of NTFPs, under the Forest Protection and Development Law all harvesting from the SUF is technically illegal.
- State Forest Companies (SFCs): manage and implement project activities on the forestland area managed by the SFC.

- The Department of Planning and Investment (DPI) is the focal agency for the SEDP implementation. DPI leads and coordinate with DOF and DARD to allocate state budget and other funding resources to forest protection and development and socio-economic development in relation to the PRAP; and integrates the PRAP implementation with other relevant programs and projects, especially the SEDP, in the province.
- Department of Finance (DOF) monitors the spending for PRAP implementation and program implementation and coordinates with DARD to formulate financial management mechanisms and policies for PRAP implementation; formulate guidelines for management and use of REDD+ funds at all levels; and monitor stakeholders to ensure their compliance to guidelines for management of REDD+ funds.
- District-level People's Committees (DPCs) undertake awareness raising and other relevant REDD+ activities under the PRAP with the CPCs and other relevant stakeholders at district level. The DPCs should direct, guide, and check the development and implementation of site-level REDD+ implementation arrangement under the general guidance of DARD.

Coordination mechanisms

MARD and VNFOREST participate in the program to develop activities related to the forestry sector for institutional arrangements and policies.

Working relationship between NRSC and MBFPs, CPMU: NRSC provides guidance, coordinates and directs MBFPs, CPMU by monitoring the management and organization of implementation of the program as a whole to achieve the objectives, progress, quality and efficiency as set out in the current regulations on the Program Management and Implementation.

The CPMU at central level will deal with the cross-cutting issues, and facilitates the coordination between the different ministries, departments, general departments under MARD, MONRE and MPI to enhance the synergy and the unified direction from the central level to the grassroots level. CPMU, under the direct guidance of NRSC and MBFPs, carries out the tasks as assigned and will coordinate with SSFDRO and the STWGs and for MMR.

Working relationship between PRSCs and DARDs and PPMUs: PRSCs provides guidance, coordinates and directs DARDs and PPMUs to implement the program activities in the manner complying with the targets, progress, quality and efficiency as set out in the Program Documents, Agreements and relevant Laws.

Working relationship between MBFPs and DARDs: This is the coordination relation to carry out the program activities in the manner complying with the targets, progress, quality and efficiency as set out in the Program Documents, Agreements and relevant Laws.

Working relationship between CPMU and PPMUs: PPMUs are under the guidance of CPMU's professional expertise, inspection, monitoring and evaluation for all the components and activities in the provinces in the manner complying with the targets, progress, quality and efficiency as set out in the Program Documents, Agreements and relevant Laws.

Box 4 Importance of the ACMA

The importance of the adaptive collaborative management approach

While consultations have informed the overall design of the ER Program, the program itself is built around adaptive collaborative management (the ACMA), which is participatory in nature and engages both communities and the FME. Field-based activities will be developed using participatory approaches. REDD+ Needs Assessments and Social Screening Reports will be developed at the forest management entity level (PFMBs SUFMBs, and SFCs) and will involve consultations with local communities. These consultations will cover proposed interventions including: SFM, CFM, biodiversity/ conservation issues related to access to natural resources, socio-economic and environmental impacts, and options for mitigation including livelihood support to reduce dependency and encroachment impacts on forests. Communities would be expected to participate in preparation of the management plans of the FMEs, and it is envisaged that the PFMBs and SUFMBs and community leaders would agree to formal partnerships based on collaborative, shared protection responsibilities and benefits over the natural forest. Local villages will facilitate participatory consultations to secure free, prior and informed consultation from village-level stakeholders and agreement will be sought on issues such as forest boundary demarcation, access to forests use of forest resources and land use planning. Elections in each village community will be facilitated to ensure the two most popularly elected village members (to ensure the participation of at least one-woman representative per village as well) represent the village at meetings of the ACMA Entity. The ACMA have a role to play in environmental mitigation, as a first place to resolve any disputes. It is also proposed through the ACMA that stakeholders will lo more closely at land use and land tenure issues to determine how (a) existing conflicts between forest owners and forest users who are not owners can be resolved; (b) current activities to accelerate forest land allocation to individual households and community groups can be realized; (c) re-examination of existing LURCs to ensure individual joint-owners (primarily women) are included in re-issued LURCs; and, (d) a concerted attempt to facilitate learning outcomes whereby statutory and customary rights can be reconciled or at least synergies can be achieved between the two. The ER Program will finance a Participation Specialist for supporting participatory processes for ACMA and benefit sharing plans.

6.2 Responsibility for ESMF implementation

1. The main overall direct responsibility for implementation of the ESMF will be with the CPMU, and in turn the CPMU will be supported by the PPMUs and the forest management boards (SUFMB and PFMBs) and the SFCs. At the field level the ACMA will work with the forest management boards and communities and will be instrumental (see text Box 4) in coordinating and contributing to implementation collaborative approaches to forest land management, forest protection and biodiversity conservation and reporting. At subproject/activity level, the subproject/ activity safeguard staff of the subproject/activity owner (PPMUs) will be responsible for monitoring and monthly reporting. At Program level, the Program safeguard staff of CPMU will review the ESMF/safeguard implementation progress, take actions as necessary, and report the results as part of the Program safeguard monitoring report to be submitted to WB on a 6 months and yearly basis. The Program Steering Committee (PSC) and/or the Provincial People Committee (PPC) will be responsible respectively for taking policy actions related to safeguard issues at Program level and subproject levels. Close consultation with WB on specific issues are recommended.

2. The Program will be implemented in Program provinces. The implementing agencies will be MARD, and the provincial People's Committees (PPCs) of the six ER-P provinces working through DARD and FPD and supported by the Districts.

Table 6.2 Institutional Responsibilities for the Program and Subproject Safeguard Implementation

Community/ Agencies	**Responsibilities**
Program Implementing Entity (PE) and CPMU	- The PE will be responsible for overseeing the Program implementation including ESMF implementation and environmental performance of the program.

(MARD CPMU here means the CPMU of VNForest, and PPMUs of the provinces)	- CPMU, representative of the PE, will be responsible for monitoring the overall Program implementation, including environmental compliance of the Program. CPMU will have the final responsibility for ESMF implementation and environmental performance of the Program during the construction and operational phases. - CPMU will: (i) closely coordinate with local authorities in the participation of the community during program preparation and implementation; (ii) monitor and supervise ESMP implementation including incorporation of ESMP into the detailed technical designs and bidding and contractual documents; (iii) ensure that an environmental management system is set up and functions properly; (iv) be in charge of reporting on ESMP implementation to the PE and the World Bank. - To be effective in the implementation process, CPMU will establish an Environmental and Social Unit (ESU) with at least two safeguard staff to help with the environmental aspects of the Program.
Environmental and Social Unit (ESU) under CPMU	- The ESU is responsible for monitoring the implementation of the World Bank's environmental safeguard policies in all stages and process of the Program. Specifically, this unit will be responsible for: (i) screening subprojects against eligibility criteria, for environment and social impacts, policies triggered and instrument/s to be prepared;(ii) reviewing the subproject EIAs/EPPs and EIAs/ESMPs prepared by consultants to ensure quality of the documents; (iii) helping CPMU/PPMU of VNForest incorporate ESMPs into the detailed technical designs and civil works bidding and contractual documents; (iv) helping CPMU incorporate responsibilities for ESMP monitoring and supervision into the TORs, bidding and contractual documents for the Construction Supervision Consultant (CSC) and other safeguard consultants (SSC, ESC, IMA, and EMC) as needed; v) providing relevant inputs to the consultant selection process; (vi) reviewing reports submitted by the CSC and safeguard consultants; (vii) conducting periodic site checks; (viii) advising the CPMU on solutions to environmental issues of the subproject; and ix) preparing environmental performance section on the progress and review reports to be submitted to the Implementing Agency and the World Bank.
PPMUs and PMU of VNForest	- As the subproject/activity owner, PPMU/PMU of VNForest is responsible for implementation of all the ESMP activities to be carried out under the Program, including fostering effective coordination and cooperation between contractor, local authorities, and local communities during construction phase. PPMU/PMU of VNForest will be assisted by the environmental staff, safeguard consultants, and CSC/or field engineer.
Construction Supervision Consultant (CSC) and/or Field Engineer	- The CSC will be responsible for routine supervising and monitoring all construction activities and for ensuring that Contractors comply with the requirements of the contracts and the ECOP. The CSC will engage sufficient number of qualified staff (e.g. Environmental Engineers) with adequate knowledge on environmental protection and construction subproject management to perform the required duties and to supervise the Contractor's performance. - The CSC will also assist the PPMUs/PMU of VNForest in reporting and maintaining close coordination with the local community.
Contractor	- Based on the approved environmental specifications (ECOP) in the bidding and contractual documents, the Contractor is responsible for establishing a Contractor ESMP (CESMP) for each construction site area, submit the plan to PPMUs/PMU of VNForest and CSC

	for review and approval before commencement of construction. In addition, it is required that the Contractor get all permissions for construction (traffic control and diversion, excavation, labor safety, etc. before civil works) following current regulations. - The Contractor is required to appoint a competent individual as the contractor's on-site Safety and Environment Officer (SEO) who will be responsible for monitoring the contractor's compliance with health and safety requirements, the CESMP requirements, and the environmental specifications (ECOP). - Take actions to mitigate all potential negative impacts in line with the objective described in the CESMP. - Actively communicate with local residents and take actions to prevent disturbance during construction. - Ensure that all staff and workers understand the procedure and their tasks in the environmental management program. - Report to the PPMUs/PMU of VNForest on any difficulties and their solutions. - Report to local authority and PPMUs/PMU of VNForest if environmental accidents occur and coordinate with agencies and keys stakeholders to resolve these issues.
Independent Third Party Monitoring Consultant (TPMC)	- The TPMC will perform independent verification of self-reporting data provided by the PE and annual audits of a sample of ER Program activities including safeguards documentation, consultation processes, effectiveness of management measures specified in the Safeguards Plans, and disclosure of information, among other important aspects. - The TPMC will provide timely information to the PE on specific issues of non-compliance or significant implementation problems so that the PE can take corrective actions, if needed. - The TPMC will provide information to the World Bank on systemic safeguard performance issues which may require changes in management approach and/or additional financial or human resources. - The TPMC will disclose the results of monitoring to inform concerned stakeholders about implementation experience under the ERPA Operation. - The TPMC will have extensive knowledge and experience in environmental monitoring and auditing to provide independent, objective and professional advice on the environmental performance of the Program.
Local community	- Community: According to Vietnamese practice, the community has the right and responsibility to routinely monitor environmental performance during construction to ensure that their rights and safety are adequately protected and that the mitigation measures are effectively implemented by contractors and the CPMU/ PPMUs/PMU of VNForest. If unexpected problems occur, they will report to the CSC and/or CPMU/PPMUs/PMU of VNForest.
Social organizations, NGOs and civil society groups	- These organizations could be a bridge between the PPC/DPC, communities, Contractors, and the CPMU/PPMUs/PMU of VNForest by assisting in community monitoring.

	- Mobilizing communities' participation in the subproject, providing training to communities and Participating in solving environmental problems, if any.
Province and District People's Committees (PPCs/DPCs), Provincial DONRE	- Oversee implementation of subprojects under recommendations of DONRE and PPMU/PMU of VNForest to ensure compliance of Government policy and regulations. DONRE is responsible for monitoring the compliance with the Government environmental requirements.

1. MARD through VNFOREST will be the primary executing agency for the Program MARD has extensive experience in implementing IDA-financed projects since 1995. MARD will work in close collaboration with relevant Ministries and agencies to implement the program. Program implementation will be guided by a Program Steering Committee (PSC), consisting of, at the central level, representatives of key Ministries such as MPI, MOF, MONRE, Provincial People's Committees and others as relevant, who will be responsible for facilitating the coordination among the key stakeholders, providing guidance, and ensuring alignment with the national policy framework.

2. MARD through VNFOREST has been assigned by the government as the Program owner and will be responsible for overall implementation, management, and coordination of the program. The Ministry has experience implementing various Bank-financed projects, along with those financed by other partners in the agriculture sector in general and in the forest sector in particular, including the Asian Development Bank, JICA, KfW, GIZ and other bilateral donors, and so is familiar with Bank procedures and policies. VNFOREST will use existing resources to establish a CPMU and create an advisory group comprising of agriculture, water, forestry, and aquaculture specialists from technical departments, and related research institutes (this last part is still under discussion).

3. The CPMU, assisted by the advisory group, is responsible to work with and assist the program provinces to implement the program in accordance with the program design. CPMU is responsible for the preliminary review and quality check of the provinces' procurement and work plans before they are submitted to the Bank. In addition, the CPMU will be responsible for the overall program level administration,

4. Provincial level. Subprojects under Components 1, 2 and 3 will be implemented by PPMUs in the respective provinces. The Provincial People's Committee (PPC) will appoint an existing PPMU under DARD to be the implementing agency. At each province, a Provincial Steering Committee will be appointed comprising representatives of provincial Departments such as DPI, DOF, DONRE and District People's Committees who will be responsible for facilitating the coordination among the key stakeholders, providing guidance for program implementation in its respective province.

5. Program oversight. A Central PSC will be established and comprise representatives from MONRE, MARD, MPI, PPCs, MOF, OOG, and the State Bank of Vietnam. The PSC will organize meetings to review the program implementation, provide policy guidance, and assist in coordination on a need basis. Provincial PSC provides program implementation oversight at provincial level.

6. Technical oversight. MARD CPMU will (a) provide technical review of provincial investment plans/proposals, consolidating and monitor these plans and (b) extend TA to DARDs, when required, to support implementation at provinces. The CPMU will include technical specialists from various technical departments including forestry, aquaculture, water, climate change and environment, as needed.

6.3 World Bank oversight

During the implementation period of an ERPA Operation, the World Bank has the responsibility for monitoring and ensuring effective implementation and compliance of the Program Entity with agreed management measures. The Bank's primary responsibility for oversight would be to assess whether the

environmental and social management systems established by the Program Entity (PE) address and respect all aspects of the Safeguard Plans that apply to the ERPA Operation. The Bank's focus is not to troubleshoot or resolve individual ER Program activity issues (unless these actions are financed by the Bank) but to take steps to demonstrate that the Safeguards Plans continue to function effectively at the systems level. This includes confirming aspects such as, adequacy of budgets and staffing to support the implementation of the Safeguards Plans; that the PE can demonstrate credibly that environmental and social assessments and management plans are prepared in accordance with the safeguard frameworks; mechanisms for self-reporting and Third Party monitoring are in place and functional; grievance redress and dispute resolution mechanisms are established and functional; the implementing entities have demonstrated ability to solve issues of non-compliance and so on. The Bank will establish a clear time-table for supervision and implementation support missions. In the early years of an ERPA Operation, oversight would typically need to be robust and conducted regularly to verify that systems are functioning as agreed.

6.4 Third-party monitoring

In addition to self-monitoring and World Bank oversight, an important aspect of performance and compliance monitoring is the use of independent Third Party monitors. Third Party monitoring can take various forms but typically would involve a combination of independent verification of self-reporting data provided by the Program Entity and annual audits of a sample of ER Program activities to confirm procedural compliance as well as timely preparation of key documents, post-review of the quality review of safeguards documentation which has been prepared, consultation processes, effectiveness of management measures specified in the Safeguards Plans, and disclosure of information, among other important aspects. Third Party monitoring can serve at least three purposes. First, to provide timely information to the Program Entity on specific issues of non-compliance or significant implementation problems so that the Program Entity can take corrective actions, if needed. Second, Third Party monitors provide information to the World Bank on systemic safeguard performance issues which may require changes in management approach and/or additional financial or human resources. Third, the disclosing the results of monitoring will inform concerned stakeholders about implementation experience under the ERPA Operation. In practice, Third Party monitors will typically be private consulting firms, individuals or teams recruited from universities or colleges, government institutes not affiliated with the operation, or NGOs with knowledge and experience in safeguards.

6.5 Safeguard reporting arrangements

Progress towards achievement of the program development objectives including safeguards will be measured through an M&E system and reporting on the ESMF will be an integral part of that and will be supported under the program (See Table 6.2 below). Indicators to be measured are listed in the Results Framework (See Table 4.8 of the ER-PD for the detailed indicators). M&E will be an integral part of the program management and decision-making processes, e.g. to feed lessons learned quickly into revising systems, guidelines, and procedures, as well as the training program of the project. Participatory M&E tools will be used at the village level. For sustainability, M&E at higher levels will be developed as a routine function of government agencies at those levels, rather than as a project-specific M&E. it is expected that safeguards performance reports will be submitted to the Bank on a yearly basis. The report will describe program progress and compliance with the ESMF world bank will conduct periodic systems supervision including spot checks in the field to ensure that the safeguards are being implemented in compliance

Monitoring and evaluation will cover both program performance monitoring and effectiveness monitoring. Program performance monitoring will determine the progress in program implementation against established benchmarks and milestones indicated in the program document and work plans.

To encourage broad-based participation and to particularly target the poor and vulnerable, participation will be monitored and disaggregated in terms of gender, ethnicity, and household socio-economic status. The following guidelines will be considered when developing the full M&E system and for identifying potential indicators:

- Disaggregate information by gender, ethnic group, and household socio-economic status;
- Involve villagers in designing the monitoring program, collecting data, and drawing conclusions from the data, based on the SSR and the establishment of the ACMA;
- Continue feedback meetings after fieldwork and incorporate recommendations into systems development;
- Biodiversity monitoring will include using the Management Effectiveness Management Tool (METT);
- Keep disaggregated records of involvement and participation in different activities at village level and also in the databases;
- Note successful and unsuccessful strategies for future reference in curriculum development, field implementation, and other project areas; and
- Identify indicators and tools to measure the project's impacts on women, ethnic groups, and the poor.

Monitoring and evaluation will cover both program performance monitoring and effectiveness monitoring and MMR. Program performance monitoring will determine the progress in program implementation against established benchmarks and milestones indicated in the program document and work plans. The MRV will include monitoring reporting and verification of forest cover and will take information from the provincial forest management system and from the central use of remote sensing imagery.

Community forest monitoring is expected to be undertaken through the PFMS commune based forest monitoring system which is being introduced as a pilot in all provinces (with funding from JICA, FCPF and VFD) and will use a tablet based approach that will allow information to be sent to FORMIS.

Table 6.3 Summary of main monitoring and reporting arrangements for the ESMF and related information

Monitoring of the ER-Program, safeguards and non-carbon benefits	**Responsibility**
Overall monitoring of the performance of the ER-P, meeting the required activities in the overall program M&E results framework and monitoring of the ER MMR/ MRV process, checking the reports for monitoring of emissions reductions	CPMU, VNFOREST, MARD
Overall monitoring of safeguards, the implementation of the regional ESMF	CPMU, PPMU, FMBs, SFC, VNFOREST, MARD
Completion of information monitoring for the SIS for UNFCCC reporting	CPMU, VNFOREST, MARD, MONRE
Establishment of monitoring systems that can highlight deforestation and forest degradation threats	CPMU, PPMU, Provincial REDD+ SC
Review and monitoring of LUP, FPDP, PRAP, NRAP	CPMU, PPMU, Provincial REDD+ SC
Training in data collection, analysis, monitoring	CPMU, PPMUs, FPDs
Community based systems for monitoring	CPMU, PPMUs, FPDs
Independent monitoring of the implementation of the Social Screening Reports of the REDD+ Needs Assessments and reporting on the ACMAs	CPMU, PPMUs, FMBs, SFC, independent monitoring

Monitoring of the ER-Program, safeguards and non-carbon benefits	Responsibility
Independent monitoring of the implementation of Process Framework by visiting a representative sample of communities that are experiencing restrictions of access to natural resource use at the end of each year from the second year of project implementation	CPMU, PPMUs, independent monitoring
Pilot PFMS system in selected Districts and communes and forest owner groups/ MBs/ FME /cooperatives/ and stakeholders as necessary	CPMU, DARDs/ FPDs/ Communes/ MBs other entities as the PFMS develops
Performance of individual PFMBs, SUFMBs and SFCs in terms of improved forest management and business and finance management and performance	CPMU, DARDs/ FPDs
- Afforestation, reforestation, transformation for short to long rotations	CPMU, DARDs/ FPDs MBs
- Forest protection, collaborative management, community forest management	CPMU, DARDs/ FPDs MBs
Management effectiveness of PFMBs and SUF Management Boards	CPMU, FPDs MBs
- Biodiversity maintained	CPMU, FPDs, MBs
- Avoided deforestation and degradation	CPMU, FPDs, MBs
- Improved forest landscape planning changes in forest planned and unplanned conversion	CPMU, FPDs, MBs
- Threats to forest reduced as measured by the threat reduction assessment index	CPMU, FPDs, MBs
- Use of improvement in management effectiveness as measured by the Management Effectiveness Tracking Tool (METT) in SUFs and PFMBs	CPMU, FPDs, MBs
- Dissemination of effective models for collaborative of natural resources as measured through named examples of Natural Resource Use Agreements	CPMU, FPDs, MBs
- Social impacts of improved collaborative management, based on monitoring agreed indicators	CPMU, FPDs, MBs, independent monitoring
Management effectiveness of the SFCs	CPMU, SFC
Monitoring of the Resettlement Framework Policy	CPMU, PPMUs, independent monitoring
Monitoring of safeguards and proposed investments in benefits by PPMU and MBs to help ensure that ERs generated by projects/programs comply with safeguards	CPMU, PPMUs, independent monitoring

6.5.1 Safeguards information System (SIS) and progress

In 2017, a consultative, multi-stakeholder SIS design process began, building on a draft 'Technical Proposal for the Development of a SIS in Viet Nam'. This has led to the development of an initial integration plan, for creating SIS version 1.0 within the Forest Management Information System (FORMIS).

In the 'Technical Proposal for the Development of Safeguard Information System (SIS) in Viet Nam' the objectives for the SIS are described as follows:

- 2016-2020: the objective of the SIS should be to provide information on how the country specific safeguards are being addressed and respected throughout the implementation of REDD+ activities. The short-term objective of the SIS in Viet Nam is, therefore, to meet UNFCCC safeguards reporting requirements and produce the summaries of information. It is also proposed that the SIS should gather and provide information on safeguards implementation for the proposed Forest Carbon Partnership Facility Emissions Reduction Program, in the North Central Region, during this period.
- After 2020: the objective should be to support monitoring of priority activities in the forestry sector, such as Payments for Forest Environmental Services (PFES), and contributing to the enhancement of governance in the forestry sector, by supporting the monitoring of policy implementation, and law enforcement in the forestry sector.

Based on the identified objectives for Viet Nam's SIS, the system and its main outputs (e.g. webpage, SOI) will have target audiences at both the international and national level. Initial discussions suggest the following target audiences:

- **International:** the international REDD+ community, potential donors for REDD+ implementation, and potential purchasers of results-based payments (e.g. Green Climate Fund, bilateral financiers).
- **Domestic**: government staff involved in REDD+ implementation and monitoring & evaluation (M&E) at national and provincial level, particularly in VNFOREST and other relevant agencies of MARD; other government agencies involved in REDD+ implementation, such as MONRE, MPI and others; national civil society organizations interested in REDD+ implementation and its social, environmental and economic impacts; provincial and local level government agencies involved in REDD+ implementation and M&E.

The SIS-SOI Working Group of the National Sub-Technical Working Group on Safeguards established by MARD, including key government agencies likely to be involved in providing data/carrying out SIS functions. The National Sub-Technical Working Group on Safeguards, a multi-stakeholder working group including government and non-government organizations relevant to REDD+ safeguards work in Viet Nam, is also being guided through consultations.

Viet Nam is using a phased approach, based on current and future expected information availability

- Phase 1 will integrate with Forest Management Information System (FORMIS). Integration to other external sources will be limited. In Phase 1, a functional database structure and user interface will be implemented with content management system. This implementation will serve as a base for further SIS development. Expected finished in the end of 2018.
- Phase 2 expected to start from early 2019, will integrate other systems and sources of safeguards relevant data. Such data sources might include databases from other governmental institutions, such as the General Statistics Office Of Viet Nam (GSO), as well as information from emerging REDD+ M&E processes. The existing SIS v1.0 implementation will be used to integrate more datasets from various sources to develop SIS v2.0.

The SIS v1.0 will be hosted on a virtual server that will be allocated on the FORMIS server. This virtual server will host the SIS v1.0 back-end (database) and the front-end (website). The website will be published through the Viet Nam REDD website (www.vietnam-redd.org).

7 Capacity building training and technical assistance

7.1 Institutional capacity assessment

Implementation of the Projects financed by the WB is not new for MARD, including the projects in the forestry sector; therefore, most of Project activities could be managed with low to moderate safeguard risks. Implementation of Component 2 and 3 activities which are related to community based forest management, reforestation, reforestation of coastal protection forests, enrichment planting for poor natural forests, climate-smart agriculture, alternative of off-farm income for forest dependent people, have also low to moderate safeguard risks and potential negative impacts can be mitigated through the application of screening, assessment, and preparation of ESMP including the conventional measures described in the ECOP. However, it is necessary to ensure that the CPMU has adequate capacity to provide guidance to PPMUs as well as to review and approve the ESMP and M&E of the ESMPs implementation especially for Components 2 and 3.

Project level: Currently, VNFOREST, FMBs, and SFC of MARD include many professional staff on forestry, environment and social staff. They have extensive experience in the preparation and implementation of WB and ADB environmental and social safeguards policies related to ODA forestry projects. The VNFOREST, FMBs, and SFC staff have participated in short-term training courses on the safeguards policies organized by donors (World Bank, ADB) and specialized workshops in overall training program of the projects implemented by MARD. However, due to increasing requirements on the management and implementation of safeguards policies, it is required that implementation staff constantly learn and increase their professional qualifications to meet the requirements.

Subproject level: The six program provinces and their PPMUs have been involved in the implementation of a number of on-going WB-financed projects relevant to different safeguards aspects of the program, specifically: Livestock Competitiveness and Food Safety Project; Coastal Resources for Sustainable Development; Vietnam Results-based Rural Water Supply and Sanitation under the National Target Program (NTP); Vietnam -Managing Natural Hazards Project; Forest Sector Modernization & Coastal Resources; NTPs for New Rural Development and Sustainable Poverty Reduction; Local Road Asset Management Program. In addition, the have also been involved in the forest sector activities and programs supported by JICA, UNREDD program, GIZ, KfW. Therefore, the PPMUs has experiences in the World Bank's safeguard policies, however, their knowledge and experience of the requirements on safeguards still need to be strengthened. Moreover, many national consultants and local authorities do not have adequate knowledge on WB safeguard requirements therefore safeguard training program will be necessary during the implementation of the ER Program. It is expected that safeguard staff of the CPMU are capable of providing training on the ESMF process, RAP, and EMDP preparation. However, assistance of local qualified specialists will be necessary to enhance their capacity to adequately address specific social and environment issues and scope of the safeguard documents.

Capacity of Community: Results from surveys suggested that the communities in the coastal provinces of Thanh Hoa and Nghe An depend on the mangrove ecosystem through extensive farming and small production with low productivity due to lack of funds and sustainable farming techniques while those in the north central coastal provinces (Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue) making their livelihood mainly on agricultural activities such as growing vegetables, fruit trees, livestock and poultry. Some of the local peoples understand and aware of the important role of protection forests on reducing natural disasters and a possibility for them to increase income. However, there are many existing constraints for local communities to play an active role in coastal forest/mangrove management given their limited knowledge, poor living condition, and lack of financial resources.

Nonetheless, as the Program aims to promote the application of Community Forest Management (CFM) for ensuring sustainable management of forests, it is necessary to provide guidance on safeguard actions to ensure that adequate training (technical and management) on forests will be provided during the

implementation of the subprojects. In addition, training on issues related to safeguard such as on safe use, storage, and disposal of pesticides and on other specific activities necessary for prevention and management of forest fire, possible impacts of invasive species, related GOV regulations and obligations to international conventions, and other safety issues will be necessary.

During implementation of the Program, safeguard training and technical assistance will be provided both for staff of PPMUs and CPMU. During the first 3 years CPMU will conduct at least 2 safeguard training workshops (one on environment and one on social) per year for PPMUs focusing on the contents of ESMF and requirements for preparing safeguard documents, especially ESMP, ECOP, RAP, EMDPs. Technical training on issues related to safeguard issues and other related aspects including field trip will also be carried out at least 1 time per year for the first 3 years. The program for capacity building on safeguards is included in Sub-sections 7.2 and 7.3 below.

The objective of safeguard training and technical assistance is to ensure that staff and local communities have adequate knowledge and understanding on Government regulations as well as safeguard requirements and take actions timely. CPMU will mobilize consultants to provide training on safeguard policy, monitor and report on performance of safeguard policy to WB. CPMU will also mobilize independent monitoring consultant to supervise the implementation of RAP (if needed). PPMUs will also mobilize safeguard consultants (individual or organizations) to support them in the implementation of safeguard measures for the subproject. The safeguard staff and consultant will ensure that safeguard measures (ESMP, RAP/EMDP) will be fully integrated into the subproject planning and implementation cycle as well as helping CPMU/PPMUs to prepare safeguard monitoring reports as required. The consultants will also ensure that technical assistance on environment and social safeguards is provided to local communities so that they could be perform their function effectively.

7.2 Capacity building for the safeguards

Capacity building in forest management boards and SFC management will be focused on staff and other stakeholders at the local level where most decisions on resource management are taken.

The REDD+ Needs Assessment and Social Screening Reports will lead and provide inputs for the improved management plans for the main forest management entities. The management plans will include an analysis of the roles of institutions and the capacities of the forests management enteritis involved to implement safeguards and work with communities in implementing the Management Plans for the PFMB and SFC and the Operational Management Plan for SUF MBs, e.g. activities include capacity building and training on work with communities, training on the ACMA approach, FGRM, forest law enforcement, infrastructure and human resources, equipment, awareness, spatial planning, generation of sustainable revenues, coordinating the plan (with Provincial Planning Boards, Forestry, Tourism, NGOs, community based forest protection, etc.). All management plans including capacity building would be reviewed and endorsed by the CPMU.

Overall the ER-P is expected to help with improving the flow of information on forest management and use to the FMBs information between BSM recipients, provincial FPDs and national FPD. Central to this will be the Provincial Forest Management System (PFMS) which is being incrementally introduced in all six ER-P provinces and involves communes and village communities in reporting on forest cover and will feed into Forest Protection Department's system of monitoring with the monitoring framework being developed through the PFMS at the provincial level.

Training programs will be developed to (for example on the issues above) and as there is likely to be gradual incremental uptake of the ACMA approach, exchange visits, study tours to other FMBs and SFC are expected to be a key feature. The exchange visits would expect to focus and take lessons learned on the ACMA and benefit sharing mechanisms that were piloted in Bach Ma National Park during their implementation experiences of Decision 126 which was a pilot outcome from the Forest Sector Development Project and Vietnam Conservation Fund from 2009-2013.

7.3 Safeguard Training

Safeguards training will be provided to the PPMU, CPMU, PFMB, SUFMB and SFC levels. An intensive environment and social training program focusing on the information in the ESMF and requirements for preparing ESMP, RAP, EMDP etc., will be delivered during the first two years of program implementation. These trainings will ensure adequate knowledge of government's regulation and world bank safeguard requirement in order to make sure safeguards are duly implemented in compliance with the requirements.

At provincial level, local authorities do not have adequate knowledge on WB safeguard requirements; therefore safeguard consultant will be hired and safeguard training program will be necessary during the implementation of ER-P. As such, local qualified specialists will be necessary to enhance their capacity to adequately address specific social and environment issues and scope of the safeguard documents.

At site level, it is expected that FMBs/SFC would assign a technical staff which has in-depth experience on forestry/social forestry that will then be trained by safeguard specialists from CPMU/PPMUs.

Community: the local peoples understand and aware of the important role of protection forests on reducing natural disasters and a possibility for them to increase income. However, there are many existing constraints for local communities to play an active role in forest management given their limited knowledge, poor living condition, and lack of financial resources. Nonetheless, as the Program aims to promote the application of ACMA and Community Forest Management (CFM) for ensuring sustainable management of forest, it is necessary to provide guidance on safeguard actions to ensure that adequate training (technical and management) on forests will be provided during the implementation. In addition, training on issues related to safeguard such as on safe use, storage, and disposal of pesticides and on other specific activities necessary for prevention and management of forest fire, possible impacts of invasive species, related GOV regulations and obligations to international conventions, and other safety issues will be necessary.

In addition to the trainings above, it is expected that specific training will be required at the PPMU, PFMB, SUFMB and SFC levels and would include the following in relation to the implementation of the ESMF:

- Conducting training courses for the working group members on the details of the process of collaborative management arrangements under an ACMA and the BSP/ BSM framework;
- Carrying out of stakeholder analysis, examples of RNA and SSR[63];
- Analyzing livelihood constraints communities in the survey villages are facing as a result of competing interests by different stakeholders, unfavorable policies and power differentials;
- Sensitization of MBs and SFCs to gain an understanding of local people's perception of socioeconomic and environmental changes over the last 20 years, its impact on their livelihoods, on local people's coping strategies and expectations for the future;
- Conducting a natural resource use survey, that includes information on the identification of NTFPs from the SUF to be used for home consumption and sale, on gender divisions on forest resource use, on times and methods applied for forest product harvesting, and an assessment of the long-term sustainability of the current forest use;
- Analyzing indigenous knowledge systems and still existing local common property arrangements;

[63] Most of the SUFMBs in the region have already participated in an RNA and SSR process 2009-2013, however, these were some time ago so the training would most probably need to start from fresh

- Organizing discussions and assisting local communities in selecting their representatives critical for the success of the ACMA;
- Demonstrating ways to settle potential conflicts of interest e.g. over forest encroachment and potential conflicts on resources and access to forest;
- More involvement of civil society organizations, such as NGOs, academic and/or research institutions that can facilitate the collaborative management process;
- Considering together with local community members and forest users adaptive and potentially more sustainable local management systems; and
- Discussing, negotiating and drafting potential natural resource use agreements under the Benefit Sharing Mechanism, i.e. examples of forest use agreements for future implementation.

Training courses with the participation of REDD+ Coordinators at the PPMUs, PFMB, SUF Management Boards and SFC is expected and apart from the major role to offer guidelines for major steps of setting up and ACMA and preparing a benefit sharing agreements which could include sustainable use of forest resources, the training would provide:

- An introduction into the ESMF, EMPF and Resettlement Policy Framework;
- An overview on the relationship between forest communities (ethnic minorities), forest dependency, poverty and biodiversity conservation;
- Setting up of an ACMA and roles and responsibilities of the different parties[64];
- An outline of gender issues related to forest protection and biodiversity conservation;
- The rationale for stakeholder identification in the context of BSM;
- Purpose and practical guidelines for carrying out Social Screening Reports as part of the Conservation Needs Assessment; and
- A hands-on for a Natural Resource Use Survey and Monitoring.

8 ESMF implementation budget

8.1 Funding sources

The funding to the ER program is categorized into domestic and international sources. A major source of international finance is through results-based payments from the FCPF Carbon Fund for emission reductions. A brief description of the domestic and international financing sources, including results based payments is presented below.

Domestic financing sources

The program proposes to use a combination of domestic funding sources - national and provincial budget, payments to forest environmental services (PFES), credits from financial institutions, and "other domestic sources" which include the private sector and the state-owned enterprises and protection forest management boards). These actors will reinvest revenues from sale of forest products to maximize the synergies of domestic public financing. The major domestic financing sources to the program include:

National government financing to the six ER-PD target provinces (USD 50.6 million) is the committed GoV budget for implementation of the target program on SFM during 2018-2020 and 2021-2025. This

[64] Setting up of ACMA pilots would help, in addition reviewing of previous related work at SUFMBs in the region e.g. Bach Ma NP or Xuan Lien NR etc. The FPD of VNFOREST has experience of the processes.

will mainly finance component 1 in the year 2018 and part of the component 2 throughout the implementation period.

Provincial government financing of the forest sector is closely linked to the state level budget related to the target program for SFM during 2018-2020 and 2021-2025. Historically this budget has been ranging between 12-15% of the state budget, equivalent to USD 6.1 million. The exact budget allocation depends on the province level decision and budget processes. This source will mainly contribute to the financing of the component 2 of the ER-P.

Payment for Forest Environmental Services (PFES) financing source is based on the collection of funds from hydropower and water supply companies in compliance of the decree 147 of the Government of Vietnam . The PFES scheme has been operational since 2010 as per the Decree No. 99/2010. In total, PFES revenues are expected to rise to about USD 50 million over the ER-P implementation period and are to be distributed among forest owners to compensate for forest protection services. For the ER-P, USD 12.4 million of PFES funding is counted as a financing source. This will finance the natural forest management and protection interventions under the component 2. As further discussed in the chapter on BSM, grant support will also be provided to local communities as part of the ACMA process.

The credit from financial institutions is estimated at USD 24.5 million will be provided by the Vietnam Bank for Social Policy (VBSP) through several operating credit programs to the rural and ethnic minority households. The credits will be eligible to implement the models for transforming short to long rotation plantations under the component 2; and adoption of climate-smart agriculture under component 3 of the ER-P. Partly these credit programs are strongly subsidized and targeted only to the poorest society groups and ethnic minorities.

The other sources (USD 91.2 million) are related to the revenues and profits generated from forestry activities by households, state forest companies (SFC) and the protection forest management boards (PFMB) that can be reinvested. This source is part of the financing mix for implementation of the target program for SFM 2016-2020 and 2021-2025. This financing source will be invested in the interventions of the component 2.

The domestic financing also seeks to maximize the engagement of participating MBs and SFCs. The work with the MBs and SFC follows a grant-based approach, combined with access to PFES funds and loans through the VBSP, in particular for plantation development. Channeling funding through the MBs and SFCs is expected to streamline the packaging and processing of the provincial budgets and will facilitate the implementation over a large and diverse area affecting different stakeholders. Directly involving the MBs in detailed work-plan budget planning is expected increase their ownership and accountability over program activities. The approach also allows flexibility and facilitates specific solutions to management issues with different communities. It is also anticipated that program funding will help MBs and SFCs to leverage public and private finance, respectively.

International funding sources

ODA funds are mainly estimated from the WB loan for the Forest Sector Modernization and Coastal Resilience Enhancement (FMCR) project, expected KfW loans for the forestry sector to the government of Vietnam and JICA 2 project on restoration and sustainable management project (JICA 2), USAID financed Vietnam Forests and Deltas Program; and KfW financed Forest Restoration and Sustainable Management in Central and Northern regions of Vietnam. About 50% **(USD 51.4 million)** of the ODA financing source is expected to come from the WB loan on coastal protection, financing all coastal and sandy forest protection, reforestation (component 2) and the related livelihood development activities under component 3. The remaining **USD 25.1 million** will be covered from the ODA projects currently under preparation or implementation.

The timeframe of the financing plan is 2018-2025, which is compliant with the Vietnamese 5-year development planning cycles (2016 - 2020 and 2021 - 2025). Until 2020, the Government of Vietnam committed budget to the programs, while the financing from 2021-2025 is based on a projection. The planning and budgeting for the new 5-year development planning period (2021 – 2025) will start in 2019/2020.

The overall draft proposed financing of the ER-P and the budget for implementation of the ESMF safeguards highlighted and is shown in Table 8.1 below. The total program costs over the period 2018-2025 period are estimated at **USD 312.8 million,** which are summarized below and this includes all funding (further details on funding etc. can be found in Sections 6 and 13 of the ER-PD) for:

- Institutional development activities related to safeguards;
- The training program for PMU, PPMUs consultants, communities and local authorities to implement their ESMF responsibilities;
- FGRM (as per the table note, some costs for FGRM are also shared under Stakeholder consultation and information sharing);
- Monitoring and reporting costs; and
- Technical assistance to local authorities as needed.

The estimated budget for safeguard (including staffing and capacity building) in both Central to Provincial and site level would come from above international ODA project and state budget of ongoing projects.

Table 8.1 Overall financing of the ER-P including the budget for safeguards

Year		Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Total (8 years)
1. Strengthening enabling conditions for emission reductions	**USD**	**870,000**	**960,000**	**960,000**	**810,000**	**810,000**	**810,000**	**810,000**	**810,000**	**6,840,000**
1.1. Strengthening policies controlling conversion of natural forests	USD	240,000	330,000	330,000	330,000	330,000	330,000	330,000	330,000	**2,550,000**
1.2. Strengthening forest governance and law enforcement	USD	630,000	630,000	630,000	480,000	480,000	480,000	480,000	480,000	**4,290,000**
2. Promoting sustainable management of forests and carbon stock enhancement	USD	**22,884,401**	**29,432,432**	**33,521,432**	**38,518,317**	**29,003,677**	**29,003,677**	**29,003,677**	**29,003,677**	**240,371,289**
2.1. Conservation of natural forests	USD	11,672,526	11,962,526	12,237,526	15,473,196	15,473,196	15,473,196	15,473,196	15,473,196	**113,238,559**
2.2. Enhancement of carbon stock in plantations	USD	7,182,725	10,864,756	10,814,756	8,333,478	8,333,478	8,333,478	8,333,478	8,333,478	**70,529,627**
2.3. Enhancement and restoration of natural forests	USD	4,029,150	6,605,150	10,469,150	14,711,643	5,197,003	5,197,003	5,197,003	5,197,003	**56,603,103**
3. Promotion of climate smart agriculture and sustainable livelihoods for forest dependent people	**USD**	4,393,000	6,728,000	8,133,000	9,783,000	10,383,000	7,170,000	7,170,000	7,170,000	**60,930,000**
3.1. Improve climate smart agriculture	USD	4,393,000	6,248,000	7,413,000	9,063,000	9,663,000	6,450,000	6,450,000	6,450,000	**56,130,000**
3.2. Diversifying and sustaining livelihoods for forest dependent people	USD	0	480,000	720,000	720,000	720,000	720,000	720,000	720,000	**4,800,000**
4. Program Management and Emissions Monitoring	**USD**	0	876,700	605,200	749,800	493,550	1,318,150	652,750	0	**4,696,150**
4.1. Program coordination and management	USD	0	518,950	427,900	346,300	316,250	272,950	291,250	0	**2,173,600**

Year		Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Total (8 years)
4.2. Monitoring and evaluation (M&E) incl. monitoring of safeguards and improving forest information	USD	0	237,750	57,300	253,500	57,300	925,200	211,500	0	**1,742,550**
4.3. Program communication	USD	0	120,000	120,000	150,000	120,000	120,000	150,000	0	**780,000**
Total uses	USD	**28,147,401**	**37,997,132**	**43,219,632**	**49,861,117**	**40,690,227**	**38,301,827**	**37,636,427**	**36,983,677**	**312,837,439**

As such, the following estimated budget for ESMF implementation would be comprised of: (a) cost for consultant and capacity building for CPMU; (b) cost for consultant and capacity building for PPMUs; (c) cost for conducting training courses for the working group members on the details of the process of collaborative management arrangements under an ACMA and the BSP/ BSM framework; (d) Training courses with the participation of REDD+ Coordinators at the PPMUs, PFMB, SUF Management Boards and SFC on guidelines for setting up and ACMA and preparing a benefit sharing agreements. Following table present the estimated budget and sources for safeguards.

Table 8.2 Estimated budget for safeguards

Item	Cost
Technical assistance (international and national consultants over 6 years)	$300,000
ESMF Updating and Auditing	$100,000
General ESMF Expenses	$120,000
Ecological/ biodiversity/ forest monitoring (24 sites - two assessments/year over six years)	$180,000
Water Quality Monitoring (monitoring to be undertaken over six years) (funds included in the Coastal Reliance Enhancement Project)	Nil for ER-P
Stakeholder Engagement and Ethnic Groups Workshops	$120,000
Grievance Redress Mechanism dispute mechanism funding	$100,000
Training requirements on the ESMF/ SGs for the six provinces (iterative and over six years)	$300,000
Funds to deal with potential compensation issues	$300,000
Contingency	$200,000
Total ESMF Implementation Cost	$1,750,000

Note: (*) According to work plan and procurement plan of FCPF 2 project No 1956/QD-BNN-TC dated 30/5/2018 and (**) According to the ESMF of Forest Sector Modernization and Coastal Resilience Enhancement Project

9 Grievance redress mechanisms

9.1 Feedback and grievance redress mechanism

The proposed BSM is to be embedded in the collaborative management structure where asymmetrical relations between forest owners and managers and local communities are significantly reduced and the success of the BSM relies on the participatory structures generating win-win outcomes. Vietnam has well-established mechanisms in place to receive and resolve grievances and while these are largely effective if correctly utilized they apply more to stakeholders physically or economically displaced by infrastructure investments that trigger involuntary social and to a lesser extent environmental safeguards.

The Carbon Fund Methodological Framework requires that for eligibility to receive payments from the Carbon Fund that all forms of feedback and any forms of grievances related to the Program demonstrate the following: legitimacy, accessibility, fairness, rights compatibility, transparency and capability be exemplified in the processes to be followed to receive, screen, address, monitor and report feedback on grievances or concerns submitted by affected stakeholders. Categories of affected stakeholders is assumed not only to include villages but also the PFMBs, SUFMBs and SFCs where there are decisions made by the co-management entities that impact negatively on the latter.

To understand why the FRGM is required and how it would work a range of Project-related examples[65] are necessary to illustrate here.

Scenario 1: There may well be instances where a village (one peopled by a particularly marginalized ethnic minority group) or households within a particular village (perhaps poorer and more vulnerable households such as those belonging to the aged or physically impaired or from a weaker ethnic minority group sharing the village with other ethnic minority groups) are neither consulted nor invited to participate in activities agreed upon at the ACMA Board Meeting where an "elected" representative from the village is ostensibly representing the whole village (s/he being elected in the first instance by the village or based on traditional practices of selection that all villagers accept). Should this occur it is likely to be a typical example of "elite capture", something the Program is seeking to minimize where possible. Ostensibly the disclosure of information should be adequately disseminated and, in a manner, and terms that are culturally appropriate. Being excluded may result in the denial of benefits such as payment for forest protection services, setting of an agreed upon quota to collect NTFPs, the right to extract timber for house construction purposes, allocated forest land for protection or production purposes, or even a requirement that land being used for non-forest related purposes such as for food crops be surrendered for sustainable forest management purposes. Denial and exclusion in such instances is likely to impact upon the overall livelihood system of such households.

Scenario 2: In yet another instance there may well be disputes as to boundaries between what an existing management board claims is the boundary between forest land it owns or manages and the buffer areas that surround the forest land that a village or villages or even households within a village or villages claim. It is possible that the existing management board makes reference to cadastral maps or GPS coordinates the accuracy of which is contested by other stakeholders. To overcome this impasse, the elected co-management board that includes a representative from each of the villages decides a more robust mapping exercise is necessary. This exercise finds in favour of the existing management board and villagers are informed they must desist from using this land or in a worst case scenario vacate their current residence in the forest. However, the affected villagers claim they can demonstrate through their intimate knowledge of the forested area that traditionally they occupied this land or land in general proximity and reflects shifting or widen land use practices in the past so they are the rightful occupants of this land even though they have not been allocated a LURC.

[65] These examples are taken from villages visited by the Program during the course of participatory consultations and while more complex than is being presented here the examples encapsulate the types of issues that might need to be addressed by the FGRM.

Scenario 3: Another possible scenario is that in the interests of a more sustainable approach to forest management the elected co-management board might agree that hitherto original forest land that has been converted to agricultural cropping uses with, or without the approval of the local authorities, need to be reforested. Individual households, villages or even local authorities who may have consented formally or more likely informally oppose such a move because they believe existing livelihoods will be threatened and the decision made does not reflect the reality on the ground: people and their stomachs before trees and carbon emissions being reduced. This might occur even though the criteria for the BSM excludes such practices. Hence this is an instance where a group of stakeholders do not accept the decision of the elected co-management board and are seeking to overturn its ruling. Conversely a majority might decide that more forest land is required for agricultural cropping purposes because the short-term gains from agricultural cropping outweigh the benefits from longer-term sequestration of carbon emissions.

Scenario 4: Another scenario, which is highly plausible given the investment in hydropower projects in the Program area is that the ACMA agrees with the investor to support the inundation of some of the forested area and access roads to the facility even if households are not involuntarily displaced. Some villages along with the CPC and DPC might support such an investment because they think there may well be benefits (including under the PFES scheme) while other villages that are even more directly affected oppose this investment because of the impact on their livelihoods. While other villages might oppose the investment because they view the access roads as presenting an opportunity for illegal logging and the over-exploitation of NTFPs by outsiders. Hence there are no sum net benefits only costs but such stakeholders find it difficult to make their voices heard.

Scenario 5: In another instance, outside investors such as eco-tourism investors might be able to enlist the support of the relevant PPC (often are able to do so) to claim access to pristine forest land to construct high-value "eco-tourist" lodges. All members of the ACMA might be opposed to this investment because they fail to see pecuniary advantages for themselves and of equal importance fail to see how such an investment could result in the sustainable management of the existing forest. It is also possible that local villages (even though there might be individual households within these villages that support) do not support such an investment because of its perceived impact on the existing environment including perhaps the watershed area. The situation that exists in this scenario is that the PPC has in the past and is still able to over-rule local authorities and local communities because of its political and economic muscle. The GoV is seeking to welcome investment at the local level but not to the environmental and social detriment of local communities. Additionally, the GoV recognizes that PPCs vary in their approach to such issues but also recognizes the need to be proactive and hence the need for a workable FGRM.

In relation to disputes and grievances[66] in Vietnam there are established mechanisms that commence at the rural village or urban neighbourhood level whereby all grievances wherever humanely possible be resolved at this level on an informal basis. If the aggrieved parties cannot resolve their grievance/s at this level on an informal basis they can then take their grievance to the Commune People's Committee. The CPC has 15 days to respond and if it cannot resolve the grievance the aggrieved party/s next course of action is to lodge the grievance with the District People's Committee. As with the CPC the DPC is required to respond in 15 days. Should the grievance not be resolved then it can be lodged with the Provincial People's Committee which has 30 days to respond. If the grievance has not been resolved by

[66] There is a difference between disputes and grievances. Disputes typically involve one or more parties disagreeing with one or more parties in relation to some activity, such as access to and use of land that is under the control of the commune (in Vietnam typically CPCs have upwards of five per cent of land in reserve for allocation to "landless" and "land poor" households for which LURCs are not issued), which can and should be resolved at the local level. Vietnamese political culture favors the resolution of such disputes locally and is consistent with the notion of "grassroots democracy" in Vietnam. These disputes often have no basis in Vietnamese law. Grievances on the other hand are linked to entitlements, actual or perceived, by an aggrieved party and for which penultimately if the grievance cannot be resolved locally and informally may be heard in a court of law, usually at the district level, and for whose ruling is legally binding. Grievance Redress Mechanisms are typically used in the case of involuntary resettlement issues when the aggrieved party argues it has not been compensated according to an instrument such as the Detailed Measurement Survey Memo or similar. The GRM is also used when affected people have been denied compensation for assets acquired, transitional living allowances and livelihood restoration measures.

the PPC the aggrieved party/s can seek recourse in a Court of Law. It is required to hand down a judgement within 60 days from date of lodgement. Depending on workloads at all levels of the GRM there may be some slippage but the rule-of-thumb is that all grievances should be resolved within 180 days of being initially lodged with the CPC. In the case state investments supported by ODA financing the investor whether public or private or where there is a partnership between the public and private sector is legally obliged to pay all costs associated with seeking grievance redress.

Of the scenarios presented above only *Scenario 4* would possibly trigger the processes described here. The other four scenarios are far more difficult to subsume within the GRM processes that are typically used for investment projects. While this Program is premised on trying to avoid the payment of cash benefits to individual households because the BSPs that will be prepared by each ACMA entity will be able to decide whether individual, group or community payments will be made for defined activities or outcomes the FRGM also needs to pre-empt this possibility. As the field-based studies supported by the Program and their findings accepted by the GoV it is necessary to recognize that not all stakeholders at the village level might benefit from payment for services.

Therefore, it is proposed in line with the joint FCPF /UN-REDD+ Programme for Vietnam that taking into account FRGM processes that are commonly understood in the Vietnamese context that there should be four relatively simple steps as follows:

1. Receive and Register Grievance by the elected village representative from the aggrieved party where village level constituent is seeking grievance redress for grievances that can be linked to Program activities. This can be undertaken at the monthly meeting proposed or on an informal basis and where a written grievance is to be prepared the elected village representative or a literate member of a village level organization is to assist the aggrieved party if the latter requires a written grievance be lodged. However, ideally all grievances where possible should be resolved at the village level but for reasons stated above this might not be possible.

2. Acknowledge, Assess and Assign involves acknowledging receipt (this assumes it cannot be resolved at the village level) by ACMA entity and it is the responsibility of the elected village representative to ensure it is received by this entity. Although given that a representative of the ACMA entity from the PFMB, SUFMB or SFC should be proactive and visit each village at least once monthly the aggrieved party at the village level could also lodge their grievance during this visit. In acknowledging receipt of the grievance, the ACMA entity must clearly state how the grievance will be processed, assess the eligibility of the aggrieved party to lodge the grievance (although this should be initially undertaken by the elected village representative), and assign organizational responsibility for proposing a response. For instance, if the grievance involves a land allocation issue and the subsequent issue of a LURC the ACMA entity must assign organizational responsibility to local authorities. Similarly, if the grievance revolves around land conversion than the appropriate authority (namely the Department of Natural Resource and Environment must consider the grievance because this is outside the purview of the ACMA entity[67].

3. Propose a Response will involve one of four actions as follows: (i) direct organizational response or action, which may be to CPC, DPC or line agency such as DARD or DONRE; (ii) stakeholder assessment and engagement, which would involve assessing the efficacy of the aggrieved party's grievance and then engaging with the stakeholder; (iii) if not able to be resolved within the existing BSM, such as when involuntary resettlement impacts triggered by infrastructure projects are the cause of the grievance refer to that specific Program GRM; or (iv) based on the agreed criteria BSM decided whether the grievance is ineligible.

4. Agreement on Response is either to agree to the party seeking grievance redress and implement the agreed response resulting in either the grievance being resolved successfully and closed to

[67] This is also an important reason why DONRE at the DPC level should be represented on the Co-Management Entity.

the satisfaction of the conflicting stakeholders or the grievance unable to be resolved. In this latter instance the grievance staff will be required to consider whether the aggrieved party/s should revise their approach for reconsideration or the grievance closed without further action. Opting for the latter course of action should result in the aggrieved party/s being able to have their grievance if it is considered very important to them adjudicated on in the District Court, which would provide a judgement that would be legally binding on all parties to the dispute or grievance.

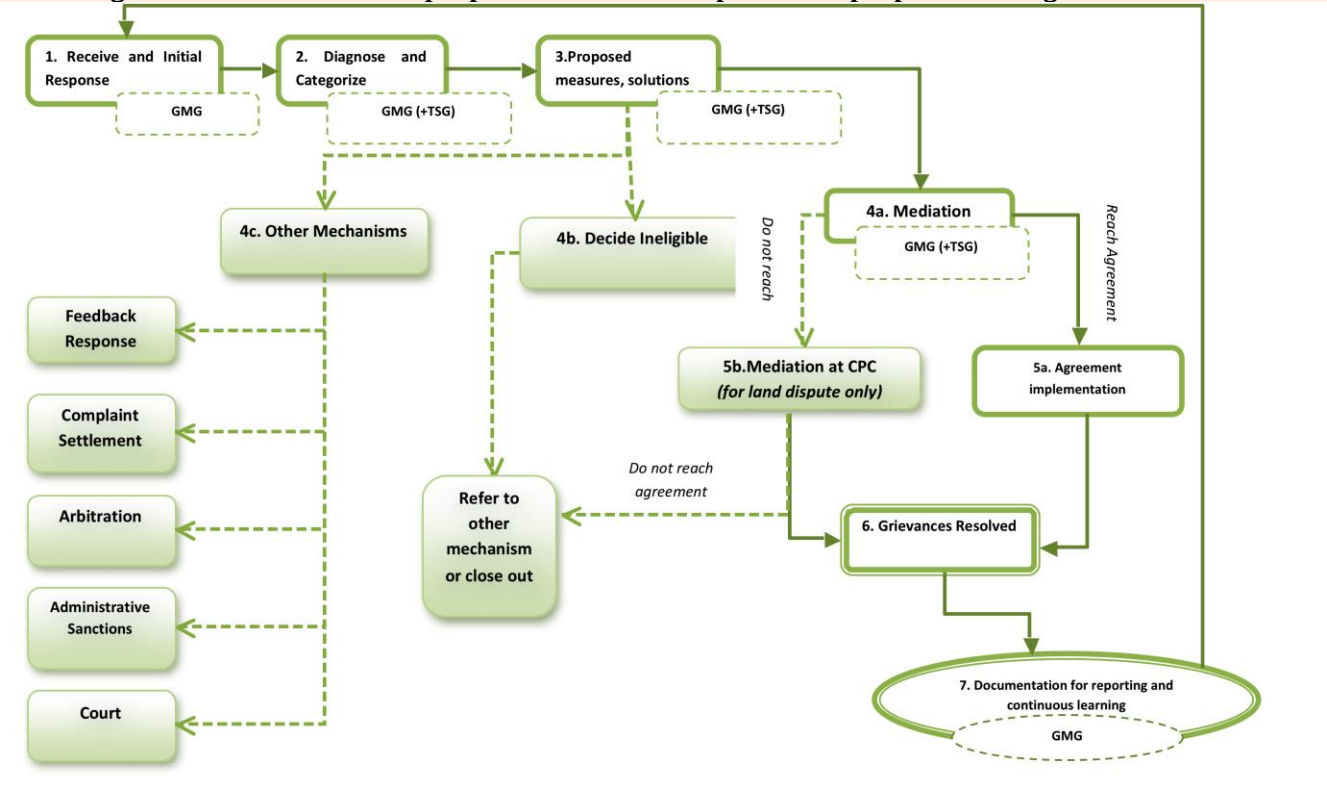
It needs to be noted that the FRGM has to be readily accessible to all stakeholders including older ethnic minority people who are not competent in the use of the Vietnamese language, poorer village persons who cannot afford expenses associated with the cost of seeking grievance redress including litigation in a court of law, and on an individual, group or collective village basis. To ensure that the elected village representative is not co-opted by the ACMA entity to the detriment of the village-level constituents s/he is elected to represent if village-level constituents deem their representative to be generating poor outcomes they will have the right to replace this representative. How the latter deals with grievance redress will be an important litmus test for her or his performance as the elected representative. However, the elected representative must be afforded the opportunity to assess whether constituents seeking grievance redress actually have a legitimate grievance.

9.1.1 UN-REDD feedback grievance redress mechanism

The UN-REDD Program is developing a national FGRM with cooperation from the FCPF project. The proposed system is still under development but is based on the existing Grassroots Mediation Act 2013, and introduces a Grassroots Mediation Group which is supported by Technical Support Group (TSG) and currently the UN-REDD Program is piloting the TSG in 18 sites in the UN-REDD Program and is providing trainings for mediation and how the two groups should work together which takes place from July/August 2016, with a review and report due in November-December 2016 (see Figure 9.1 below).

MARD needs to ensure that the proposed process is consistent with FGRMs that are currently being utilized in Viet Nam and that it fully encompasses the need for Free, Prior and Informed Consultation (FPIC) of not just affected ethnic minority peoples but also the majority Kinh people. It can be noted at this juncture any aggrieved affected person has the full legal right without cost to themselves to pursue grievances in a court of law and there are detailed grievance mechanisms already contained with a number of laws, for example, the Land Law 2013. It can also be noted that if grievance redress requires a court of law judgment this must be completed within 6 months of the aggrieved person lodging their grievance at the lowest administrative level in Viet Nam (Commune People's Committee). However, ideally all grievances should be resolved at the local level (and are often resolved for example at the commune and District level) and most affected people prefer grievance resolution at the local level.

Figure 9.1 Overview of the proposed draft FGRM process as proposed through UN-REDD



Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Program affected communities and individuals may submit their complaint to the WB's independent Inspection Panel that determines whether harm occurred, or could occur, as a result of WB non- compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate GRS, visit http://www.worldbank.org/GRS.

Land disputes

The overall level of formal land disputes is quite limited. Land users, people who are entitled to land use-related rights and obligations are entitled to complain, sue against administrative decisions or administrative acts in land management. The formalities, procedures for settling complaints against administrative decisions, administrative acts on land are implemented in accordance with the legislation on complaints. The formalities, procedures for settling lawsuits against administrative decisions, administrative acts on land are implemented in accordance with the legislation on administrative litigation.

Statistics of land disputes are available in Vietnam but these are often not complete and only record the more serious or longer lasting disputes that have failed to be resolved locally. Assessments of land issues through the PRAPs, and the Assessment of Land Tenure and Land Resources of the NCR have identified the main sources of conflict, including those land-related risks that the ER Program will need to address. More detailed assessments will be carried out through the REDD+ Needs Assessments and Social Screening Reports that will identify key issues at the site-level.

By far the most common form of land-related conflict in the NCR involves disputes related to access to forest land managed by state forestry organizations. In some areas within the NCR, there are historical and on-going disputes related to access to forest and agricultural related encroachment or land boundary disputes. As noted above, MBs and SFCs formally control over half the forest land in the NCR. Rural

population growth (reported in Nghe An) and local reliance on forest resources, combined with unclear boundaries and an 'open access' situation often encourage encroachment for small scale logging, NTFP collection, or conversion to agriculture.

In most cases the access/ encroachment issues are generally resolved locally with a compromise, and in many cases the SUFMBs have excised areas of heavily encroached on land as the biodiversity and conservation value are compromised. SUFMBs are at a particular disadvantage as Forest Protection and Development Law prohibits any collection or removal of forest resources, and SUFs are often loed upon as a public good. However, in many cases the SUFMB has to accept the inevitable that it cannot stop all NTFP collection. Therefore, the MB will often try to arrive at a practical solution with a community by agreeing that no commercial quantities are removed[68] or no further encroachment takes place in return for some NTFP collection. PFMBs and SFCs face similar issues, but these are not so well documented and the PFMBs and SFC have an advantage in that NTFP collection is not prohibited.

Competition over resources and conflicts may be linked to localized migrations due to infrastructure development. While the overall trend in the NCR is a migration from rural to urban areas, in some cases road development can attract new settlements. HPP development, on the other hand, has led to the displacement of people to areas where they may come into conflict with local populations.

Inadequate compensation for resettlement or forest loss is another potential source of dispute, and communities may be particularly disadvantaged where they have no formal rights to their land. Infrastructure, and in particular hydropower, development often requires the acquisition of agricultural and forest lands and the resettlement of villagers. In some cases, affected people are disappointed with the compensation and resettlement schemes. Where land is informally held, it can be particularly difficult for local people to receive adequate compensation. For example, a village in Phong Dien District was reclaimed by the state and granted to a sand-mining company. The compensation for the loss of Acacia trees planted by the villager was estimated to be less than 40% of the full compensation that the villagers would have received if they'd had legal rights to the forest.[69]

Law enforcement activities and restrictions on forest resource use may negatively impact communities, especially the poor and forest-dependent households. Forest resources, such as timber, NTFPs, and wild animals are an important source for domestic consumption for people with high forest dependence. They are also an important source of cash where alternative income opportunities are limited. For this reason, benefit sharing approaches, alternative livelihood development, PFES, and participatory approaches are critical for addressing risks to local communities and help mitigate the problems they face and where necessary in conjunction with the MBs.

[68] Problems arise where there are continued local land pressures, i.e. there is not enough adequate land for crop production and there is an increase in the local populations; or where the boundaries are surveyed for cadastral maps (or re-surveyed with a view to putting in markers); there are regulations for the boundaries to be agreed using participatory processes

[69] However, it need to be noted in infrastructure projects financed either partially or wholly by the providers including the WB (e.g. Trung Son HPP in Thanh Hoa Province) involuntary resettlement impacts are compensated based on the policies of the provider of the ODA.

10 ESMF Consultation and disclosure

10.1 Consultation

General qualitative fact finding and consultations for the ESMF were conducted as part of the SESA process and this was supported by a quantitative survey[70]. Additional details and analysis can be found in the EMPF.

Stakeholders from the household level to the national and international level have been consulted. These consultations commenced in October 2015 although for the past 3 years there have also been consultations of an iterative nature. It is estimated that consultations have involved over 24 rural communities with some 500+ individual householders of whom 295 have been women (95% from 12 different ethnic minority groups with poverty rates in excess of 70%), 12 CPCs (75 members including 22 women) and DPCs (120 members including 20 women), 6 PPCs (25 members including 6 women) at the sub-national level. At the national level, including international participants based on consultation and participation records in excess of 100 people (including 25 women). For CSOs and NGOs some 35 people, including 20 women, of which 11 NGOs have been have been consulted in detail on REDD+ by the program and have participated in all or some of the REDD+ workshop activities. There have been in excess of 30 program related Workshops at the national and sub-national level. For field-based studies the emphasis has been on quality rather than quantity to date with the exception of the SESA, which involves a qualitative survey of forest-dependent households chose at random based on a robust sampling strategy. In addition, there have been separate sets of consultation in all provinces on the preparation of the PRAPs which involved consultations at the different levels and with the different types of stakeholders of interest.

The stakeholders include forest-dependent households and communities, with the emphasis being on ethnic minority households, but not to the exclusion of non-ethnic minority households ensuring that women, younger people, the aged and vulnerable households (especially the poor and physically handicapped have been included in these consultations. These communities were selected based on existing socio-economic data and forest inventories, nearness and expected reliance on forests, a further consideration was to meet some stakeholders' communities and the different forest management boards and all were agreed upon at the local level, primarily by the District and Commune People's Committees (DPC and CPC).

At the commune level the CPC have been consulted together with mass organizations including the Vietnam Women's Union, Farmers Association, Fatherland Front, and the Youth Organization and where appropriate, the Ethnic Affairs Officer. At the district level the District People's Committee has been consulted including the Department of Agricultural and Rural Development, Department of Natural Resources and Environment and other relevant departments and other organizations. At the Provincial Level the same provincial departments have been consulted as have SFC as have representatives of the Provincial People's Committee. At the national level MARD has consulted with a range of relevant government ministries including MONRE, MPI, MOLISA and MOF.

Outside of local communities and governmental entities at the four levels of government in Vietnam, State Forest Companies, international organizations with a stake in REDD+ such as UNREDDII and FAO, the EU, multilateral providers of ODA for some aspects of REDD including ADB and KfW, bilateral providers notably JICA and USAID, and international NGOs, notably SNV, FFI, WWF, and a variety of local CSOs and NGOs have also been consulted and will continue to be consulted.

For the quantitative survey the Probability Proportional to Size (PPS) sampling method was employed to select 102 out of the list of high forest cover 327 ER-P communes in the upland areas that also have

[70] The World Bank commissioned the Mekong Development and Research Institute (MDRI) to conduct a supplementary quantitative survey.

a high proportion of ethnic minority households. The criteria which were assigned equal weights in the calculation of the number of communes to be included in the final sample include:

- The share of ethnic minority households (calculated from the data of Agriculture Census 2011);
- The share of poor households (calculated from the data of Agriculture Census 2011); and
- The share of forestry land (provided by ER-P team from the program's database).

After this step, a sample of 102 communes was distributed unequally among the provinces as tabulated below in Table 10.1. Given that the northernmost provinces of Thanh Hoa and Nghe An are larger both in terms of ethnic minority populations—as mentioned, the two provinces have roughly 88% of the EM population in the ER-P area—and amount of forest land, the survey sample was weighted in favour of these two provinces.

Table 10.1 Number of communes surveyed in each province

No.	Province	Number of communes taking part in the survey
1	Thanh Hoa	25
2	Nghe An	27
3	Ha Tinh	7
4	Quang Binh	12
5	Quang Tri	16
6	Thua Thien Hue	15

To select the villages, a similar procedure was carried out using the PPS method using the same criteria was executed to select two villages in each of the selected 102 communes. The only deviation from the PPS sampling in the first stage is that in this stage, the calculation of the selection probabilities using the third criterion (forestry land coverage) was made based on the available data from the Agriculture Census 2011.

After testing the survey questionnaire in Nghe An in a limited number of communes, consultations were carried out in all six provinces during November-December in 3,060 households (corresponding to 13,398 individuals) in 102 communes of the six ER-P provinces The breakdown of ethnic group households included in the survey was as follows[71] in Table 10.2 below (see SESA Annex 1 Section 1.6 provides more details on the work and a complete list of communes targeted). Of the 102 communes, 67 of them belong to the Committee for Ethnic Minorities' Affairs (CEMA) Category III, meaning communes with exceptionally difficult circumstances[72] (See SESA Section 3.4.1 Table 3.19 Number of Communes categorised as having "Exceptionally Difficult Circumstances" in high forest cover Districts) MDRI has reported on ethnic groups that had at least 100 households in the total sample.

[71] "Other" includes: Tho (52 HHs), Khmu (25 HHs), Dao (15 HHs) Chut (14 HHs), and Lao (8 HHs) plus two more groups with only one HH each in the sample. These groups are all very different from each other and would not normally be put together for a detailed ethnographic analysis.

[72] A further 24 communes belong to Category II, nine to Category I and only two fall outside of CEMA's categories (meaning communes with no particular difficulties).

Table 10.2 Breakdown of surveyed household by ethnicity

Ethnic group	Numbers of households surveyed
Kinh	948
Thai	802
Bru-Van Kieu	449
Muong	265
Ta Oi-Pa Co	251
Co Tu	113
Hmong	116
Other ethnic minorities	116
	3,060

The main objectives of the quantitative survey were to provide more in-depth data, and analysis, of people's dependence on forestland and resources for their livelihoods and provide a socio-economic profile of the ethnic minority population. In greater detail, they are as follows:

- Develop a poverty, socio-economic and forest dependency profile of the proposed program population in six provinces, disaggregated by ethnic group; and
- Collect population data for the program area by ethnicity and provide analysis.

(The survey results are presented and discussed mainly in the SESA Section 3.4 onwards below. Additional tables can be found at Annex 1 section 1.6 and in the separate report[73].)

[73] Quantitative survey results and report by MDRI, July 2016.

11 Annex

11.1 Checklists for environmental and social screening

This annex provides technical guidance for safeguard screening to be conducted by the subproject or the activities owner to ensure that: 1) the subprojects and activities to be carried out under the Project are eligible to funding under the ERPD; 2) the subprojects or activities are properly categorized under OP 4.01 of the World Bank (environmental and social criteria for category A, B, or C projects) so that appropriate measures and/or safeguard documents are prepared; and 3) appropriate results are recorded in appropriate forms.

The annex presents the screening forms to be signed by the PPMU or CPMU director, the impacts assessment and preparation of safeguard documents and preparation of EIA/EPP as required by GOV's EIA regulation. The subproject or activities owner which could be the PPMU or the FME with the ACMA and the District and their members are responsible for implementation of these procedures.

Screening and impacts assessment of the subprojects or activities will be conducted during implementation of the Program and the reports will be submitted to CPMU for review and if required also reviewed by WB.

11.1.1 Technical Criteria for Eligibility Screening and Categorization

Eligibility screening

The purpose of the eligibility screening of subprojects and activities is to avoid adverse social and environmental impacts that cannot be adequately mitigated by the program or that are prohibited by the national legislation, the WB's safeguard policy, or the international conventions. The 'principle of avoidance' usually applies for subprojects and activities that can create significant loss or damage to nationally important physical cultural resources, critical natural habitats including natural forests. Such subprojects and activities would not likely be eligible for financing under the project. However, the ineligibility criteria and screening should not be used to avoid doing beneficial subprojects, simply because one wants to avoid triggering a WB safeguard policy.

The following OP/BP 4.36 requirements apply for the ER-P:

- The ER-P does not finance projects that, in its opinion, would involve significant conversion or degradation of natural forest areas or related critical natural habitats areas
- The ER-P does not finance projects that would contravene applicable international environmental agreements.
- The ER-P does not finance plantations that involve conversion or degradation of critical natural habitats, including natural habitats, the ER-P it gives support to existing plantations.

The **Forest Sector Modernization and Coastal Resilience Enhancement Project (FMCRP) has its own ESMF that provides guidance on investments** to subprojects on un-forested sites or lands already converted (excluding any lands that have been converted in anticipation of the project). In view of the potential for plantation projects to introduce invasive species and threaten biodiversity, such projects must be designed to prevent and mitigate these potential threats to natural habitats.

Table 11.1 List of ineligible subprojects/activities for ER-P or financing under the FMCRP

No.	**Activities**
1	Eligible subproject/activities cannot seriously damage and/or adversely affect/ impact on the national parks, natural reserves (SUFs), and/or cultural property, including but not limited to, the 17 SUF sites shown Section 2 in the map in Figure 2.2

2	Subproject area and/or activities that are located in territorial dispute
3	Subprojects/activities that can cause serious damage and/or adverse impact on water transportation
4	Subprojects/activities that can cause serious damage and/or adverse impact on safety of existing embankments or safety of waterways transport
5	Subprojects/activities that require pesticides that falls in WHO classes IA, IB, or II and/or procurement of large amount of pesticides or toxic agro-chemicals.
6	Subprojects/activities that is classified by the WB safeguard specialists to be the EA category A as defined by the WB (OP/BP 4.01)
7	Subprojects/activities that require land acquisition and resettlement of more than 100 households as defined in the WB guidelines (OP/BP 4.10)

11.1.2 Subproject categorization

To guide the preparation of environmental safeguard documents, the criteria below will be used for the subproject and activity categorization:

Category A: If the subproject/activity is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subproject to physical works. If the answer is "YES" to any of the screening questions in Form B1 below, the subproject is likely to be considered a Category A (per OP/BP 4.01) and will not be eligible for financing by ER-P (or FMCRP).

Category B: If the subproject/activity is likely to create potential adverse environmental impacts on human populations or environmentally important areas - including wetlands, forests, grasslands, and other natural habitats – but less adverse than those of Category A subprojects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category A subprojects. After the screening for Category A and Category C is applied and if the conclusion is reached that the subproject is not A and is not C, then the subproject should be categorized as B. For Category B subproject, an ESMP can be prepared including ECOP to satisfy the WB requirements (see guidelines in Annex 11.4).

Subproject requiring EIA/EPP: If the subproject is required to prepare an EIA (per the Decree 18CP/2015 dated February 14, 2015), the CPMU/ PPMUs must ensure full compliance with the EIA regulation and an EIA report or an Environmental Protection Plan (EPP) this will be prepared according to GOV requirements.

Category C: If the subproject/activity is likely to have minimal or no adverse environmental impacts and if all answers for the screening questions in Form B1 are "NO". Beyond screening (see Form B2), no further EA action is required. However, if the subproject and/or activities involve small works, the subproject/activity owner will apply the simplified ECOP (See Annex 4b to satisfy WB requirements and prepare EIA/EPP to satisfy GOV requirements. (c) Social impact screening and preparation of safeguard documents To satisfy the WB safeguard policies (OP/BP 4.10 and OP/BP4.12), the subproject will be screened for the nature and extent of potential negative impacts on local people related to land acquisition, resettlement, land donation, relocation of graves, and/or involvement with ethnic minority. If the impacts exist, a RAP(s) and/or an EMDP(s) will be prepared in line with the RPF and/or the EMPF which have been developed for the program. During preparation of RAPs and EMDPs, consultation with affected population, local authorities, local communities, and interested community organizations and/or NGOs will be required. Due attention should also be given to address the issues related to gender, ethnic minorities, and other disadvantaged groups.

Table 11.2 Requirements for safeguards documents for subprojects

No	Category for environmental assessment	Requirements for safeguard documents		
		World Bank		Government EIA regulations
		Environmental assessment document	Other safeguard documents (see Forms below)	
1	Category A	Not eligible	-	-
2	Category B	ESMP (see scope in Annex 11.4,11.13) including ECOP (see Annex 11.12)	- RAP (if the answer to any of the questions 17-21 is "Yes"). - EMDP (if the answer to-questions 22 or 23 is "Yes").	EIA/EPP as required in Decree No.18/2015 /ND-CP Circular 27/2015/TT - BTNMT
3	Category C	ECOP if this involves small civil works	Not required	

11.1.3 Safeguard Screening Checklist and Forms

The following safeguard screening checklist and forms will be used for all the subprojects to be financed under the ER-P. The subproject/activities owner (e.g. PPMUs) will (a) apply Form A for presenting results of eligibility screening, (b) apply Forms B1 and B2 for categorization, (c) apply Form C for impact assessment, and (d) complete the signing in items (d) and (e). Technical guidelines for the preparation of ESMP are provided in Annex 11.4 while those for RAP and EMDP are provided in the Resettlement Policy Framework (RPF) and the Ethnic Minority Policy Framework (EMPF), respectively.

For the activities to be carried out under Components 1, 2 and 3, the activity owner will complete Forms A and B2 and the signing in items (d) and (e)

Emission Reduction Program

Subproject/activity/Name:.....
Subproject/activity location: (e.g. Province, district, etc.).....

Type of activity: .....
Subproject/activity owner and address: .....

Environmental Category of the main program: B

(a) Eligibility screening

Form A: Eligibility Screening Criteria

Screening Questions	Yes/No	Remarks (if yes)
1. Will the subproject/activity likely to damage or otherwise adversely affect/impact on the national parks, natural reserves, and/or cultural property.		If yes, the subproject is not eligible for funding
2. Will there be any territorial dispute?		If yes, the subproject is not eligible for funding
3. Will there any damage, negative impact on water transportation?		If yes, the subproject is not eligible for funding
4. Will there any damage, negative impact on dam safety, or impoundment bunds or dikes?		If yes, the subproject is not eligible for funding
5. Will the subprojects/activities require pesticides that falls in WHO classes IA, IB, or II and/or procurement of large amount of pesticides or toxic agro-chemicals?		If yes, the subproject is not eligible for funding

Result of eligibility screening:

The subproject is not eligible for funding under project: Yes or No

The subproject is eligible for funding under project (i.e. all answers are “No”); technical screening will be continued using Forms B1 and/or B2 and Form C: Yes or No

The activity is eligible for funding by the program (using Form B2): Yes or No

(b) Technical Environmental Screening to identify which kind of EA will be applied to the subproject

Form B1: Category A Screening Criteria			
Screening Questions	Yes	No	Remarks
1. Does the subproject have the potential to cause significant adverse impacts to natural or critical natural habitats?			
Leads to loss or degradation of sensitive Natural Habitats defined as: land and water areas where (i) the ecosystems' biological communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions. Important natural habitats may occur in tropical humid, forests; mangrove swamps, coastal marshes, and other wetlands; estuaries; freshwater lakes and rivers, and grasslands			Indicate location and type of natural habitat and the kind of impacts that could occur, e.g., loss of habitat and how much, loss of ecosystem services, effects on the quality of the habitat. State why these impacts are or are not significant. Note that the World Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs
Leads to loss or degradation of critical natural habitat, i.e., habitat that is legally protected, officially proposed for protection, or unprotected but of known high conservation value. Critical habitats include existing protected areas and areas officially proposed by the government as protected areas (e.g., reserves that meet the criteria of the World Conservation Union [IUCN] classifications, areas initially recognized as protected by traditional local communities (e.g., sacred forests), and sites that maintain conditions vital for the viability of these protected areas. Sites may include areas with known high suitability for biodiversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species.			Note that the World Bank cannot fund any projects that result in significant conversion or degradation of critical natural habitats. Indicate location and type of critical natural habitat and state why they are or are not significant
2. Does the subproject have the potential to cause significant adverse impacts to physical cultural resources?			
Leads to loss or degradation of physical cultural resources, defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. They may be located in urban or rural settings, above or below ground, or under water. State the level of protection (local, provincial, national or international).			Describe location and type of cultural resources and the kind of impacts that could occur. State the level of protection (local, provincial, national or international). Are any of these sites considered important to preserve in situ, meaning that the resources should not be removed from their current location? State why impacts are or are not significant.
Potentially results in a contravention of national legislation, or national obligations under relevant international environmental treaties and agreements, including the UNESCO World Heritage Convention or affect sites with known and important tourism or scientific interest.			Describe any impacts that might contravene national or international legislation concerning cultural resources. If considered not significant, explain why.
3. Does the subproject have the potential to cause significant adverse impacts on the lands and related natural resources used by ethnic minorities			
Potentially result in impacts on lands or territories that are traditionally owned, or customarily used or occupied, and where access to natural resources is vital to the sustainability of cultures and livelihoods of minority peoples. Potentially impact the cultural and spiritual values attributed to such lands and resources or impact natural resources management and the long-			Describe the type and extent of impacts and the significance of alterations to the resources of the affected minorities. Note that an Ethnic Minority Development Plan will also be required in accordance with World Bank OP 4.10.

term sustainability of the affected resources.			
4. Does the subproject have the potential to cause significant adverse effects to populations subject to physical displacement?			
Leads to physical displacement of populations dependent upon lands or use of specific use of resources that would be difficult to replace or restore? Otherwise lead to difficult issues in the ability of the subproject to restore livelihoods?			Indicate the numbers of households affected and the resources that will be difficult to replace in order to achieve livelihood restoration. Note that a Resettlement Action Plan will need to be prepared in accordance with World Bank OP 4.12.
5. Does the subproject entail the procurement or use of pesticide?			
Do the formulations of the products fall in World Health Organization classes IA and IB, or are there formulations of products in Class II and/or procurement of large amount of pesticides or toxic agro-chemicals ?,			If yes, this may not always mean that a Category B EIA is required, but special care must be taken. The World Bank will not finance such products, if (a) the country lacks restrictions on their distribution and use; or (b) they are likely to be used by, or be accessible to, lay personnel, farmers, or others without training, equipment, and facilities to handle, store, and apply these products properly.
6. Does the subproject entail any large construction?			
The subprojects and activities specified in Annexes I, II, III, IV of Decree/18-CP/2015 of the Government of Vietnam?			Check the scale and impact levels by type and size of the project, project location, the sensitivity of the social and environment issue, and the potential impacts. Note: EIA is required by the Government of Vietnam and compliance OP/BP 4.01 WB
7. Does the subproject have the potential to cause irreversible impacts or impacts that are not easily mitigated?			
Leads to loss of aquifer recharge areas, affects the quality of water storage and catchments responsible for potable water supply to major population centers.			Name the water bodies affected and describe magnitude of impacts.
Leads to any impacts such that the duration of the impacts is relatively permanent, affects an extensive geographic area or impacts have a high intensity.			Describe any impacts considered to be permanent, affecting a large geographic area (define) and high intensity impacts.
Cause social disturbance			Assess the scope, trends, factors causing disturbance to destabilize the local society and increase the risk of problems the Assembly: mechanical population growth, social evils.
8. Does the subproject have the potential to result in a broad diversity of significant adverse impacts?			
Multiple sites in different locations affected each of which could cause significant losses of habitat, resources, land or deterioration of the quality of resources.			Identify and describe all affected locations.
Potential, significant adverse impacts likely to extend beyond the sites or facilities for the physical works.			Identify and describe the types of impacts extending beyond the sites or facilities of the physical works.
Trans-boundary impacts (other than minor alterations to an ongoing waterway activity).			Describe the magnitude of the trans-boundary impacts.
Need for new access roads, tunnels, canals, power transmission corridors, pipelines, or borrow and disposal areas in currently undeveloped areas.			Describe all activities that are new that are required for the main activity to function.
Interruption of migratory patterns of wildlife, or movement of local ethnic minorities			Describe how migrations of people and animals are affected.
9. Is the subproject unprecedented?			
Unprecedented at the national level?			Describe why and what aspects are unprecedented.
Unprecedented at the provincial level?			Describe why and what aspects are

			unprecedented.
10. Is the project highly contentious and likely to attract the attention of NGOs or civil society nationally or internationally?			
Considered risky or likely to have highly controversial aspects.			Describe perceived risks and controversial aspects
Likely to lead to protests or people wanting to demonstrate or prevent its construction.			Describe the reasons that subproject is highly unwelcome.
Comments and/or additional description (provide comments and/or additional description for the subprojects)			

If all the answers from 1-10 in Form B1 is "No"; use the criteria in Form B2 Category C screening criteria

Form B2: Category C Screening Criteria			
Screening Questions	Yes	No	Remarks
1. Subproject activities are limited to training, technical assistance and capacity building			Describe activities
2. Training and capacity building do not require use of chemical, biological agencies, pesticides			Support this statement
3. There is no infrastructure to be demolished or built			Support this statement
4. There are no interventions that would affect land, water, air, flora, fauna, or human			Support this statement
5. If scientific research is being performed, the research is of such a nature that no hazardous or toxic wastes are created and the research does not involve recombinant DNA or other research that would create dangerous agents should they be released from contained, laboratory conditions			If yes, discuss with the World Bank environmental specialists.

Result of EA screening:

Category A –full ESIA (If the answer is "YES" to any of the screening questions in Form B1): The subproject/activity will not be financed under the Program

Category C - no further EA action is required (If all answers are "NO" to the screening questions in Form B1)

Category B – ESMP (After the screening for Category A and Category C is applied and if the conclusion is reached that the subproject is not A and is not C, then the subproject should be categorized as B)

(c) Identification of Issues and Preparation of Safeguard Documents

Form C: Potential Environmental and Social Impacts to be Addressed							
No	Does the subproject entail these environmental impacts?	N	L	M	H	UN	Remarks
1	Encroachment on historical/cultural areas						Describe and briefly assess impact's level
2	Encroachment on an ecosystem (e.g. natural habitat sensitive or protected area, national park, nature reserve etc....)						Describe and briefly assess impact's level
3	Habitat fragmentation						Describe areas
4	Disfiguration of landscape and increased waste generation						Describe and briefly assess impact's level
5	Change of surface water quality or water flows (e.g. Increase water Indicate how and when this occurs. 77 turbidity due to run - off, waste water from camp sites and erosion, and construction waste) or long -term.						Describe and briefly assess polluted level
6	Increased dust level or add pollutants to the						Indicate how and

	air during construction						when this occurs
7	Increased noise and/or vibration						Clearly show the causes and places
8	Resettlement of households? If yes, how many households?						
9	Use of resettlement site that is environmentally and/or culturally sensitive						Briefly describes the potential impacts
10	Risk of disease dissemination from construction workers to the local peoples (and vice versa)?						Note estimated number of workers to be hired for project construction in the commune/district and what kind of diseases they might introduce or acquire
11	Potential for conflict between construction workers and local peoples (and vice versa)?						
12	Use of explosive and hazardous chemicals						
13	Use of sites where, in the past, there were accidents incurred due to landmines or explosive						Indicate risk areas
14	Construction that could cause disturbance to the transportation, traffic routes, or waterway transport?						
15	Construction that could cause any damage to the existing local roads, bridges or other rural infrastructures?						
16	Soil excavation during subproject's construction so as to cause soil erosion						
17	Need to open new, temporary or permanent access road?						Estimate number f and length of temporary or permeant access roads and their locations
18	Separation or fragmentation of habitats of flora and fauna?						Describes how
19	Long -term impacts on air quality. Accident risks for workers and community during construction						Specifies the space, time and the cumulative impact

Form C: Potential Environmental and Social Impacts to be Addressed cont.

No	Does the subproject entail these environmental impacts?	N	L	M	H	UN	Remarks
	phase						
20	Accident risks for workers and community during construction phase						Specifies the risk activities
21	Use of hazardous or toxic materials and generation of hazardous wastes						
22	Risks to safety and human health						Specifies the risk activities

Does the subproject entail land acquisition or restriction of access to resources?
Remarks
Specifies the risk activities
Specifies the risk activities
List land areas for permanent and temporary land acquisition, type of soils, duration and purpose of acquisition

23	Acquisition (temporarily or permanently) of land (public or private) for its development						List land areas for permanent and temporary land acquisition, type of soils, duration and purpose of acquisition

24	Use land that is currently occupied or regularly used for productive purposes (e.g., gardening, farming, pasture, fishing locations, forests)						
25	Displacement of individuals, families or businesses						
26	Temporary or permanent loss of crops, fruit trees or household infrastructure						
27	Involuntary restriction of access by people to legally designated parks and protected areas						
If the answer to any of the questions 23-27 is "Yes" for "L", "M", or "H", please consult the RPF; preparation of a Resettlement Action Plan (RAP) is likely required.							

Are ethnic minority peoples present in the subproject areas?		L	M	H	UN	Remarks
28	Ethnic minority groups are living within the boundaries of, or nearby, the subproject.					
29	Members of these ethnic minority groups in the area potentially could benefit or be harmed from the project.					

If the answer to questions 28 -29 is "Yes" for "L", "M", or "H", please consult the EMDF; and preparation of an Ethnic Minority Development Plan (EMDP) is likely required

Does the subproject entail forest plantation/protection and/or livelihood development in coastal area?

30	Subproject will involve forest plantation/protection in coastal area including building, upgrading, and/or rehabilitation of small infrastructure					
31	Subproject will involve forest plantation/protection in coastal area including building, upgrading, and/or rehabilitation of small infrastructure					

If the answer to questions 30-31 is "Yes" for "L", "M", or "H", preparation of forest management plan may be required (see Annex11.4).

Does the subproject entail procurement or use of pesticides?

32	Subproject/activity that require pesticides that falls in WHO classes 1A, IB, or II or procurement of large amount of pesticides and/or other toxic agro- chemicals					
33	Subproject will involve the use of agrochemical (pesticides, fertilizers, and toxic chemicals in aquaculture or shrimp farming)					

If the answer to questions 33 is "Yes" for "L", "M", or "H", preparation of pest management plan or adoption of good IPM practices may be required (see Annex 5) Note: N =No impact; L =Low (very small- scale, localized and temporary impacts; M= Medium impacts (Medium-scale, reversible impacts can be solved by applying prevention and management measures; H = High Impact (large scale, reversible, compensated) and N/A= Not know
(d) Social safeguard documents to be prepared - Resettlement Action Plan (If the answer to any of the questions 17-21 is "Yes") - Ethnic Minority Development Plan (If the answer to questions 22 - 23 is "Yes")
(e). Result of subproject screening

No.	Does the subproject entail these environmental impacts?	N	L	M	H	UN	Remarks
1.	Eligibility						
The subproject is eligible for funding under ER-P							
The subproject is not eligible for funding under ER-P							

2. Safeguard documents ESMP Resettlement Action Plan Ethnic Minority Development Plan
CONFIRMATION CPMU
PPMU

11.2 Guidelines for Development of Environmental Management Plan

ESMP is an important document for subproject classified as EA category B according to OP/BP 4.01. The scope of the ESMP will be based on results and technical screening of safeguard issues given in Annex11.4. After the safeguard screening and discussion among subproject owners, an agreement of necessary safeguard documents of the subproject will be reached taking into consideration the guidelines provided in this annex. Subproject/activity owner (PPMU, FME with the District and ACMA), with help from DARD and any consultants, is responsible for preparation and submission of the ESMP report. Consultation with CPMU and if necessary with the WB is recommended.

This annex provides technical guidance for preparation of an ESMP for the subproject and/or activities to be carried out under Components 1, 2 and 3 of the ER-P. It is noted that the ER-P will establish technical criteria and/or guidelines to be included in the Program Implementation Manual (PIM) for a) selection of subproject locations, type of species, and technology and best operation/management practices to be used and b) eligible types of investment activities to be supported. When there are potential conflicts of specific requirements among the guidelines during the preparation of an ESMP for a subproject, discussion with WB safeguard specialists is recommended.

The Annex 11.4 and 11.13 provides technical guidance on the scope and content of the ESMP report, while Annex 11.14 describes guidelines for addressing safeguard issues related to the subprojects/activities to be implemented under Components 1, 2 and 3 including guidance for mitigation of community forest management (CFM) activities. Additional guidelines for ECOP and monitoring of ESMP implementation are provided respectively in Annexes 11.12 and 11.4, and 11.13.

11.2.1 Guidance on Scope and Content of ESMP Report

General principles: An ESMP aims to provide information on objective, description, environment and social background, potential impacts (positive and negative), proposed measures to mitigate potential negative impacts including an implementation arrangement, budget, and monitoring and evaluation (M&E) of a subproject (see content below). During preparation of an ESMP for a subproject to be financed by ER-P, the following basic principles will be considered:

Subproject area and area of influence. The ESMF outlines the subproject target area in general terms. The ESMP will provide clear and specific information on the subproject areas and the area of influence including a brief description of the main biophysical conditions, such as topography, hydrology, land use, forest cover, natural habitats, and important physical cultural resources. Population of ethnic minorities and community livelihood should also be briefly highlighted. Where available, include maps to show the subproject target area.

Chance finds procedures: Significant impacts not expected. However, as subprojects could include small civil works that may include excavation activities, which may result in chance finds, the WB policy requires inclusion of the "chance finds procedure" in all contract related to excavation so that appropriate actions will be carried out when artifacts are found. This procedure has been incorporated into the ECOP (See Annex 11.12).

(Also see outline in Annex C of the Bank's Operational Policy on Environmental Assessment (OP 4.01). OP4.01, Definitions: subproject area of influence: The area likely to be affected by the subproject, including all its ancillary aspects, such as power transmission corridors, pipelines, canals, tunnels, relocation and access roads, borrow and disposal areas, and construction camps, as well as unplanned developments induced by the subproject (e.g., spontaneous settlement, logging, or shifting agriculture along access roads). The area of influence may include, for example, (a) the watershed within which the subproject is located; (b) any affected estuary and coastal zone; (c) off-site areas required for resettlement or compensatory tracts; (d) the airshed (e.g., where airborne pollution such as sme or dust may enter or leave the area of influence; (e) migratory routes of humans, wildlife, or fish, particularly where they relate to public health, economic activities, or environmental conservation; and (f) areas used for livelihood activities (hunting, fishing, grazing, gathering, agriculture, etc.) or religious or ceremonial purposes of a customary nature.)

World Bank Group Environmental, Health, and Safety Guidelines. There are also recent requirements for the Environmental, Health, and Safety Guidelines (known as the "EHS Guidelines"). The EHS Guidelines are technical reference documents with general and industry- specific examples of Good International Industry Practice. It contains the performance levels and measures that are normally acceptable to the World Bank Group and are generally considered to be achievable in new facilities at reasonable costs by existing technology. The environmental assessment process may recommend alternative (higher or lower) levels or measures, which, if acceptable to the World Bank, become subproject- or site-specific requirements. The EHS Guidelines will also apply to the ER-P and this has been incorporated into the ECOP (see Annex 11.12).

Public consultation: The Bank's safeguard policies require the subproject's owner to conduct public consultation during the preparation of an ESMP and this should be included in the TOR for the ESMP preparation. For ER-P, at least one consultation will be carried out in a form convenient to the local people (e.g. surveys, meetings, workshops, leaflets, signboard, etc.) and information on the subproject activities, key findings on potential impacts, and proposed mitigation measures must be provided in local language understandable for local authorities and majority of the affected peoples. Records of feedback from public consultation should be attached to the final draft ESMP. It is noted that in addition to the public consultation of the ESMP, a number of specialized consultation with subproject affected people (PAPs) and/or ethnic minority will also be carried out as needed.

Disclosure of ESMP: According to the WB's policy on access to information, all draft safeguard instruments, including the ESMP, are disclosed locally in an accessible place and in a form and language understandable to key stakeholders and in English at the WB's external Internet website before the appraisal mission. For the ER-P, the ESMF, RPF, and EMPF will be disclosed at the WB's external Internet website before appraisal. During implementation all ESMPs, RAPs, and/or EMDPs and other safeguard instruments will be disclosed at the subproject sites after WB clearance.

Basic principles for impact assessment. As impacts and mitigation measures of a subproject will depend on locations and type of subproject activities, the following guidelines will be used to assess the nature of potential impacts (level/magnitude of impacts, duration of impacts, and spatial impacts).

11.2.2 Magnitude of impacts

Large Impact (L) means the followings: significant change on a large area over a long period of time (more than two years), and/or significant impact on important ecosystem, nature and/or feature of landscape, and environmental quality; The impact goes beyond regulatory standards or is widespread for a long time; It may impact on human health; and/or causing financial lost to farmers or the public.

Moderate Impact (M) means the followings: significant changes but not more than two years and with moderate impacts on local area, ecosystem, nature, and/or landscape most of them can be recovered; It may impact to human health and/or other users.

Small Impact (S) means the followings: small change and occurs in less than two years, or insignificant changes but occurs in less than six months; The changes occurred only in local area and be within permissible standards and can fully control its impact; It may affect the operation, but does not interfere the user or to the public; negligible impacts to human health or quality of live.

No-impact (N) means the followings: Insignificant, unnoticeable changes or no change that cannot be assessed; Change that cannot be recognized or cannot be measured based on normal operations no change.

Impact duration –is defined as follows:

- Long duration (Lt) means impact that is unlimited time, or not less than 10 year durations;
- Moderate duration (Mt) means impact can last for 1 - 10 year duration, thus this impact can be reversed; and
- Short duration (St) means impact occurs over a time of less than 1 year.

Spatial influence --is defined as follows:

- Regional (R) means having possible impact to the whole of the ER-P North Central area, or a remarkable area.
- Sub-regional (Sr) means possible impact on the nearby areas (upstream, downstream, river mouth or peninsula) larger than the subproject area.
- Local (Lo) means possible impact does not expand beyond the area that is directly affected by subproject activities.

Applying the above guidelines, the overall negative impacts of the proposed Component 1, 2 and 3 of the ER-P are assessed in Tables 4.1 and 4.2 Section 4.

1. *Basic principles for mitigation measures*: The ESMP for ER-P subprojects will include the mitigation measures under the responsibility of the subproject owner, contractors, and/or other agencies during subproject pre-construction, construction, and operation/ completion stages. When civil works is involved the contractor will be required to mitigate both the generic impacts that could be mitigated through the application of ECOP as well as the site-specific impacts and environmental monitoring during site clearance and construction phases to be prepared as part of the ESMP. When plantation of coastal forest and/or mangrove is involved, adoption of the basic principles of the Forest Stewardship Council (FSC) will be confirmed while active and sustainable participation of local authorities and communities will be necessary. If the use of pesticides or other toxic chemicals is involved, application of pest management regulations and adoption of an IPM and/or good practices will be required. Depending on type of activities and locations, the ESMP will also consider possible induced impacts on coastal water quality, ecosystem, and shoreline as well as on other social issues in additional to RAP and EMDP.

2. *Other key principles*: The ESMP is the key document to be used during implementation of the subproject to mitigate potential negative impacts and ensure compliance with GOV's EIA regulation and WB safeguard policies. During the preparation of an ESMP, it is important to ensure the followings:

- Detailed design and preparation of bidding and contract documents: To minimize the impact during land clearance, construction, and operation, it is important for the ESMP to clearly define the activities to be included in the detailed design as well as to finalize the ECOP to be included in the bidding and contract documents and ensuring that the activities are part of the subproject cost and the contractor is aware of this obligation (see ECOP in Annex 4).
- Before starting construction, the subproject owners and/or supervisor certify that (a) all compensation for land acquisition and affected facilities, the relocation of households and/or recovery of land/land donation has been completed and (b) subproject environmental impact assessment and/or the specific mitigation measures approved by GOV.
- During construction, the subproject owners and/or supervisor closely monitor the implementation of the mitigation measures during construction and include the contractor performance especially on safety aspects in the subproject progress report.
- After completing the construction, the subproject owners and/or supervisor confirms compliance with the ESMP including ensuring that any damage incurred by the contractor has been properly addressed. If necessary, it should be ordered to pay compensation / rehabilitation of the construction sector as stipulated in the contract. The contractor will recruit a team of local experts (environmental contractors) to assist in the planning and implementation of environmental safeguards, including preparation of contractor's environmental management plan for ensuring compliance with ECOP and site-specific requirements especially on effective consultation with government and local communities.

3. *Content of ESMP*: The ESMP content and scope should be as follows:

Abbreviations and Acronyms

Executive Summary: Concisely discuss significant findings, recommended actions

Part I Introduction:

Briefly explain connection between the Project and subproject objective/scope of the ESMP/ESMF report especially results of the safeguard screening and listing of subproject environmental studies such as EIA/EPP, approval documentation. The ESMP objective should be subproject specific, not broad policy statements.

Part II Subproject description:

Describes the subproject objective, components, and description of activities in sufficient detail to define the nature and scope of the subproject. These should include, but not limited to, (a) the subproject components and scope of activities especially those to be carried out during construction and/or operation processes including location and transportation of construction materials, working or operating hours, the plant and equipment to be used, the location and site facilities and worker camps, bill of quantities for civil works, and timing and scheduling, and off-site facilities to be constructed. If the subproject is to be completed in stages then separate dates for each stage should be provided. Subproject location should be described with good maps (both in English and Vietnamese). Need for land acquisition and/or resettlement should also mentioned.

Part III Policy, legal and administrative framework:

Provide brief description of GOV regulations related to EIA and technical regulations and standards applied to the subproject as well as the list of World Bank safeguard policies triggered by the subproject.

Part IV: Environmental and social impacts of the subproject:

Briefly provide information on the subproject area and results of an impacts assessment (potential positive and negative), in quantitative terms to the extent possible. Attention should be given to highlight potential health and safety impacts of plantation and other productive activities. Detailed information on relevant physical, biological, socio-economic and socio-cultural, cultural resources sites (historical, religious, or architectural), environmentally sensitive areas; including any changes anticipated before the subproject commences, should be provided in an annex. Also takes into account current and proposed development activities within the subproject area but not directly connected to the subproject. Data should be relevant to decisions about project location, design, operation, or mitigation measures. It should identify/ estimate the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention. The assessment will also include those for the ancillary and associated facilities of the subproject activities. The impacts should be described for pre-construction, construction, and operation phases including any residual negative impacts that cannot be mitigated. If possible, this section should also explore opportunities for enhancement of positive impacts of the subproject.

Part V: Proposed mitigation measures:

Clearly explain measures to mitigate the negative impacts. Using a matrix format could help understanding connection between the impacts and mitigation better (See Table 11.3 below for a sample mitigation measures matrix.). Cross-referencing to the EIA/EPP reports or other documentation is recommended, so that additional detail can readily be referenced. Mitigation measures should be provided for all components and for all stages (pre- construction, construction, and operations/completion stages). To mitigate potential impacts during site clearance and construction, while commonly-known social and environmental impacts and risks due to construction activities can be addressed through ECOP, site-specific mitigation measures should also be proposed to address subproject site-specific impacts which may occur due to site-specific conditions and type of investments. Some measures can be proposed for incorporation into engineering design to address potential impacts/risks and/or bring about added values of the works provided (e.g. road/access path improvement combined with canal lining). Mitigation measures should also include a communication program and grievance redress mechanism to address social impacts. Depending on impacts of a subproject, Physical Cultural Resources (OP/BP 4.11) or Pest Management (OP/BP 4.09) may be triggered and physical cultural resources and pest management plan may need to be developed and included in the ESMP. Also see additional guidance provided in Annexes 3(b), 3(c), and 3(d).

Part VI ESMP implementation arrangement:

Clearly explain roles of key agencies responsible for implementation who will be responsible for implementation of the ESMP including monitoring at program and subproject level (CPMU, PPMU, contractors, field supervision consultants, independent environmental supervision consultants, local environment management agencies, NGOs and its partners (if needed). Details can be provided as an annex if needed. This section should also include an environmental compliance framework explaining how the subprojects will be monitored to ensure compliance with WB safeguard policies and GOV requirements and report procedures and responsibilities of different stakeholders and type of reports needed.

Part VII Capacity building, training, and technical assistance:

Clearly explain the needs and activities to be carried out to ensure effective implementation of subprojects. The activities may include buying equipment, training, consultant service and other specific researches. All stakeholders need to be trained on general environmental knowledge and training/educating about their responsibilities. This section should also be consistent with the capacity building and training of the ESMF.

Part VIII Expected budget for ESMP implementation:

ESMP preparation cost depends on various factors such as complexity of potential impacts. Scope of the budget should be consistent with that described in the ESMF. The budget will be provided as part of the subproject cost.

Part IX Grievance Redress Mechanism (GRM).

Presents the GRM to be used for the subproject. It should be consistent with the GRM process to be used for the Project.

Part X Public consultation and information disclosure:

The ESMP should clearly describe key actions undertaken on public consultation. For the ER-P, at least one public consultation during the preparation of ESMP will be required. When subprojects involve land acquisition or resettlement and/or ethnic minority, extensive consultation with local authorities, program/subproject affected people, and/or target ethnic peoples will be required during preparation of RAP and/or EMDP. All safeguard documents are required to be disclosed at the Program and subproject locations in a language understandable by the local. A summary of the public consultation and information disclosure which were conducted during the ESMP preparation should be included in the ESMP. WB clearance for all RAPs and EMDPs will be required.

Annexes – provide additional details for the ESMP main text as needed. Maps, background information, and specific requirements should be provided.

(ii) Mitigations during Protection/Rehabilitation Forests and Mangroves To be consistent with GoV policies and regulations, the following will be considered during the preparation of an ESMP for the subproject:

No	Socio-environmental management policies of Vietnam	Explanation/Optional
1	Biodiversity Law No. 20/2008/QH12 dated 13/11/2008 of the National Assembly regulations on the biodiversity conservation and sustainable development; the rights and obligations of organizations, households and individuals in the biodiversity conservation and sustainable development;	The program activities related to the exploitation and use of resources under the forest canopy. Harmonious integration between biodiversity conservation with exploitation and rational use of biological resources; integration between conservation, sustainable exploitation or use of the biodiversity with livelihood improvement is one of the principles of biodiversity conservation and sustainable development that being regulated in this Law. Therefore, regulation of benefit sharing between the stakeholders should be ensured during implementation of the program activities to ensure the benefits of organizations and individuals from exploitation and use of biological resources under the forest canopy. Ensuring harmony

		between the interests of the State with organizations or individuals.
2	Law on Forest Protection and Development No. 29/2004/QH11 dated 03/12/2004 of the National Assembly regulations on the management, protection, development and use of forests; the rights and obligations of forest owners	The forest protection and development activities of the program including plantation, rehabilitation, enrichment, protection of current forest areas of the program must be complied and fitted with land use plans and land use planning that regulated in the Law. The allocation of forest management to the community must not harm the interests of the State, organizations and other related individuals.
3	Decree No. 116/2014/ND-CP dated 04/12/2014 of the Government on stipulating detail and guidance on executing a number of articles of the Law on Plant Protection and Quarantine;	The program does not export or import of any species that is under plant quarantine procedures. Plant pest risk of mangrove and coastal inland forests has never happened in the past in Vietnam, as well as in the program provinces. But the program still needs to perform surveillance for plant pest management under the provisions of this Decree to ensure emergency encirclement and pest treatment (if any).
4	The Circular No. 21/2013/TT-BNNPTNT dated 17/04/2013 of the Ministry of Agriculture and Rural Development on the promulgation of the list of acceptable, restricted and banned agrochemicals, and the additional lists of plants varieties allowed to be produced and traded in Vietnam	According to the statistics, pests almost did not happen to mangrove forests and coastal inland forests in the past in the program areas. Thus, the program will not use pesticides in the activities of plantation, forest tending and rehabilitation. However, the program will still conduct supervision of the seedling suppliers to ensure that there is any pesticides and agrochemical given in the list of banned agrochemicals of the Government of Vietnam or regulations of international to be used for producing seedlings
5	Decree No. 119/2016/ND-CP dated 23 August 2016 of the Government providing for policies on sustainable management, protection and development of coastal forests to cope with climate change	Activities of construction of silvicultural works or other works as upgrading of coastal infrastructure need to be reviewed to ensure that those works do not affect or have a risk to the protection function of the mangrove forests or coastal inland forests that was specified in the Law.
6	Decree No. 99/2010/ND-CP on the policy on payment for forest environment services.	The program will support, establish a policy and mechanism on payment for coastal forest environmental services. Therefore, this mechanism is only really feasible when the provisions of this Decree are conformity ensured with a basic principle as openness and fairness
7	Decision No. 89/2005/QD-BNN promulgation regulation on management of forest plant varieties	The program activities such as plantation, rehabilitation and enrichment need to apply these provisions to manage the quality of seedlings and monitoring the CoC (Chain of Custody) of forestry plant varieties.
8	Decision 2194/QD-TTg in 2009 on development of seedlings and breeding	The program does not produce seedlings themselves but it supports technology for the seedling producers.
9	Decision 1205/QD-BNN-TCLN in 2016 promulgation technical guidance to afforestation of mangrove apple, black mangrove, Indian Mangrove, River Mangrove and Kandelia	The evaluation of growing conditions, plant species and planting techniques plays an effectiveness of plantation activities. Therefore, compliance with the guidelines on this regulation will ensure the achievement of the program purposes for the mangrove area
10	Decision No.73/2010/QD-TTg dated on 16 November 2010 of the Prime Minister promulgating the regulation of management of investment, in construction of silviculture works. Circular No. 69/2011/TT-BNNPTNT providing guidelines for a number of contents in the Regulation on management of investments in construction of silviculture works	Any program activities in connection with silviculture infrastructure must comply with this regulation to ensure the selection of construction site, designing and construction contractors will not affect the protection functions of forests and ecosystems.

	accompanying Decision No. 73/2010/QD-TTg dated November 16, 2010 of the Prime Minister	
11	Sector Standard No.04-BC-46-2001 (issued together with the Decision No. 516-BNN- KHCN dated February 18, 2002) on process of afforestation design	This standard stipulates the basic principles for the contents and methods of the design for planting to mature forest (closed canopy). In addition, this standard is the legal basis for implementation, monitoring and evaluation afforestation design prescribed by the Government of Vietnam.

4. *Protection, plantation, seedling, and tendering (for mangrove and coastal forest areas only in the FMCRP):* This may create site specific impacts due to types of activities and locations of the subproject areas. Although technical criteria for site selection and methodology for plantation, and etc. are being developed and they will be included in the Program PIM, from safeguard point of views, it is important to ensure the followings during site selection, seedling, and tendering stages:

For Mangrove	For Coastal Forest
For site selection for mangrove: Selection of areas where there was previous forests for plantation; Selection of estuary areas, stable background areas with its rich nutrients and sandy percentage < 80%; Selection of areas where have a exposure time > 4 hours/day; intertidal time > 5 days/month; depth of tide crest < 3 m; Selection of areas under going the deposition period or erosion-deposition process is equilateral; Selection of areas where have salinity < 35 $^{0}/_{00}$; and Do not select areas near by industrial zone, harbors or undergoing construction of coastal infrastructural works	Selection of the relatively stable sand areas, where have grass growth and away from the water's edge at crest tide from 20 - 50 m; Selection of areas where have elevation < 100 m, slope < 5^{0}; sandy plain terrain and hills; and Do not select mobile sand areas and flooded areas during rainy season.
For seedling of mangrove: Height of seedling > 1.5 m; stump diameter of seedling > 1.2cm; tree age > 24 months; Dimension of seedling bottle is 40 x 30 cm (height x diameter); Seedlings grow well, no disease, no bren tree trunk or branch.	Seeding coastal inland forests: Height of seedling>2.5 m; stump diameter of seedling > 1.5 cm; tree age > 12 months; Dimension of seedling bottle is 18 x12 cm (height x diameter); and Seedlings grow well with it's straight trunk, top of tree and no disease.
For planting and tender technique of mangrove forest: Selection of seedlings and planting techniques according to the Basis Standard TCCS 08:2011; Priority is mixed-species plantation under natural ecological succession of mangrove trees; and Do not remove all vegetation during plantation and tending of forests.	Plantation of species including: *Casuarina equisetifolia*, *Acacia auriculiformis*; mixed *Casuarina equisetifolia* + *Acacia auriculiformis*; Planting techniques of *Casuarina equisetifolia* according to the Branch Standard TCN 20:2010. Technical regulations on *Casuarina equisetifolia*, *Acacia auriculiformis* plantation. Do not remove all vegetation during plantation and tending of forests.

5. *Prevention of invasive species:* Intentional or accidental introduction of alien, or non-native, species of flora and fauna into areas where they are not normally found can be a significant threat to biodiversity, since some alien species can become invasive, spreading rapidly and out-competing native species. Forest operators should not intentionally introduce any new alien species (not currently established in the country or region of the program) unless this is carried out in accordance with the existing regulatory framework for such introduction, if such framework is present, or is subject to a risk assessment (as part of the Social and Environmental Assessment) to determine the potential for invasive behavior. Operators will not deliberately introduce any alien species with a high risk of invasive behavior or any known invasive species, and will exercise diligence to prevent accidental or unintended introductions. Operators should also take precautions to prevent the spread of existing exotic species as a result of forestry operations. Management techniques include procedures to ensure that equipment (e.g. trucks, skid machines) are power washed prior to moving from an infested area to an un-infested area.

Species should be selected on the basis of their overall suitability for the site and their appropriateness to the management objectives. To enhance biodiversity conservation, native species are preferred over exotic species for watershed restoration programs and for some plantation situations. Exotic species should be used only if their overall performance over the long-term is demonstrably greater than that for native species. Exotic species shall be monitored to detect unusual mortality, disease or insect attacks and adverse ecological impacts. No new exotic species shall be introduced on a large scale until local trials and experience demonstrate that they are ecologically adapted, non-invasive and have no significant ecological impacts on other ecosystems.

As great a variety as possible of clonal materials (i.e. Acacia spp.) should be made available to planting sites. As a general rule, not more than 20% of the plantings in any one commune, and no area of plantation greater than 30 ha shall be to a single clone. Where a range of clonal materials is not available, clonal plantations should be surrounded by blocks of other plantation species or by sanitation corridors of native vegetation.

6. *Assessment of possible impacts* from invasive species should therefore be considered during the preparation of the ESMP of subproject.

7. *Pest outbreak*: Monoculture plantation may require periodic treatment of pesticides and/or other toxic substance. If pesticides and/or toxic agrochemical is used, follow the guidelines provided in Annex 11.9 on the use of pesticides and/or toxic chemicals. In additions, to avoid potential adverse impacts the following measures will be considered:

8. *Forest fire risks*: Fires are one of the most significant risks to the profitability and sustainability of forest resources. In natural forests, the opening of the forest canopy by selective logging usually leads to a proliferation of ground level vegetation. This is often accompanied by an increased ignition hazard due to the presence of forestry workers or members of the public who use forestry roads for access. Forest fire prevention and control activities must be an integral part of the operational plan for plantation area and complied with Decree No. 09/2006/ND-CP (Regulation on the Prevention and Fighting of Forest Fires). Such plan should establish a fire control unit, define roles and responsibilities, and detail prevention, public education, patrolling, enforcement and fire response programs. To avoid and/or mitigate the risk, the following measures will be considered:

- Development of a fire risk monitoring system.
- Preparation of a formal fire management and response plan supported by the necessary resources and training, including training for workers in the use fire suppression equipment and evacuation. Procedures may include coordination activities with local authorities. Further recommendations for emergency preparedness and response are addressed in the General EHS Guidelines.
- Conducting the training on forest fire prevention plans.
- Forestry operations should be equipped with fire suppression equipment appropriate for the size of operations and that meets internationally recognized technical specifications (e.g. fire beaters and knapsack sprayers, small portable water pumps and tanks, and water tankers).
- Undertake regular removal of high-hazard fuel accumulations (e.g. through thinning and prescribed burns). Time thinning and prescribed burns to avoid forest fire seasons. Prescribed burns should adhere to applicable burning regulations, fire suppression equipment requirements, and typically must be monitored by a fire watcher.
- Establishment and maintenance of a network of fuel breaks of less flammable materials or cleared land to slow progress of fires and allow fire-fighting access.
- Fire breaks should be established in plantation areas to prevent and minimize damage to forests. The width of fire breaks is from 10 - 15 m and is cleanly maintained every year. Inland forests will be cleaned in the dry season (from October to March of next year).

9. *Meeting international practices:* To make sure that proposed subprojects/activities will the not create adverse impacts during preconstruction, construction and operations stages, it is necessary to ensure that

the subproject design incorporates means for addressing the following issues: the potential of forest restoration to improve biodiversity and ecosystem functions; the potential to establish plantations on non-forest lands that do not contain critical natural habitats; the need to avoid conversion or degradation of natural habitats; and the capacities of the government, nongovernmental organizations, and other private entities to cooperate in the forest restoration and plantation

(iii) Mitigations for Community Forest Management (CFM)

10. *Community-Based Forest Management and Development:* The Bank policy on Forests requires that if the program is designed to support community-based forest management and development, it must be ensured that, as appropriate, the program design takes the following into account:

- The extent to which the livelihoods of local communities depend on and use trees in the program and adjacent area;
- The institutional, policy, and conflict management issues involved in improving the participation of indigenous people and poor people in the management of the trees and forests included in the program area; and
- Forest product and forest service issues relevant to indigenous people and poor people living in or near forests in the program area, as well as opportunities for promoting the involvement of women.

11. Vietnam has developed its concept of CFM over many years and this has been formally recognized in the Law on Forestry Protection and Development (2014) a new Forest Law was passed in November 2017 which supports the aim of addressing deforestation and forest degradation and promoting forest rehabilitation, sustainable forest management and conservation. With assistance from international agencies, efforts have been made to promote CFM process in many pilot provinces30 focusing mainly on issues such as (a) the process of forest land allocation to households and household groups (particularly to poor, ethnic minorities whose livelihoods are closely linked to traditional forest management); (b) the decentralization of forest management; and (c) the development of pro-poor mechanisms targeting groups involved in innovative forest management solutions. Through training and capacity building on technical and management aspects, local communities could perform their functions.

12. The ER-P includes the ACMA which is anticipated to be highly participatory it is not expected that the CFM and SFM process to be carried out under ER-P will create negative impacts and preparation of an ESMP is not required. However, there are concerns on sustainability of this approach, especially when involve vulnerable people and/or ethnic minority. Therefore, to ensure achievement of sustainable forest management by local communities, which is one of the key safeguard concern, it is necessary for the subproject to clearly and effectively address the sector issues related to forestry techniques and approaches, forestry policy, and forestry administration that could address key issues such as benefit sharing, rights, and the administrative procedures for harvesting and utilization of resources.

11.2.3 CFM Guidelines

The methodology covers areas such as the development of participatory methods and approaches for forest land allocation, forest assessment, development of forest management plans, designing forest protection regulations, and the development of simple silvicultural guidelines. Five key steps are as follows (see Figure1):

- Development of a five-year forest management plan by the community, ultimately calculating community needs, both domestic and commercial, and ability of their forest resource base to meet these needs;
- Development of local forest protection and regulations in accordance with the existing legal framework;
- Development of a forest management plan which is appropriate for the selected sivilcultural methods taken into account both traditional and customary systems and in conjunction with the need for capacity building and monitoring mechanism and cost; and

- Implementation of the plan including monitoring and reporting mechanisms.
- Cost effective of the CFM system is critical for its sustainability.

Forestry techniques and approaches for CFM

To support the implementation of Vietnam has a number of CFM, guidelines have been established for participatory forest assessment and planning, the formulation of local regulations on forest protection and development, and simple silviculture techniques (SFDP Song Da 2002, ETSP/Helvetas 2005, RDDL/GFA 2005– 2006; FSDP 2012 and 2013 technical manuals on Forest Farmer Groups). Within these guidelines, participatory approaches have been developed to: Enhance community participation in the decision-making process during the development and implementation of forest management plans, forest protection regulations, and development regulations. This will in turn assist the community in improved management of their forest resources.

11.2.4 CFM Policy

Setting benefit-sharing mechanisms in CFM: The system of using post-allocation incremental growth to determine equitable harvesting programs appears to be a fair system. The traditional volume-based growth harvesting system is not practical, as there is a lack of data norms for different forest types, soil conditions, climate, and forest condition which are needed to model growth. As a result, using the SFM system to define harvest strategies and benefit sharing is the preferred option. SFM as a tool for determining forest increment and benefit sharing. The benefit-sharing plan is determined as a result of the harvest limits, which are based on a percentage of the tree diameter growth over five years, regardless of forest condition variations between blocks. Based on this, the community can develop an equitable intra-block sustainable 5-year harvest plan.

Proposed mechanism for benefit sharing among forest users: In order for community forest management to be undertaken by communes and villages without external financial support, benefit sharing must be both equitable and transparent. Community forest management is considered as a livelihood development or poverty alleviation form of forestry, and the income generated from selling timber and non-timber forest products can be used for common community interests and as a direct form of compensation or income for communities. Based on the growth data over five years, benefits can be calculated for each stage of the 5-year CFM plan. Comparing the actual number of trees from each forest plot against the SFM guidelines, the community can calculate which trees can be harvested. SFM is therefore used as a control for determining harvesting rates and benefits to be shared.

Benefit-Sharing Mechanisms for Household Purposes: The ACMA is strongly participatory and includes a village meetings which can be used to help decide on the following issues: (i) The amount that households can harvest annually for their personal consumption; (ii) The amount households must pay in partial fees to the village fund, agreed on in the Village Forest Protection and Development Regulations, for village forest management; and (iii) The amount of surplus trees (if available) that can be harvested to contribute to the village fund for forest management.

Benefit-Sharing Mechanisms for Commercial Purposes: The trees harvested annually are sold and benefits are shared as follows (see Figure 3): First, a payment of a natural resource tax is made. This is usually between 15% and 40%, depending on timber groups and diameter regulations. The tax paid is transferred to the commune for forest management, or for investment and development of bare land or more degraded plots; Second, all harvesting costs such as felling, transportation, and forest cleaning are deducted; Third, after deducting payment of the natural resource tax and harvesting costs, 10% of the remaining income is allocated to the Commune People's Committee for forest management costs and an allowance for the FMC and Finally, the remainder is shared among the village.

The benefit-sharing regime is based on the ACMA/ FMC, which are agreed on by the entire village and approved by the local authority. This benefit-sharing mechanism aligns with the forestry techniques and forest land allocation policy, in which the forest owners can generate income through incremental growth. The SFM approach is robust and functional at the community level; however, to fully benefit from CFM, forest users still need to better understand markets and the administrative procedures surrounding harvesting.

It is important to set up a management and monitoring system for the implementation of the CFM plan, particularly for harvesting activities. This management and monitoring system needs to be designed according to community capacity, with a focus on improving self-reliance and monitoring. The roles and tasks of local authorities and other stakeholders engaged in the CFM process need to be clearly defined in order to best support the process. The monitoring mechanism should distinguish between two types of timber harvesting: (i) Harvesting for domestic consumption and (ii) Harvesting for commercial purposes.

A management system and CFM guidelines are currently being developed by the National Working Group on Community Forestry Management (NWG CFM). In principle, the new management system will encourage a decentralized decision-making process and promote monitoring at the community level. It should facilitate the link between the community and the district level and reduce complex procedures for communities that impede on their ability to manage and monitor their forest resources efficiently.

(iv) Mitigation during Construction, Upgrading, and/or Rehabilitation of Small Infrastructure:

1. The ER-P is not expected to include much (if any) small scale infrastructure, however, potential negative impacts during preconstruction, construction, upgrading, and/or rehabilitation of small-scale infrastructure to be implemented under ER-P will involve generation of air pollution, noise, vibration, water pollution, wastes, and traffic congestions including increasing safety risks to residents and general public as well as other site-specific impacts that will depends on site location, type of activities, and other factors. CPMU and PPMUs will ensure that the ESMP are in line with all conditions mentioned in basic principles described above. Both the mitigation measures described in the ECOP as well as the site-specific requirements will be included in the bidding and contract documents. The subproject owner will be required to assign the construction supervision consultants to also supervise the contractor performance per these requirements on a day-to-day basis and include the results in the subproject progress report. CPMU and WB will conduct periodical monitoring and include the results in the Program progress report and/or safeguard monitoring reports.

2. To mitigate the general construction impacts, the following measures will be considered:

- Apply ECOP and include it in the contractor contract and ensure that the contractor understand this commitment and it is part of subproject cost. A generic ECOP is provided in (Annex 11.12) could be applied. The ECOP describes scope of issues to be addressed by ECOP, GoV regulations to be applied, monitoring and reporting requirements, and proposed mitigation measures.
- Ensuring that contractors apply good construction practices and/or ECOP including initiation and maintaining close consultation with local authorities and communities throughout the construction period.
- Ensuring close supervision of field engineers and/or environmental officer.

(v) Mitigation for Site-Specific Impacts

3. Site specific impacts may create potential conflicts among local population and it should be considered in connection with other existing and future activities in nearby areas. Impacts due to resettlement, land acquisition, and/or ethnic minorities, UXO risks (only in some provinces) are considered site-specific impacts and mitigation will be made through the preparation and implementation of RAP and EMDP. As other site-specific impacts can create both positive and negative impacts on the subject and nearby areas depending on location and type/scale of the subproject activities, all other site-specific impacts and mitigation measures will be identified during the preparation of an ESMP for the subprojects.

4. To avoid and/or minimize potential adverse impacts the following will be considered:

Impacts of soft embankment: The design of soft embankment for creating flats serving to forest plantation should follow the following criteria:

- Only carry out at locations with relatively tight coastline segments, slight bottom slope, simple bottom topography, dominant deposition process.

- Guarantee of the exchange processes of material and energy naturally. The height of designed soft dike is not higher than the average tide levels of the proposed areas;
- Ensuring that soft dike does not cut across the canals and far from river mouths; use of environmentally friendly materials.
- Construction of bamboo fence T-shaped, length of each side is 100 m. Each bamboo fence includes staggered three units. The units are designed perpendicular to the wave direction. The height of soft embankment from the bottom is less than 1.5m; height of pile is more than > 2m. The distance between units is 25 m. Soft embankment structure consists 2 pile rows. There is a bundle of bamboo layer between 2 pile rows. Number of pile is 10 - 15 piles per 1 m of length depends on wave energy and erosion level. Width of bamboo fence is 0.4 m.

(vi) Measures for Improved Aquaculture:

Aquaculture subprojects may be involved in the ER-P but as a separate sub-project or activity to the FMCRP (which is also implemented in mangrove areas) which includes integrated aquaculture and mangrove systems. A similar approach to the FMCRP is used for continuity. Subprojects will support integrated mangrove-shrimp or mangrove-clam and mollusk farming that are considered to be more environmentally sustainable aquaculture practices because it is extensive and uses less agro-chemicals (i.e. fertilizers, antibiotics) and support restoration of mangrove areas. These systems have lower environmental concerns such as effluents from the shrimp farms, disposal of the sediments in the shrimp ponds into canals and rivers need to be managed. The FMCRP PIM will include operational guidelines for water management systems in the subproject area will lead to more sustainable shrimp farming.

(vii) Measures for Climate Smart Agriculture and Aquaculture:

1. Appropriate livelihood support through diversifying agriculture and aquaculture models can strengthen the value chains and linking farmers to business and markets. The transition to high value agriculture will provide many positive social benefits to local communities and households involved in the livelihood models. To ensure sustainability the program must also consult with communities in the surrounding areas to enable all farmers to transition to alternative farming mechanisms.

2. The climate smart livelihood models for high-value agriculture (i.e. fruit trees, vegetables, mushrooms, watermelons etc) may require higher inputs of fertilizers and pesticides. The potential environmental impacts of aquaculture and freshwater shrimp farming including the release of organic wastes, agro-chemicals, antibiotics, the transmission of diseases and the ecological impact on endemic fish species in the subproject areas will also need to be considered. In order to mitigate these environmental impacts, an IPM program should be considered and implemented for each applicable subproject as a part of the ESMP. Surface water quality monitoring will also need to be established in the subproject area.

3. Development of livestock has been identified as an important livelihood model in the subproject areas. Potential impacts will be limited to appropriate management of manure and other wastes, and nuisance to neighbors, assuming that other risks related to types and nature of the livestock and disease outbreaks, and market prices will be adequately addressed from the technical and financial aspects. For small farmers, care should be made to ensure that the social and financial risks to poor farmers will be considered. Adequate technical assistance and other supports should be provided if the technical, social, and financial risks are high.

(viii) Measures for Ecotourism Development:

To avoid negative, direct and indirect impacts, on coastal forest resources, biodiversity, non- timber forest products (NTFPs) caused by the subproject activities to enhance eco-tourism the following issues and mitigation measures will be considered: (a) issues related to illegal and wildlife trade; (b) potential damage to coral reefs, seagrass beds, and/or endanger species of animals, flora, and fauna; (c) introduction of non-native species; and (d) possible disease outbreak. Key mitigation measures may include, but not limited to, the following:

- Assess availability of infrastructure for tourism and regulate inflow of tourists as appropriate.

- Assess impact of increased tourists and accompanying demand on fuel wood from protected area, increased harvesting of selected NTFPs, or wild fruits, herbs et al for consumption and sale.
- Assess emergence of local forest, bamboo, NTFP-based household production for tourists and its impact on unsustainable harvesting.
- Assess location of tourist spots and ensure sites are not in fragile natural habitat areas.
- Undertake seasonal analysis of tourist inflow and co relate with breeding cycles of species those are attractive to tourists.
- Undertake orientation and training of local people involved in eco-tourism especially with relation to negative impacts of tourism on the environment and forest resources.
- Ensure all tourist camps are clearly marked with signage, have garbage disposal arrangements, and fire management equipment.
- Provide orientation and briefings to tourists about protected area, make available educational and awareness material in appropriate language.
- Apply ECOP to all infrastructures that will be built by the program.

(ix) Measures for Use of Pesticides and/or Toxic Agrochemicals:

1. To mitigate potential impacts as a 'good practice', the subproject owner will prepare and implement a mitigation plan aiming to increase famers knowledge on Government regulations, policies, and/or technical guidelines related to safe use (application, storage, and disposal) of pesticides and toxic agrochemicals likely to be used by farmers. This will include the application of an Integrated Pest Management (IPM) practice that are appropriate for the agriculture productions (rice, shrimp, aquaculture, etc.) in the subproject area through training and other capacity building activities. The activities will be incorporated and implemented as part of the ESMP. There are many IPM programs and on-farm pilot activities aiming to reduce the use of pesticides and fertilizers with WB support therefore knowledge and implementation experience including some training manuals and/or other communications tools (radio/TV program, public materials, etc.) are available. The IPM technology being considered in Vietnam includes application of the System Rice Intensification (SRI) technology and the "3Reductions, 3Gains" or "3R3G" and "1Must, 5Reductions" or "1M5R" campaigns while there are some pilot activities related to the application of "VietGap" during

IPM refers to a mix of farmer-driven, ecologically based pest control practices that seeks to reduce reliance on synthetic chemical pesticides. It involves (a) management (keeping them below economically damaging levels) rather than seeking to eradicate them; (b) relying, to the extent possible, on nonchemical measures to keep pest populations low; and (c) selecting and applying pesticides, when they have to be used, in a way that minimizes adverse effects on beneficial organisms, humans, and the environment.

2. If preparation of a pest management plan is required the following principles should be considered:

- The subproject will not finance the purchase of fertilizers, pesticides, or other toxic agrochemicals. In normal conditions, if pesticide use is considered to be the necessary option, only pesticides registered with the government and the international recognition will be used and the Project will also provide technical and economic information for the type and amount of the chemicals. The subproject will also consider other options (including the management of non- harmful chemicals) that can also reduce reliance on the use of pesticides. The measures will be incorporated into the subproject design to reduce risks related to the handling and use of pesticides by farmers.
- During the preparation of the ESMP/PMP for the subproject, the subproject owner and consultant will identify the need for training and capacity building in close consultation with the local authorities and other key stakeholders including chemical suppliers to enhance close cooperation and understanding among them. The subproject will apply IPM practices in line

with the national IPM program and aquaculture/shrimp farming management programs being implemented by MARD as a means to minimize the potential negative impact of the increased use of fertilizers, pesticides, and toxic chemicals. Main activities may include training, sharing of knowledge and experience in the use of fertilizers and chemicals through research surveys, study visits, and/or selecting safe use of non-chemicals, other techniques.

- The PMP will identify the agency responsible for implementation including fund flow and reporting arrangements. DARD will be responsible for planning and implementation of PMP activities while farmers will be responsible for actively participation during the planning and implementation. CPMU will be responsible for supervision and monitoring of the ESMP including PMP activities after it has been approved by WB. The activities will be planned and implemented in close consultation with farmers, local authority, and local community organization especially women. The implementation budget will be included as part of the ESMP cost and the activities, outputs, and impacts will be monitored as part of the ESMP implementation.

11.2.5 Guidelines for Addressing Social Issues (in addition to RAP and EMDP)

1. The social risks that may be caused by a subproject e.g. encroachment of agricultural households in coastal forest areas and the unsanctioned use of wood from mangroves for fuel, issues of access and rights to land, social vulnerability, market risks, etc. will also be considered and mitigation measures prepared during the preparation of the subproject ESMP.

2. This following guidance on key social issues that may be created by the subprojects (vulnerability, market risks, encroachment of agricultural households in coastal forest areas and the unsanctioned use of wood for fuel, issues of access and rights to land) will in addition to those related to resettlement and compensation and ethnic minorities which will be addressed in more details in the subproject RAP and EMDP. The issues are related to vulnerabilities of society in Program areas and they should be considered during the preparation of ESMP of the activities/subprojects to ensure that adequate mitigation measures will be incorporated during the design of the livelihood model especially with respect to ethnic minorities. The guidelines were developed as a result of the SESA.

Solving vulnerability because of selecting location

3. Using agricultural, forestry, and fishery experts' knowledge to optimize scale design of livelihood models. It ensures that components design of models could be supervise well environmental issues which may occur in order to mitigate climatic environment to local famers.

Solving social vulnerability

4. Ability of local people to forest land assigned to community - establishing integration model of agriculture, forestry and fishery, supporting, farming under forest canopy, and fund support for local community to maintain forest management are one of the management measures that may help local people to accept forest management.

5. Ability of local people to apply new livelihood models building livelihood model to support local people to protect and maintain forest.

6. Help to addressing market risks - reducing over production by cooperating with agricultural companies: livelihood models implementation need a staged approach to expand the model and to expand market, and companies need some time to expand their market and to find new market.

Diversifying livelihood models and supporting farmers

7. Some livelihood models which local people can select can focus on using early adopter farming households that can also operate as farmer schools the Program will need to encourage sharing of experiences and lesions learned between locals and this may help expand to knowledge and encourage changes in investment and production. The Program can also support organic certification, clean production certification (for example VietGAP) and building production brand names to promote marketing.

8. Using cooperative approaches to implement livelihood model can help form a strategy for implementing livelihood of subprojects and help to share risks. DARD can help in providing (and if necessary recruiting) experts on agriculture, fishery and forestry etc. to support and develop techniques for cooperatives, farming support agencies and farmers. The Farmer Union and Women's Union, should play an important role in supporting local farmers and cooperatives, such as collecting, organizing, and agricultural training, and they can help encourage farmers to visit other models.

(g) Consultation with the community

The proposed through the high participatory process based on the ACMA would include

- Acceptance of the most appropriate and different climate smart livelihood models for the area.
- Selected small / micro credit design to help implementation of livelihood models.
- Community consultation meetings to consider process of designing and implementing activities/subprojects, especially ideas of vulnerable people and women.
- Implementing subprojects at community level should not just based on documents it should have voice records cater for ethnic minority women where illiteracy is high particularly for women.
- Encourage agriculture subproject to ensure that they are inclusive of women who often already have to care for children and do housework.

The following Table provides and an example of an environmental and social screening checklist for the ER-P.

Table 11.3 Environmental and social screening checklist

BIODIVERSITY AND NATURAL RESOURCES	**Yes**	**No**	**NA**	**Comments**
1.1 Would the proposed subproject result in the conversion or degradation of modified habitat, natural habitat or critical habitat?				
1.2 Are any development activities proposed within a legally protected area (natural reserve, national park) for the protection or conservation of biodiversity?				
1.3 Would the proposed subproject pose a risk of introducing invasive alien species?				
1.4 Does the subproject involve natural forest harvesting or plantation development without an independent forest certification system for sustainable forest management?				
1.5 Does the subproject involve the production and harvesting of indigenous species of fish or other aquatic species in forested areas?				
1.6 Does the subproject involve significant extraction, diversion or containment of surface or ground water?				
1.7 Does the subproject pose a risk of degrading soils or contributing to soil erosion?				
POLLUTION				
2.1 Would the proposed subproject result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional and transboundary impacts?				

2.2 Would the proposed subproject result in the generation of waste that cannot be recovered, reused or disposed of in an environmentally and socially sound manner?				
2.3 Will the proposed subproject involve the manufacture, trade, release, and/or use of chemicals and hazardous materials subject to international action bans or phase outs (Stockholm Convention on Persistent Organic Pollutants or the Montreal Protocol)?				
2.4 Is there the potential for the release, in the environment, of hazardous materials resulting from their production, transportation, handling, storage and use for subproject activities?				
2.5 Will the proposed subproject involve the application of pesticides that have a known negative effect on the environment or human health?				
CLIMATE CHANGE				
3.1 Will the subproject result in significant greenhouse gas emissions (defined as CO_2 emissions greater than 100,000 tons per year)?				
3.2 Is the subproject likely to directly or indirectly increase environmental and social vulnerability to climate change now or in the future (also known as maladaptive practices)?				
SOCIAL EQUITY AND EQUALITY				
4.1 Would the subproject have environmental and social impacts that would affect indigenous people or other vulnerable groups?				
4.2 Is the subproject likely to significantly impact gender equality and women's empowerment?				
4.3 Is the proposed subproject likely to directly or indirectly increase social equalities now or in the future?				
4.4 Will the proposed subproject have variable impacts on women and men, different ethnic groups and social classes?				
4.5 Have there been challenges in engaging women and other certain key groups of stakeholders in the project design phase?				
4.6 Will the subproject have specific human rights implications for vulnerable groups?				
DEMOGRAPHICS				
5.1 is the subproject likely to result in a substantial influx of people into the project impacted community(ies)?				
5.2 Would the proposed subproject result in the voluntary or involuntary resettlement of forest-dependent households?				

5.3 Would the proposed subproject lead to significant population density increase which could affect the environmental and social sustainability of the project?				
CULTURE				
6.1 Is the project likely to significantly affect the cultural traditions of affected communities, including gender-based roles?				
6.2 Will the proposed subproject result in physical interventions (during design or implementation) that would affect areas that have known physical or cultural significance to indigenous groups (ethnic minority groups) and other communities with settled recognized cultural claims?				
6.3 Will the proposed subproject produce a physical "splintering" of a community?				
6.4 Will the proposed subproject significantly affect the physical culture resources including areas of cultural, historical or religious values to local communities as the result of forest demarcation?				
HEALTH AND SAFETY				
7.1 Would the proposed subproject be susceptible to or lead to increased vulnerability to subsidence, landslides, erosion, flooding, drought, forest fires or extreme climatic conditions?				
7.2 Will the subproject result in increased health risks as a result of change in living and working conditions, such as HIV/AIDS and other STIs or waterborne disease such as diarrhoea and dengue fever?				
7.3 Will the proposed subproject require additional health services including testing?				
SOCIO-ECONOMICS				
8.1 Is the proposed subproject likely to have impacts that could affect women's and men's ability to use, develop and protect natural resources and other natural capital assets?				
8.2 Is the proposed subproject likely to have impacts on land tenure arrangements and/or traditional cultural use patterns?				
8.3 Is the proposed subproject likely to negatively affect the income levels or employment opportunities of vulnerable groups?				
CUMULATIVE AND/OR SECONDARY IMPACTS				
9.1 Is the proposed subproject location subject to currently approved land use plans which could affect the environmental and social sustainability of the project?				

9.2 Would the subproject result in secondary or consequential development which could lead to environmental and social effects, or would it have the potential to generate cumulative impacts with other known existing or planned activities in the area?				

11.3 Gender action plan

Presented as a separate document.

11.4 EMPF

Presented as a separate document and contains additional details on consultations.

11.5 Resettlement/ Process Framework

Presented as a separate document.

11.6 Maps and additional data

See the SESA document for full detailed analysis of the socio-economic and environmental situation in the NCR.

11.7 Stakeholder consultations

The FCPF consultation work with villages and communes that contributes to the SESA document and process first started in July 2014 with field visits by the REDD Readiness project's multidisciplinary team to part of the ER-P area (Quang Binh and Quang Tri) and was later expanded to include the remaining four provinces. In the case of Ha Tinh Province this overlaps with the UNREDD II program and long term consultations have been on going there from 2012 and similarly the Vietnam Forest and Delta Program has held consultations on REDD with Thanh Hoa and Nghe An.

The SESA team's qualitative work was carried out in a selection of Provinces, Districts and Communes from October, 2015 to March 2016[74] and included visits to villages of various ethnic minority people as shown in Table 11.4 below.

Table 11.4 Overview of Provinces, Districts and Communes visited for SESA investigations

	Proposed ER provinces	**District (and whether part of the Program 30a)**	**Commune**	**Ethnic groups consulted at village level**
1	Thanh Hoa	Quan Hoa (30a)	Thanh Xuan	Thai
		Lang Chanh (30a)	Tan Phuc	Muong
2	Nghe An	Con Cuong	Chau Khe	Dan Lai
			Lac Gia	Dan Lai and Thai
			Luc Da	Thai, Tho, Dan Lai
		Tuong Duong (30a)	Tam Hop	Hmong

[74] For a complete list of persons consulted and/or who attended meetings with the FCPF teams please see Annex 1 Section 1.9.

	Proposed ER provinces	District (and whether part of the Program 30a)	Commune	Ethnic groups consulted at village level
			Luong Minh	Khmu and Thai
		Tan Ky	Dong Van	Thai, Tho, Tay
3	Ha Tinh	Huong Khe	Huong Lien	Chut
4	Quang Binh	Quang Ninh	Truong Son	Van Kieu
		Le Thuy	Lam Thuy	Van Kieu
5	Quang Tri	Dak Rong (30a)	Ta Rut; Huc Nghi; A Ngo; Trieu Nguyen	Pa Co and Ka Tu
		Hai Lang	Hai Ba; Hai Lam	Van Kieu
		Huong Hoa	Huong Son; Huong Linh; Huong Lap	Van Kieu
		Cam Lo	Cam Thanh; Cham Tuyen	Kinh; Kinh
		Trieu Phong	Trieu Ai	Kinh
6	TT Hue	Phong Dien	Phong My	Pa Co, Ka Tu, Pa Hy; Kinh

Note: The ER-P provinces are ordered geographically from North to South.

Consultations were held with relevant Government departments/divisions/offices at Province, District and Commune levels in Quang Tri, Thanh Hoa and Nghe An, and at provincial level in Thua Thien Hue to assess the understanding of and preparedness for REDD+. This especially included the Forest Protection Sub-Department and the Department of Agriculture and Rural Development (DARD), but representatives of other organizations such as the Centers for Ethnic Minorities, the Fatherland Front and the Women's Union (the latter are both socio-political or "mass" organizations in Vietnam) were also included. The assessments included discussions with the different organizations on the approaches taken with local communities/EMs, especially on issues related to forest land management, and how they themselves assess their own resource availability in terms of staffing and implementation budgets.

The FCPF's early diagnostic work showed that in the ER-P area there is a large number (47) of Protection Forest Management Boards (PFMBs) compared with the number (16) of State Forest Companies (SFCs) and Special Use Forest Management Boards 17 (SUF-MBs) (See Table 11.2). Of these three types of large scale forest owners, due to the number, the least is known about the PFMBs in the ER-P area; many of them have been established only within the past ten to fifteen years or so, some as a result of State Forest Enterprise (SFE) reforms, some independently of these reforms.[75] Therefore, the SESA team held discussions with several PFMBs as part of its stakeholder gap analysis.

[75] See the 2004 Law on Forest Protection and Development, Article 46: - Organization of management of protection forests.

Table 11.5 Large forest owners/forest Management Boards consulted (by Province)

Province	Name of PFMB	Name of SUF-MB	Name of SFC
Quang Tri	Dak Rong – Huong Hoa; Thach Han	Bac Huong Hoa NR; Dak Rong NR	Ben Hai; Trieu Hai
Nghe An	Con Cuong; Tuong Duong	Pu Mat NP	Con Cuong
Thanh Hoa	Lang Chanh	Pu Hu NR	
TT Hue	A Luoi; Nam Dong; Song Bo, Huong Thuy; Bac Hai Van	Phong Dien NR; Management Board of Sao La Conservation zone	Phong Dien Forestry Enterprise; Tien Phong Forestry Company
	Huong Phú Commune Community Forest Management Board		
Quang Binh			Long Dai, Trung Son; Khe Giua

11.7.1 Consultation Methods

A crucial part of the SESA work involves consultations with multiple stakeholders from communities to implementers and policy makers who might be involved in, or impacted by, REDD+ activities and programs. As mentioned above, consultations between the SESA/FCPF teams and various stakeholders are taking place as an iterative process. At village and commune levels, the team has used focus group discussion techniques to consult local communities, especially focusing on ethnic minorities, and their leaders at village and commune. An admitted drawback of the consultation processes in the communities is that they could not be held directly in local languages requiring a second translator; assisting visual media such as posters in local languages are becoming available. The SESA team observed that the predominance of Vietnamese language usage at village meetings sometimes meant that local ethnic minority women could not participate as fully as men during these discussions. Special attempts were always made to try to engage women in the discussions, and to elicit their views, but it sometimes proved difficult in the times available for village meetings. The SESA team also tried to ensure that the focus group discussions were held in informal settings such as someone's house, and with everyone sitting together as equals.[76]

In conducting local level, especially community, consultations at this stage in the ER-P REDD+ readiness process, the SESA team did not try to explain in detail about a REDD+ program to be implemented, as that would inevitably lead to heightened expectations of benefits from it. The main point of consultations at this stage was to gain greater understanding from the local people as to how they see their opportunities and constraints arising from forest and land resource access and use, including possible land use conflicts, and the security of their livelihoods at present. In this way, a picture of challenges and opportunity-costs of potential REDD+ activities in the localities was formed. In other words, the SESA investigations provide inputs to show "the variety in the needs of different population groups, including gender, ethnic, socio-economic, and geographical variations."[77]

[76] Meetings are otherwise held at venues such as village meeting halls where they take on much higher levels of formality; this is more likely to result in village leaders and external officials dominating proceedings. Ideally, the informal meetings should always separate women and men, as women tend to discuss more openly in the absence of men, especially male leaders.
[77] FCPF (March 2009) Note FMT 2009-2, National Consultation and Participation for REDD, Technical Guidance on How to Prepare an Effective Consultation and Participation Plan.

The SESA team also had interactions with non-Governmental organizations (NGO) such as regionally and nationally established Civil Society Organizations (CSOs)[78] in Hue, Vinh and Hanoi. This included university research centers in Hue and Vinh. The consultations with CSOs were geared to gaining different views and perspectives on the situation of local communities and forest resources, and to learn of their previous experiences with consultations at village level. The SESA team learned about some of the different types of research or action research that the university centers and NGOs have been conducting and discussions have been held with a number of NGOs including Centre for Research and Development in Upland areas (CRD), Centre for Indigenous Knowledge Research and Development (CIRD), Consultative and Research Centre on Natural Resource Management (CORENAM), Rural Development and Poverty Reduction Fund (RDPR), Culture Identity and Resources Management (CIRUM), Centre for Sustainable Rural Development (SRD) and Centre for Social Research and Development (CSRD).

Representatives of two of the mass organizations, Vietnam Women's Union (VWU) and the Fatherland Front, Youth Union etc. have also been included in discussions at the commune and district levels. Women feel more comfortable in an informal setting, but they may still be reluctant to speak up.

11.8 List of banned Pesticide in Vietnam

Issued by the Ministry of Agricultural and Rural Development at Decision no. 03/2018/TT-BNNPTNT dated 09/02/2018

COMMON NAMES - TRADE NAMES	
Pesticides, preservatives forest	
1	Aldrin (Aldrex, Aldrite ...)
2	BHC, Lindane (Gamma - BHC, Gamma - HCH, Gamatox 15 EC, 20 EC, Lindafor, Carbadan 4/4G; Sevidol 4/4G ..)
3	Cadmium compound (Cd)
4	Chlordance (Chlorotox, Octachlor, Pentichlor ...)
5	DDT (Neocid, Pentachlorin, Chlorophenothane ...)
6	Dieldrin (Dieldrex, Dieldrite, Octalox ...)
7	Eldrin (Hexadrin ...)
8	Heptachlor (Drimex, Heptamul, Heptox ...)
9	Isobenzen
10	Isodrin
11	Lead compound (Pb)
12	Methamidophos: (Dynamite 50 SC, Filitox 70 SC, Master 50 EC, 70 SC, Monitor 50 EC, 60 SC, Isometha 50 DD, 60 DD, Isosuper 70 DD, Tamaron 50 EC ,...)

[78] Note that the term "Civil Society Organisation" does not exist within the legal framework of Vietnam. What would normally be considered CSOs in other countries have to register as Associations in Vietnam to have formal recognition. See for example Decree 45/2010/ND-CP on the Organization, Operation and Management of Associations.

13	Methyl Parathion (Danacap M25, M40; Folidol - M50 EC; Isomethyl 50 ND; Metaphos 40 EC, 50 EC; (Methyl Parathion) 20 EC, 40 EC, 50 EC; Milion 50 EC; Proteon 50 EC; Romethyl 50 ND; Wofator 50 EC ...)
14	Monocrotophos: (Apadrin 50SL, Magic 50 SL, Nuvacron 40 SCW/DD, 50 SCW/DD, Thunder 515 DD, ...)
15	Parathion Ethyl (Alkexon, Orthophos, Thiopphos ...)
16	Sodium Pentachlorophenate monohydrate (Copas NAP 90 G, PDM 4 90 powder, P-NaF 90 bột, PBB 100 powder)
17	Pentachlorophenol (CMM 7 liquid oil, Oil eradicate termites M-4 1.2 liquid)
18	Phosphamidon (Dimeccron 50 SWC/DD)
19	Polychlorocamphene (Toxaphene, Camphechlor ...)
20	Stroban (Polychlorinate of camphene)
21	Carbofuran
22	Trichlorfon (Chlorophos)
23	Endosuỉfan
Crops Fungicides	
1	Arsenic compound (As) except Dinasin
2	Captan (Captane 75 WP, Merpan 75 WP,...)
3	Captafol (Difolatal 80 WP, Folcid 80 WP, ...)
4	Hexachlorobenzene (Anticaric, HCB...)
5	Mercury compound (Hg)
6	Selenium compound (Se)
Rodenticides	
1	Talium compound (TI);
2	2.4.5 T (Brochtox, Decamine, Veon ...)

PESTICIDES FORBIDDEN BY FSC

Vibasu 10 H for controlling soil-dwelling insects. Contains diazinon. Considered highly hazardous, because of its bioaccumulation and acute toxicity as specified in FSC-GUI-30-001 VERSION 2-0 EN.

Viben C 50 BTN for protecting the seedlings against damping off and cold injury. Contains benomyl and copper oxychloride. It is considered highly hazardous, because of its developmental toxicity as specified in FSC-GUI-30-001 VERSION 2-0 EN.

Virofos 20EC for termite control. Contains chlorpyrifos ethyl. It is considered highly hazardous, because of its bioaccumulation, acute toxicity and aquatic toxicity as specified in FSC-GUI-30-001

11.9 Pest Management Plan (PMP)

National Institutional Arrangements for IPM

Under the Ministry of Agricultural and Rural Development, the Department of Plant Protection and its branches in the provinces as well as the Agricultural Extension Centres at district level are the authorities coordinating and working on Integrated Pest Management issues.

IPM activities implemented by these authorities include field survey, prepare forecast, monitor and check the progress of main pest development in the field. Based on their forecast on the timing, scale and level of damages the main pest may cause, the provincial plant protection authorities will recommend policies, plan and measures for pest management.

They also conduct training to farmers to carry out sets of integrated measures such as seedling at the time time, seedling at the right density, apply the right amount of fertiliser, promote the application of biological measures for pest management, reduce chemicals and practice sustainable IPM. They also provide training for farmers on proper use of chemical pesticide to ensure high efficiency for pest management, safe for human beings, farm pests and the environment. These authorities also carry out communication campaigns on plant protections and quarantine legislations and advance IPM technics to the farmers etc.

Running costs of these plant protection agency has been state fund allocations. Their staff have also been working in projects and programs financed from other sources for research and to conduct additional trainings for farmers annually.

INTEGRATED PEST MANAGEMENT (IPM)

1.1. Objectives

a, General objectives

Strengthening flora protection at local level, reducing pesticide use in the field, improving the efficiency of prevention, managing well pesticide and pesticide use process to reduce the risk of contamination pesticides on the environment and affect human health

b, Specific objectives

- Support of the Department of Plant Protection of program provinces in strengthening pest management and pesticide management in accordance with the national action plan on food hygiene and safety, food security, adaptation to climate change and the concerned international conventions that the Government has approved;
- Strengthening the capacity of IPM in Vietnam, including farmer groups to implement training IPM and research activities with farmers producing rice, vegetables ... to improve life, better and more sustainable crop production, minimizing the from pesticides.
- Strengthening environmental protection, food safety through strengthening the role of predators; reduce pesticide residues to ensure food hygiene and safety, reduce environmental pollution (water, land, air)
- Improving farmers' knowledge: distinguish the major pests, secondary; identify predators and their role in the field, clearly understand the effect of two colors of pesticides, property use, know how to survey pest and use threshold control; understand and apply pest control measures in IPM to increase income for farmers.

1.2. The basic principles of IPM framework

The following principles will be applied to all sub-projects likely to increase the use of fertilizers and pesticides:

a. "Prohibited list": The list of banned pesticides will be used and circulated

b. IPM program: Detailed planning work will be completed through consultation close to farmers, local authority/PCP organization.

c. The improvement of knowledge and experience in the use of fertilizers and chemicals through research surveys and training courses in the work as well as selecting safe use of non-chemicals, other techniques, has been being investigated and/or applied in Vietnam. National IPM Program has also summarized the results of the implementation and the lessons of experience.

d. IPM Program can be set up to support the implementation of the Government's policy and objectives focusing on reducing the use of chemical fertilizers and pesticides.

e. In normal conditions, if pesticide use is considered to be a necessary option, only pesticides registered with the government and the international recognition in use and program will also provide technical and economic information for chemicals use demand. It should consider the options in the management of not harmful chemicals and can also reduce reliance on the use of pesticides. The measures will be incorporated into the program design to reduce risks related to the handling and use of pesticides to allow possible level and managed by users

f. The planning and implementation of mitigation measures and other activities will be carried out closely with the authorities, powers and stakeholders, including suppliers of chemicals, to facilitate cooperation and understanding each other.

1.3. The approach of IPM

Focus more on the risks of abuse and excessive use chemical of plant protection products. The concerned plants are rice, vegetables, tea ... these plants tend to be sprayed more of pesticides.

Focus on community education, the initial survey will be incorporated into the task with the aim of clarifying the root cause of the abuse and excessive use of plant protection products and the associated risks. Support the capacity building of the instructor (trainer) IPM. The current program will need to be reviewed and new modules will be supplemented to increase the portion related to reducing the risk of plant protection products. The training program will be enriched with the integration of many activities such as System Rice Intensification (System Rice Intensification - SRI), minimum tillage (minimum tillage), production community and use of bio-products replacing plant protection chemicals ... the training activities, the application will be made in the wide area application of the model.

1.4. The contents of IPM model

(i) Collection of information and selection of solutions

Before implementing IPM program, consultants must have the original investigation to have the necessary information such as:

- Survey to collect data on: staple crops have economic significance in the subproject area: seeds, crop, growth characteristics, farming techniques,
- Survey to collect data on soil conditions, penology, local climate
- Investigate the situation of the pest, harmful rule arises, their economic damage causing on the major crops in the subproject area
- Investigate the role of natural enemies parasitic of pests on the major crops in the subproject area
- Investigate the actual situation of pest control measures, pesticide use and their effect at the local
- Investigate the socio-economic conditions, income, technical knowledge, and practices ...

On the basis of these findings, a proposal to evaluate IPM measures will apply on specific crops in regions and localities implement the subproject through the following measures:

- Cultivation methods: Soil, field sanitation, crop rotation, intercropping, crop seasons, reasonable sowing and planting density, rational use of fertilizers; appropriate caring measures

- Using seed: the tradition seed and the proposed seed in use
- The biological measures: taking advantage of available natural enemies in the field, using probiotics...
- Determination of the level of harm and prevention threshold
- Chemical measures: safe using with natural enemies, the economic threshold; 4 correct use of medicines;

(ii) Develop of demonstration models IPM

This section done by the Department of Crop Production, based on soil characteristics, climate, farming skills…. Department of Crop Production will propose to the TDA of pilot field for agricultural development with the highly effective main crops. IPM activities in the pilot field will serve for sightseeing and guidance of practice.

Some of the main contents when building the IPM in the pilot field, as follows:

- Construction of demonstration models for applying IPM measures proposed above
- Building model involved by the people with the guidance of technical staff
- In the model, there need to build nuclear farmers, group leader
- In addition to technical assistance there should be support materials, ... for households participating in demonstration models
- Compiling IPM guiding documentation for major crops: rice, vegetables ...
- Scale of model: depending on crops,... specific economic conditions, models were constructed using different scales: 5-10 ha / model.

(iii) Coaching and training of IPM staff

TOT (Training of trainers) and Farmer Field School (FFS):

- Each sub-project will organize workshops and staff training of IPM. The content of the training includes:
  - Distinguish the major and secondary pests
  - Identify the natural enemies of pests and diseases in the field
  - Investigate methods to detect worms and diseases
  - Understand the impact of two pesticides, using appropriate pesticides
  - The techniques pest control under IPM principles
  - Advanced farming techniques
- The understanding must be trained in theory and practical application in the field. The contents above can be trained under thematic groups: farming thematic, identification thematic and detection methods of pests and their natural enemies, the thematic of IPM techniques in production
- Training object: The technical staff of the Department of Agriculture, Sub-department of plant protection, agricultural extension of districts, communes, and cooperatives. These students will train to the farmers in the subproject area, the implementing of models.
- The size of each class is from 20 to 30 students, held in each district. Learning time in each stage. According to the thematic training session, each session may last 3-5 days on both theory and practice.
- Lecturer: hire experts from University/Research institute/Agricultural Extension Center...

(iv) Coaching and training of farmers

Training of Farmers (TOF) follows Farmer Field School (FFS):

- Method: Combine theoretical training and base on practical fields of farmers and demonstration model on demonstration IMP in the pilot field;
- Contents are the same as IMP staff training;
- Participants: participating farmers, farmers who direct implement the models and farmers outside if interested;
- Classes are organized in each commune.
- Lecturer: staffs attended TOT classes

(v) Evaluate and visit the field based on of demonstration models and field applied of IPM following the models of farmers

Visit the coast conference, farmers performing the demonstration models are reporters. The farmers implement the model directly with the participants; visiting farmers will calculate, compare economic performance and identify lessons, limitations and the work being done and not being done

(vi) Scientific seminar, evaluation of result and exchange of experience and information, expand the model

Invite experts in related fields participating in the assessment, analysis and additional evaluation, perfecting the processes; the mass media, the propaganda extension organization, expansion and transfer the result, the technical advances to farmers, and production areas with similar conditions

1.5. Expected results

The program is expected to achieve the following results:

- The risk of food safety and the environment are minimized through the implementation of existing regulations in business management and use of plant protection products and other provisions in national policy and the implementation.
- The capacity of the provincial DARD, farmer trainers are enhanced meeting training work, IPM training and IPM practice advocacy are maintained.
- Support for farmer groups after learning IPM to continue experiment to determine the application technical advances more effectively in production and popular in the community.
- Support for strengthening commune locality, strengthening pesticide management including the implementation and enforcement of legislation controlling plant protection products. Construction and distribution of a short list of specific plant protection products proposed use for rice and safe vegetables production.

1.6 Implementation of IPM programs

- Sub-Department of Plant Protection (BVTV):
  - Provide policy and technical guidelines for the implementation of the IPM program.
  - Join in IPM model building
  - Join coaching and staff training IPM
- Plant Protection Station at district level

- Coordinate with IPM staff to implement coaching and trained of farmers implemented IPM through the approach and provide of knowledge, support for of farmers on the safe use of pesticides when necessary.
- Guide the list of banned pesticides
- Examine the distribution facility providing pesticides to ensure the provision of safe pesticides for farmers

- People's committee at commune level

Organizing for farmers decided to maintain the routine IPM was formed from a training course by organizing IMP-clubs or groups of farmers with the different levels of organization and structure, along with many activities (including the integration of the contents of cattle, credit, market access, etc,.)

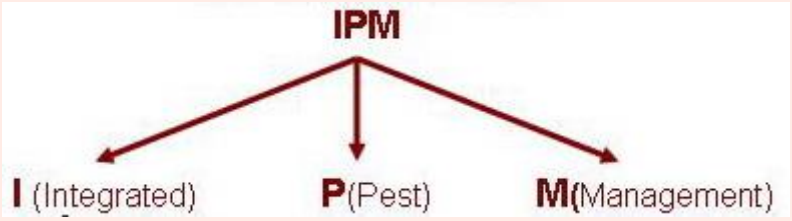
- Households in the subproject area:
  - Implementing IPM program has trained
  - The members of the IPM club support together to develop agricultural activities. They also play a central role in the task of organizing community IPM program and general agricultural planning of commune and district as well.

INTEGRATED PEST MANAGEMENT IPM FOR THE RICE CROPS

1- Definition, basic principles of integrated pest management

1.1. What is Integrated Pest Management (IPM)?

According to the expert group of the Food and Agriculture Organization (FAO), "Integrated Pest Management" is a pest management system that in the specific the context of the environment and the population dynamics of the species causing damage, using all the techniques and appropriate measures can be, in order to maintain the density of the pest below cause economic damage.



1.2. Five basic principles of integrated pest management (IPM)

(i). Planting and health care of crops:

- Choose good seed, suitable for local conditions.
- Choose healthy and qualified crops.
- Planting, cared for properly techniques to grow good crops which are resistant and high yielding.

(ii) Check fields regularly, understand the progress of the growth and development of plants, pests, weather, land, water ... to take timely remedial measures.

(iii) Farmers become experts field: Farmers' technical knowledge, management skills need to advocacy field for many other farmers.

(iv) Pest prevention

- Using appropriate preventive measures, depending on the severity of disease, parasitic natural enemies in each stage.
- Using of chemical drugs has reasonable and proper technique.

(v) Protect natural enemies: Protecting the beneficial organisms to help farmers kill pests.

2- Contents of integrated pest management

2.1. Farming methods

(i) Early land preparation and field sanitation

- Land preparation and field sanitation soon after planting to kill many caterpillars and pupae live in the rice stem borer and rice stubble, loss of shelter and food source of the brown plant hopper, green hoppers... Brers are the transmission of viral diseases for rice as dangerous illness blighted gold, rice ragged stunt disease.
- Principles of impact of field sanitation measures and handling crop residues after harvest is cut off the ring cycle of pests from the crop to other crops and pests limited source accumulation, transmission spread at beginning of the crop.

(ii) Crop rotation

Rice rotation with other crops to avoid pathogen accumulation in rice from the crop to other crop.

(iii) Appropriate Planting

Planting rice to ensure appropriate growth and good development, achieve high productivity, avoids the risk of the weather. The determination of appropriate the crop having to rely on the characteristics of the damage incurred pests important to ensure that rice avoiding peak of the epidemic.

(iv) Use healthy seeds, pest resistant and short seeds

- Healthy seeds, free disease helps to rice facilitate development
- Using resistant rice seeds reduce drug use chemical pest control, reduce pollution, protect natural enemies; keep balance agricultural ecosystems.
- Rice seed with short growth period of about 100-110 days, plant earlier in the season could have been avoided borer, deep bite panicle. Rice seed with extremely short growing period is 80-90 days brown plant hopper prevention measures effective for brown plant hopper could not accumulate in sufficient quantities to cause severe damage in extremely short day breeds.

(v) Cultivation density is reasonable

- The density and sowing techniques, depending on the rice seeds transplanting, crop, soil and nutrition, aged rice, rice quality, process agricultural intensification...
- The density is too thick or too little will affect productivity, while also affecting the generation and development of pests, weeds.
- The rice fields are often sown too thick closed up early, causing high humidity, creating conditions for sheath blight and brown plant hopper damage incurred at the end of the crop.

(vi) Using reasonable fertilizers

Fertilization excessive or unreasonable fertilizer will make plants grow normally and not prone to pest infestation. Rice fields fertilization are more susceptible to infectious diseases rice blast, sheath blight, leaf blight...

2.2. Manual methods

Light traps catch butterflies, break eggs, rub stripping foil fencing using leaf spray, dig down to catch mice …

2.3. Biological methods

(i) Creating a favorable environment for beneficial organisms are natural enemies of pest development to contribute to kill pests:

- Protection of natural enemies to avoid toxic chemicals by using selective medication drugs, narrow-spectrum drugs, drugs used when absolutely necessary and should be based on economic thresholds...
- Create habitat for natural enemies after planting by intercropping, planting legumes on bunds, disintegrator for lurking natural enemies...
- Application of cultivation techniques facilitate reasonable development natural enemies.

(ii) Priority use drugs Biological Plant Protection;

The medicines is effective only biological pest control, non-toxic to beneficial organisms, safe to human health and the environment.

INTEGRATED PEST MANAGEMENT IPM FOR THE FORESTRY

Use of pesticides in forest plantations was not part of the technical prescriptions nor financial support. It is also known that in nurseries, pesticides are commonly used in treating potting soil, in the prevention and control of fungi and pest infesting seedlings. The Program needs to conduct activities to support farmers and nurseries in better handling and application of pesticides. Use of pesticides is being monitored as part of the Program's assessment for compliance to FSC certification standards.

The list of banned pesticides in Vietnam is shown in Annex 11.7 and 11.9.

11.10 Codes of practice for plantation development:

This Code of practice for plantation development developed by WB FSDP aims to increase income of farmers, generate additional employment and help eradicate poverty in the rural areas by promoting the management of productive, profitable and sustainable plantation forests. This environmental protection guideline was prepared to ensure that forest plantations supported by FSDP are designed and managed to achieve the highest level of productivity and financial viability with the least possible negative impacts on local communities and the natural environment. The plantations must also meet the international standards for Forest Stewardship Council (FSC) certification.

These Code were based on the following:

1. Government of Vietnam laws, regulations and policies, specifically: the Law on Land (2013); the Law on Forest protection and Development (2014); Decision No. 40/2005/QN-BNN regulation on the harvesting of timber and other forest products; Law on Biodiversity (2008); Decision No. 16/2005/QD-BNN dated March 15, 2005 by the Minister of MARD concerning the list of major tree species for production forest plantations in 9 ecological regions; Decision No. 186/2006/QD-TTg on forest management regulations; Vietnam Forest Development Strategy 2006 – 2020; Decision No. 1896/QĐ-TTg dated 17/12/2012 on approval of proposals to prevent and control invasive alien species in Vietnam to 2020; Decree No. 18/2015/ND-CP on the strategic environmental assessment, environmental impact assessment and environmental protection commitment; Circular No. 27/2011/TT-BTNMT on guidance on Decree No 18/2015 on the strategic environmental assessment, environmental impact assessment and environmental protection commitment; Circular No. 35/2011/TT-BNNPTNT regarding the guidance on the extraction, maximized use of timber and NTFP, Decision No. 17/2015/QD-TTg on the protection forest management regulations; Decision No. 57/2012/QĐ-TTg on the approval of forest protection and development plan in period 2011-2020 and Forestry Law (2017) – to be promulgated January 1st 2019.

2. World Bank operational policies and directives, specifically: Operational Policy 4.01 (Feb. 2011) Environmental Assessment; Operational Policy 4.04 Natural Habitats; Operational Policy 4.09- Pest Management; 4.36 Forestry; and Operational Directive 4.10 Indigenous Peoples.

The most important pre-requisite to a successful commercial forest plantation subproject is clear definition of management objectives, including the following:

- expected outcomes in terms of levels of productivity, rotation age and final products;
- the rehabilitation and maintenance of land productivity;
- soil and watershed protection;
- habitat conservation and restoration; and
- community participation and improved livelihoods.

In the case of FSDP, the main objective is to develop and manage productive and profitable forest plantations in a sustainable manner that meets the international standards for forest certification.

Plantation objectives will have a fundamental influence on all aspects of plantation management from site selection, through design and implementation, to monitoring and evaluation. A statement of management objectives should be contained in the management plan for each plantation site or subproject.

Environmental protection measures are incorporated into the following plantation management activities: site selection and landscape level planning and plantation design, site preparation, plantation establishment, tending, integrated pest and disease management, fire prevention and control, harvesting and access tracts improvement and maintenance.

1. Site Selection

Areas for commercial plantation forests must be carefully selected to ensure high productivity and profitability to farmers, and to avoid adverse impacts to the local community and to the natural environment. The forest plantation areas must be consistent with the commune's land use zoning and development plans. The criteria for site selection are shown in (Table 11.6):

Table 11.6 Criteria for Site Selection

Criteria	Description
Forestland classification	Production forestland
Vegetative cover	1) Only bare lands, Class 1a and 1b, will be used for FSDP plantations. Excluded are (I) class 1c lands; and (ii) 1b lands, 50 ha or more with canopy height of > 4 m and with >5 woody plant species per ha and are contiguous to 1c lands, or adjoining protection forests and special use forest. 2) Forest plantations of low quality. 3). Avoid subprojects in HCV forest or areas with important ecosystem services.
Slope	Not more than 25^0 in slope.
Accessibility	Plantation sites must be within 2 km of existing all-weather roads.
Soil conditions	Soil type other than laterite or sterile coastal sand, soil depth above 30 cm, pH above 4, and soil composed of less than 40% stones and coarse fragments.
Existing land use	Not used for food production, grazing of livestock, production of NTFP so as not to compromise food security and other critical household needs. Area has no cultural or spiritual significance.
Land allocation	Land is allocated to household and issued or will be issued with Land use certificate (LUC/Red Bo).

2 Plantation Planning

2.1 Landscape Plantation Planning

This Landscape Plantation Planning will encompass all forest plantation areas in each village including those that are not participating in FSDP. This is to ensure that stream banks are protected, and access tracts, fire breaks and fire lines are planned to benefit all the forest plantations and not just program plantations. The landscape plantation plan

1) Defines areas for biodiversity conservation, stream bank protection, access tracts, fire breaks and poor areas that are unsuitable for commercial forest plantations;

2) Guides plantation owners on appropriate plantation models, suitable species, intercropping and other information necessary to prepare simple and practical individual forest plantation management plan.

3) Can be used to develop a group management plan for the FFG as may be required for forest certification.

The Landscape Plantation Plan must include the following basic considerations and which are properly delineated on a plantation plan map:

Slope and plantation operability:

No production plantations shall be allowed on slopes exceeding 25 ^{o} for reasons of both slope instability and low productivity. Slopes between 20 – 25 ^{o} should have lower than normal planting densities, 4 x 2 m or 1,100 trees per ha, to limit site disturbance during site preparation, planting, tending and harvesting. Where site is suitable, such areas may be planted to valuable timber species.

Buffer zone protection:

Buffer zone protection of reservoirs, entrenched streams, drainage canals where natural vegetation will be retained, no clearing or ground disturbance will be allowed during plantation establishment, and no clear cutting of trees will be allowed. Native vegetation in the buffer zone may be established through Assisted Natural Regeneration (ANR) techniques supplemented by the planting of ecologically important trees and other plants such as those eaten by birds and other wild animals or economically important species like bamboo (for poles), *Canarium album* (nuts), *Areca cathechu* (nuts), *Tricanthera gigantea* (forage for pigs, cattle, goats, rabbits), *Flemingia macrophylla* (forage), *Caliandra calothyrsus* (forage). These buffer zones may link up with 1c and other natural vegetation in the village and communes that will significantly contribute to and enhance biodiversity conservation in the village and commune.

The recommended buffer zone protection for water reservoirs and streams are described hereunder.

(1) Reservoirs, rivers and streams of more than 10 m in width: 30 meters of buffer zone on each side as shown in Figure 11.1.

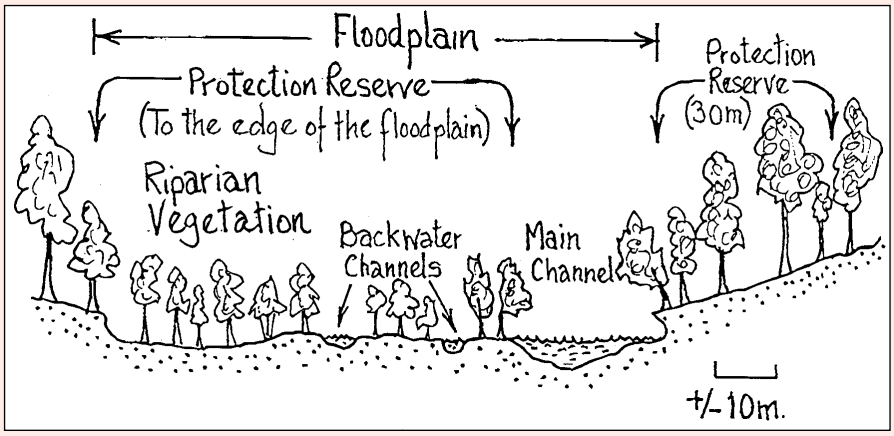


Figure 11.1 Buffer zone in alluvial streams, rivers and water reservoirs

(2) Entrenched small streams usually < 5 m in width with boulder or bedrock substrate.

Recommended buffer zone = 5 m from the top of the entrenchment slope on each side of the stream (Figure 11.2).

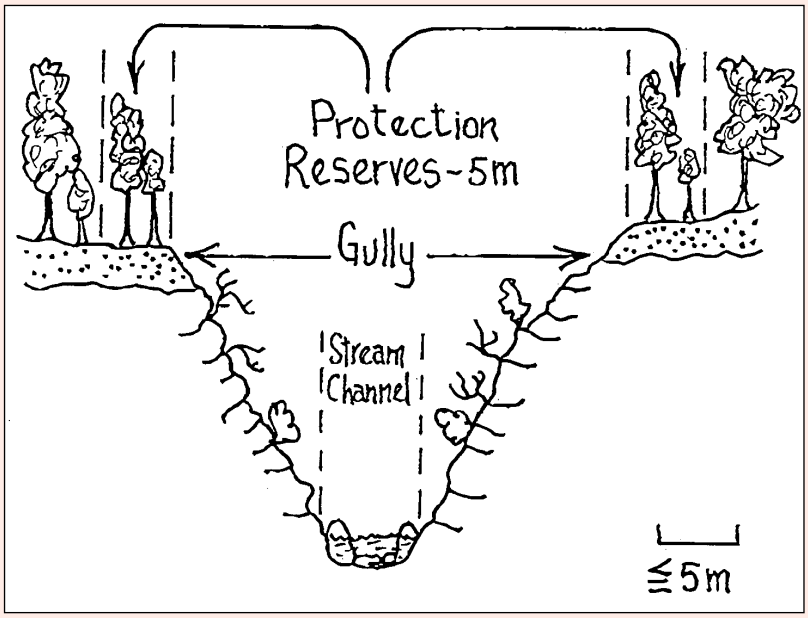


Figure 11.2 Buffer zone for small entrenched stream in boulder or bedrock substrate

(3) *Entrenched small streams and drainage canals usually < 5 m in width in fine-textured channel substrate*. Recommended protection reserve = 5 m from the top of the entrenchment slope on each side of the stream (Figure 11.3).

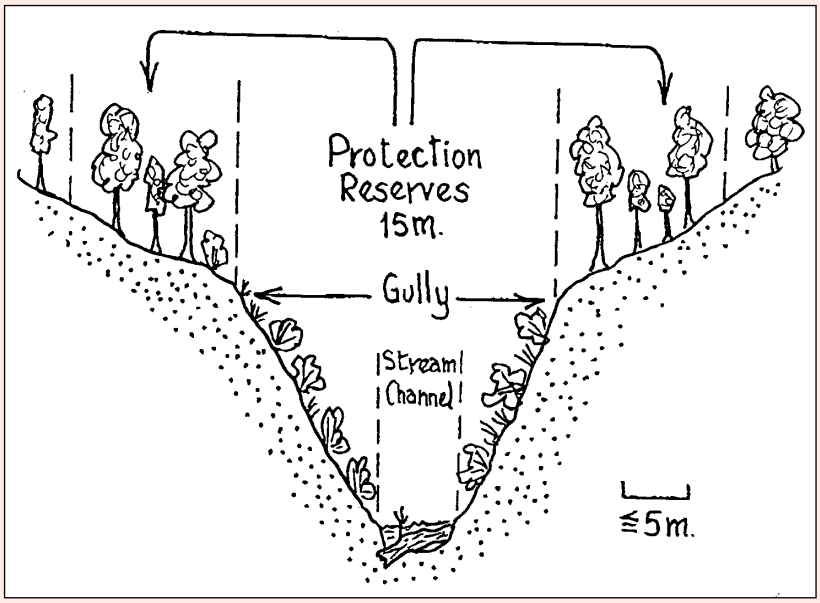


Figure 11.3 Buffer zone for small entrenched streams in fine-textured substrate

Eroded areas:

Badly eroded areas characterized by deep gullies and land slips in road cuts and plantations will be stabilized using appropriate vegetative and structural soil control measure.

In-plantation biodiversity:

Plantations are not forests; they are much more like agricultural systems and have many of the same risks and uncertainties. Plantations can be made more like natural systems by incorporating diversity (of genetic materials, species, age classes and spatial structure at the landscape-level) to improve the ecological stability and resilience that limits the risk of failure and reduces the necessity for artificial inputs to these simplified ecosystems. All plantations over 50 ha should consist of several sub-compartments, the size and number of which will depend on the scale of the plantation, comprising different tree ages (to promote structural diversity), different species of indigenous and exotic trees, different genotypes within species, and residual indigenous natural vegetation types. Wherever practical given the scale of the plantation, design and layout should promote the protection, restoration and conservation of natural communities. This can be accomplished by utilizing wildlife corridors, retention of native tree species, stream protection corridors, sanitation and fire breaks of native vegetation and a mosaic of different age and rotation periods to mimic the landscape patterns of natural forest communities.

Access provisions:

Landscape plantation design must show the location of existing roads, access tracks and trails that may be used for transporting seedlings and other plantation inputs, as well as in fire prevention and control. Additional access tracks may need to be constructed for eventual product extraction.

Fire breaks:

The Landscape Plantation Design must provide for the location, specifications, construction and maintenance of fire breaks and fire lines. The design must maximize the use of the buffer zones in streams and drainage canals, other native vegetation, as well as roads and access tracks.

Poor sites:

Poor sites within the plantation block such as those with very shallow top soil, very stony areas, or areas with over 25 degrees n slopes which are unsuitable for commercial plantation forests should be delineated and earmarked for rehabilitation using assisted natural regeneration and other afforestation

techniques that promote the growth of native species. This may be supplemented by planting leguminous species such as *Tephrosia candida* and other local species.

2.2 Plantation Plot Design

As mandated under *Decision 516* dated February 18, 2002 a plantation design has to be prepared for any plantation plot that uses State funds or preferential loan funds such as FSDP. The preparation of this plantation design will be guided by the provisions spelled out in the Revised Plantation Design contract. The technical specifications are summarized in Annex 3.

3. Species Selection

Choice of species is determined primarily by the following factors: a) plantation objectives; b) site conditions or the expected growth and yield of the species on the given site conditions; c) availability and costs of high quality planting materials. Given the need to recover investments as soon as possible, it is likely that most plantation owners will select fast growing species of *Acacia mangium, A. Auriculiformis, Acacia hybrid and Eucalyptus urophylla.* The government has periodically provided a list of approved varieties, provenances or clones of the fast growing species based on extensive trials conducted by FSIV. As a general rule, at least 3 clones should be planted in every plantation plot.

On old eucalyptus plantations, it would be better to retain the eucalyptus coppice, plant acacia species in between the coppices and manage a 2-species plantation.

Plant bamboos (*Dendrocalamus membranaceus*) for commercial production of poles and/or edible shoots especially on areas above reservoirs, rivers or streams

Encourage the planting of native species such as *Hopea odorata, Dipterocarpus alatus, Tarrietia javanica, Enthryploeum fordii, Melia azedarach, Homalium hainanense, Cassia seamea* which, though slower growing, are likely to have both a higher conservation value and a monetary return at harvest. There is sufficient experience in the program provinces regarding the planting of native species. Moreover, management techniques of mixed plantation species are described in a draft Manual[79] prepared by the FSDP Technical Assistance team.

4 Site Preparation

Site preparation are activities done before planting to improve existing site conditions and enhance survival and promote fast initial growth of planted seedlings. This includes vegetation clearance to reduce competition and fire risks, hole digging to improve soil structure and enhance root growth, and basal fertilization to increase soil fertility.

4.1 Vegetation clearance

Environmental protection guidelines to be followed are the following:

Broadcast burning cannot be used as a tool of site clearing and site preparation; vegetation must be cleared by hand or machine.

Avoid comprehensive vegetation clearance on sloping areas. Clear vegetation in strips or on spots.

Debris in vegetation clearance should be retained on site as source of nutrients and to provide soil cover and help in reducing soil erosion.

Mechanical extraction of tree stumps and roots will not be allowed on sloping areas; only on flat terrain.

Full cultivation will be allowed only on flat or slightly sloping terrain below 15 degrees. Between, 16 to 20 degrees slope, cultivate in alternate strips. No cultivation is allowed beyond 20 degrees.

4.2 Digging of planting holes

Planting holes should not be excavated during the period of heavy rainfall.

[79] A Farmer's Guide to the Establishment and Management of Mixed Species Forest Plantations. 2nd draft, FSDP, Report No. 87-A, April, 2010.

Back-fill the hole immediately as soon as possible to keep the loosened soil inside the hole and minimize soil erosion.

In sloping terrain, dig planting holes along the contour and in fish scale- like pattern.

4.3 Basal fertilization

Apply basal fertilizer on the hole; broadcast application is not allowed.

Use a container not bare hands in handling fertilizer.

Record the kind, dosage and date of fertilizer application.

5 Intercropping

Any intercropping activities on sloping plantation sites should be carried out along the contour. No intercropping will be allowed on slopes over 20 degrees and intercropping of root or tuber crops will not be permitted over 15 degrees.

6 Tending

6.1 Weeding should be limited to what is absolutely necessary to maintain high survival and fast growth of planted seedlings, employing spot weeding around the base of the seedlings, and slashing of vegetation in other areas, so as to maintain ground cover. Vegetation debris from weeding and slashing should be left on site as mulch.

6.2. Conduct singling during the dry season, when trees are about 4-6 months old and stems are still small. Do not conduct singling without the proper tools.

6.3 Pruning is required only on plantations that aim to produce saw logs. It is not necessary if the final product is pulpwood. It is also not necessary on species with good natural self-pruning characteristics like *Eucalyptus urophylla.* It will be applied only on selected trees that will constitute the final crop (saw logs). As in singling, prune only with the proper pruning equipment, never a knife. Make a clean and straight cut at the outer edge of the branch collar. The branch collar must not be injured since this is where the healing process starts. Cut pruning debris into shorter pieces and spread them evenly in the plantation.

6.4 Thinning, as in pruning, is performed only on plantations where the objective is to produce saw logs. Moreover, thinning is recommended only on good sites where the yield is high enough to warrant additional investments in thinning and pruning. Conduct thinning when canopy begins to close and competition for light begins. After selecting the trees to be retained, cut all others but with care so as not to injure the retained trees.

After removing any usable stems, chop the thinning debris into shorter pieces and spread evenly on the area.

7 Integrated Pest Management

Integrated Pest Management (IPM) shall be guided by the following FSC Principles and Standards:

Principle 6.6 which provides that management systems shall be used that promotes the development and adoption of environment-friendly non-chemical methods of pest management and strives to avoid the use of chemical pesticides.

Principle 10.7 which states that measures shall be taken to prevent and minimise outbreak of pests and diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of management plan, with primary reliance on prevention and biological control measures rather than chemical pesticides.

FSC decision framework[80] for integrated pest, disease and weed management in FSC certified forests and plantations comprises of the following steps:

[80] Ian Willoughby, Carlos Wilcken, Philip Ivey, Kevin O'Grady and Frank Katto. 2009. FSC Guide to integrated pest, disease and weed management in FSC certified forests and plantations. FSC Technical Series No. 2009-001.

Identify and quantify the problem.

The actual or potential problem must be identified and quantified, to allow prediction to be made of likely consequences if not addressed. Once likely impacts are determined, decisions can be made on further actions to be taken.

Consider the control options

1) Take no action except to monitor the situation. This may be the case when there are no effective control measures or when the economic costs or environmental or social impacts of such control measures outweigh the risk to the forest from taking no action or when the critical threshold have not been exceeded.

2) Avoid the problem. Given a good understanding of the nature of pest or disease, it may be possible to avoid the problem. Such approach may be cheaper and involve lesser potentially damaging impacts to the environment than taking remedial measures. Examples of avoiding the problem are (i) planting of species, provenances, varieties or clones that are resistant to known economic pests of the species; (ii) increasing plantation biodiversity through the establishment of "biodiversity corridors", planting of 3 or more clones in any one plantation, planting of native species in mixture with fast growing exotic species, or ensuring "structural diversity" in plantations; (iii) adoption of good silvicultural practices such as weeding, fertilization, singling, pruning and thinning to promote fast growth and good health of the stand.

3) Take remedial actions when options 2.1 and 2.2 are not possible. Consider which remedial control measures are most suitable, i.e those that are both effective and have the least risks of harm to the environment, operators and local communities.

a) Non-chemical method. This is the preferred approach and must be considered first. Non-chemical control methods include (i) sanitation cuttings to remove affected branches, stems or stands; (ii) biological control or use of natural enemies of pests such as predators, parasites or pathogens; (iii) cultivation, weeding, mulching to control weeds.

b) Chemical methods, if non-chemical options are impractical, ineffective, very costly or likely to carry the risk of causing more harm to the environment and to local communities. In deciding which pesticide to use, (i) consider if there are any long term landscape scale planning or conservation designations that may limit the use of pesticides; (ii) select pesticide that is most effective at controlling the target pest but least harmful to crop species, to the environment, operator and local communities; (iii) do not use banned pesticides or those designated as "Hazardous" by FSC ; (iv) Ensure operators have the correct training for, and information on, the pesticide to be used, and are adequately protected from harmful effects of pesticide; (v) dispose of washing water, unused pesticides and used containers carefully and without harming the environment; (vi) store and transport pesticide safely; and (vii) record the use of pesticide including the amount and name of pesticide, date and method of application, and prevailing weather condition at time of application.

8 Fire Prevention and Control

Forest fire prevention and control activities must be an integral part of the operational plan for the plantation area. Such plans should establish a fire control organization, defined roles and responsibilities, and detailed prevention, public education, patrolling, enforcement and fire response programs.

In each plantation area, reduce amount of fuel in the plantation through timely and effective weed control. Cut debris in weeding, pruning and thinning to small pieces, and pile them in between tree rows. Compress the pile low by pressing or stepping on it.

If plantation is adjoining grassland or other fire prone areas, construct fire breaks of at least 10 meters wide along the boundaries, at the onset of the dry season.

9 Access Tracks

Access within plantation blocks will be limited to that necessary to transport planting materials to the site and to extract products from primary landings in the plantations to secondary landings at the road.

Such tracks should be wide enough for motorcycles and or small tractors. Plantation block plans must show how the site is to be accessed; including details on location, design, construction and maintenance.

All roads and access tracks must be properly located, designed, constructed and maintained. Roads and trails must be constructed according to acceptable engineering standards and shall have regular maintenance. Detailed access guidelines should be prepared early in subproject implementation and may include design considerations such as the following:

1) primary extraction from felling site to the first landing at trackside will be by human labor or draft animals, depending on the size of product (i.e. fuel/pulp wood vs sawlogs);

2) density of secondary extraction tracks shall be the absolute minimum consistent with the practical distances of primary extraction;

3) tracks will be permitted to encroach into stream protection corridors only at points of crossing, which must be in areas of stable, moderate terrain;

4) stream crossings should be rock-stabilized drifts; culverts should be employed only in extreme cases where drifts are not practical;

5) tracks shall have a maximum width of 3 m, a maximum favorable grade of 15 degrees and a maximum adverse grade of 10 degrees;

6) cut and fill slopes must be avoided wherever possible;

7) no yarding of logs or other products will be permitted on the surface of tracks;

8) track rights-of-way will be lightly slashed and vegetation cover will be maintained on the running surface wherever possible;

9) all tracks on side-slopes shall be out-sloped or equipped with water-bars to disperse water onto stable areas down slope; and

10) tracks will be inspected regularly during rainy periods in the first three years after construction and during periods of active use, and immediate maintenance action taken to correct problems of drainage or erosion.

10. Plantation Harvesting

Harvesting of trees and other products shall not result in long-term soil degradation or adverse impacts on water quality and watershed hydrology. All logging operations must be strictly supervised and enforced by DARD/DFD. For slopes over 15 degrees, logging coupes shall not exceed 10 ha with at least 60 m between adjacent coupes logged the same year. For slopes less than 15 degrees, logging coupes shall not exceed 20 ha, with at least 30 m between adjacent coupes felled the same year. Ground vegetation shall be preserved as far as possible during logging and the site shall be re-planted in the year following logging

11.11 Chance Find Procedure

- Law on Cultural Heritage (2002)
- Law on Cultural Heritage (2009) for supplementary and reformation
- Decree No. 98/2010/ND-CP for supplementary and reformation

If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- Stop the construction activities in the area of the chance find.
- Delineate the discovered site or area.
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Department of Culture and Information takes over.

- Notify the Construction Supervision Consultant who in turn will notify responsible local or national authorities in charge of the Cultural Property of Viet Nam (within 24 hours or less).
- Relevant local or national authorities would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values.
- Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage.
- If the cultural sites and/or relics are of high value and site preservation is recommended by the professionals and required by the cultural relics authority, the Program Owner will need to make necessary design changes to accommodate the request and preserve the site.
- Decisions concerning the management of the finding shall be communicated in writing by relevant authorities.
- Construction works could resume only after permission is granted from the responsible local authorities concerning safeguard of the heritage.

11.12 Simplified Environmental Code of Practice (ECOP) for Small Works

1. This annex presents the Environmental Codes of Practice (ECOP) to be applied in the subprojects when small works are involved. (The content and requirements follows the WB guideline described in Annex 5 of the ESMF Toolkit.)

Objectives

2. The Environmental Codes of Practice (ECOP) is prepared to manage small environmental impacts during construction. The ECOPs will apply to manage small scale infrastructure investments subproject. ECOP will be a mandatory part of construction contract or bidding documents so that contractor complies with environmental covenants. The subproject owner (PPMU) and construction supervisors will be responsible for monitoring of compliance with ECOP and preparing the required reports.

3. There are a number of national technical regulations related to environmental, health and safety that apply to construction activities. Some of them are listed below:

Water Quality: (QCVN 01:2009/BYT, QCVN 02:2009/BYT, QCVN 08:2008/BTNMT, QCVN 09:2008/BTNMT, QCVN 10:2008/BTNMT, QCVN 14:2008/BTNMT, TCVN 5502:2003; TCVN 6773:2000, TCVN 6774:2000, TCVN 7222:2002)

Air and Soil Quality (QCVN 05:2008/BTNMT, QCVN 06:2008/BTNMT, QCVN 07:2008/BTNMT

Solid Waste Management (QCVN 03:2008/BTNMT, TCVN 6438:2001, TCVN 6696:2009, QCVN 07:2009)

Vibration and Noise (QCVN 27:2010/BTNMT, QCVN 26:2010/BTNMT, TCVN 5949: 1998)

Labor Health and Safety: Decision No.3733/2002/QĐ-BYT issued by Ministry of Healthcare dated on 10/10/2002 about the application of 21 Labor health and safety standards that concerned about microclimate, noise, vibration, Chemicals – Permitted level in the working environment

The World Bank Group Environmental Health and Safety Guidelines which available at: http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines

Responsibilities

3. Key responsibilities of PPMU and the contractors are as follows:

The PPMU and Contractors are the key entities responsible for implementation of this ECOP.

(a) PPMU

PPMU is responsible for ensuring that the ECOP is effectively implemented. The PPMU will assign a qualified staff to be responsible for checking implementation compliance of Contractors, include the following: (a) monitoring the contractors' compliance with the environmental plan, (b) taking remedial actions in the event of non-compliance and/or adverse impacts, (c) investigating complaints, evaluating and identifying corrective measures; (d) advising the Contractor on environment improvement, awareness, proactive pollution prevention measures; (e) monitoring the activities of Contractors on replying to complaints; (f) providing guidance and on-the-job training to field engineers on various aspects to avoid/mitigate potential negative impacts to local environment and communities during construction.

(b) Contractor

Contractor is responsible for carrying out civil works and informs PPMU, local authority and community about construction plan and risks associated with civil works. As such, contractor is responsible for implementing agreed measures to mitigate environmental risks associated with its civil works.

Contractor is required to obey other national relevant legal regulations and laws.

Part 1 – Contractor's Responsibilities

7. This is an example and is not necessarily a full treatment of all requirements for a specific subproject. For example, there might be reason to have contractor deal with sexually transmitted diseases, medical and hazardous waste s (e.g., oil from vehicle repair and similar, fuel spills etc).

Issues/Risks	Mitigation Measure
1) Dust generation/ Air pollution	The Contractor implement dust control measures to ensure that the generation of dust is minimized and is not perceived as a nuisance by local residents, maintain a safe working environment, such as: Water dusty roads and construction sites; Covering of material stockpiles; Loads covered and secured during transportation to prevent the scattering of soil, sand, materials, or dust; Exposed soil and material stockpiles shall be protected against wind erosion.
2) Noise and vibration	All vehicles must have appropriate "Certificate of conformity from inspection of quality, technical safety and environmental protection" following Decision No. 35/2005/QD-BGTVT; to avoid exceeding noise emission from poorly maintained machines.
3) Water pollution	− Portable or constructed toilets must be provided on site for construction workers. Wastewater from toilets as well as kitchens, showers, sinks, etc. shall be discharged into a conservancy tank for removal from the site or discharged into municipal sewerage systems; there should be no direct discharges to any water body. − Wastewater over permissible values set by relevant Vietnam technical standards/regulations must be collected in a conservancy tank and removed from site by licensed waste collectors. − At completion of construction works, water collection tanks and septic tanks shall be covered and effectively sealed off.
4) Drainage and sedimentation	− The Contractor shall follow the detailed drainage design included in the construction plans, to ensure drainage system is always maintained cleared of mud and other obstructions. − Areas of the site not disturbed by construction activities shall be maintained in their existing conditions.
5) Solid waste	− At all places of work, the Contractor shall provide litter bins, containers and refuse collection facilities. − Solid waste may be temporarily stored on site in a designated area approved by the Construction Supervision Consultant and relevant local authorities prior to collection and disposal.

	- Waste storage containers shall be covered, tip-proof, weatherproof and scavenger proof. - No burning, on-site burying or dumping of solid waste shall occur. - Recyclable materials such as wooden plates for trench works, steel, scaffolding material, site holding, packaging material, etc. shall be collected and separated on-site from other waste sources for reuse, for use as fill, or for sale. - If not removed off site, solid waste or construction debris shall be disposed of only at sites identified and approved by the Construction Supervision Consultant and included in the solid waste plan. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas, such as in areas of natural habitat or in watercourses.

Issues/Risks	Mitigation Measure
6) Chemical or hazardous wastes	- Used oil and grease shall be removed from site and sold to an approved used oil recycling company. - Used oil, lubricants, cleaning materials, etc. from the maintenance of vehicles and machinery shall be collected in holding tanks and removed from site by a specialized oil recycling company for disposal at an approved hazardous waste site. - Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. - Store chemicals in safe manner, such as roofing, fenced and appropriate labeling.
7) Disruption of vegetative cover and ecological resources	- Areas to be cleared should be minimized as much as possible. - The Contractor shall remove topsoil from all areas where topsoil will be impacted on by rehabilitation activities, including temporary activities such as storage and stockpiling, etc; the stripped topsoil shall be stockpiled in areas agreed with the Construction Supervision Consultant for later use in re-vegetation and shall be adequately protected. - The application of chemicals for vegetation clearing is not permitted. - Prohibit cutting of any tree unless explicitly authorized in the vegetation clearing plan. - When needed, erect temporary protective fencing to efficiently protect the preserved trees before commencement of any works within the site. - The Contractor shall ensure that no hunting, trapping shooting, poisoning of fauna takes place.
8) Traffic management	- Before construction, carry out consultations with local government and community and with traffic police. - Significant increases in number of vehicle trips must be covered in a construction plan previously approved. Routing, especially of heavy vehicles, needs to take into account sensitive sites such as schools, hospitals, and markets. - Installation of lighting at night must be done if this is necessary to ensure safe traffic circulation. - Place signs around the construction areas to facilitate traffic movement, provide directions to various components of the works, and provide safety advice and warning. - Employing safe traffic control measures, including road/rivers/canal signs and flag persons to warn of dangerous conditions. - Avoid material transportation for construction during rush hour. - Signpost shall be installed appropriately in both water-ways and roads where necessary.
9) Interruption of utility services	- Provide information to affected households on working schedules as well as planned disruptions of water/power at least 2 days in advance. - Any damages to existing utility systems of cable shall be reported to authorities and repaired as soon as possible.
10) Restoration of affected areas	- Cleared areas such as disposal areas, site facilities, workers' camps, stockpiles areas, working platforms and any areas temporarily occupied during construction of the subproject works shall be restored using landscaping, adequate drainage and re-vegetation.

	– Trees shall be planted at exposed land and on slopes to prevent or reduce land collapse and keep stability of slopes. – Soil contaminated with chemicals or hazardous substances shall be removed and transported and buried in waste disposal areas.
11) Worker and public Safety	– Training workers on occupational safety regulations and provide sufficient protective clothing for workers in accordance with applicable Vietnamese laws. – Install fences, barriers, dangerous warning/prohibition site around the construction area which showing potential danger to public people. – The contractor shall provide safety measures as installation of fences, barriers warning signs, lighting system against traffic accidents as well as other risk to people and sensitive areas. – If previous assessments indicate there could be unexploded ordnance (UXO), clearance must be

Issues/ Risks	**Mitigation Measures**
12) Communication with local communities	– The contractor shall coordinate with local authorities (leaders of local communes, leader of villages) for agreed schedules of construction activities at areas nearby sensitive places or at sensitive times (e.g., religious festival days). – Copies in Vietnamese of these ECOPs and of other relevant environmental safeguard documents shall be made available to local communities and to workers at the site. – Disseminate subproject information to affected parties (for example local authority, enterprises and affected households, etc) through community meetings before construction commencement. – Provide a community relations contact from whom interested parties can receive information on site activities, subproject status and subproject implementation results. – Inform local residents about construction and work schedules, interruption of services, traffic detour routes and provisional bus routes, blasting and demolition, as appropriate. – Notification boards shall be erected at all construction sites providing information about the subproject, as well as contact information about the site managers, environmental staff, health and safety staff, telephone numbers and other contact information so that any affected people can have the channel to voice their concerns and suggestions.
13) Chance find procedures	– If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall: – Stop the construction activities in the area of the chance find; – Delineate the discovered site or area; – Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Department of Culture and Information takes over; – Notify the Construction Supervision Consultant who in turn will notify responsible local or national authorities in charge of the Cultural Property of Viet Nam (within 24 hours or less); – Relevant local or national authorities would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values; – Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage; – If the cultural sites and/or relics are of high value and site preservation is recommended by the professionals and required by the cultural relics authority, the Program Owner will

	need to make necessary design changes to accommodate the request and preserve the site; – Decisions concerning the management of the finding shall be communicated in writing by relevant authorities; – Construction works could resume only after permission is granted from the responsible local authorities concerning safeguard of the heritage.

11.13 ESMP Supervision, Monitoring, and Reporting

1. In line with the ESMF implementation arrangement and monitoring and reporting, this annex provides specific forms for ESMP monitoring including sample forms for monitoring at project and subproject level and sample form for Grievance Redress Mechanism (GRM)). These forms should be used for all subprojects to be financed by ER-P. Training will be provided to responsible staff.

Supervision and monitoring

2. Supervision and monitoring of ESMP implementation would encompass environmental compliance monitoring and environmental monitoring during subproject implementation as described in details below:

- Environmental compliance monitoring includes a system for tracking environmental compliance of contractors such as checking the performance of contractors or government institutions against commitments expressed in formal documents, such as contract specifications or loan agreements.

- The objectives of environmental monitoring is: a) to measure the effectiveness of mitigating actions (e.g. if there is a mitigating action to control noise during construction, the monitoring plan should include noise measurements during construction); b) To meet Borrower's environmental requirement; and c) to respond to concerns which may arise during public consultation (e.g. noise, heat, odor, etc.), even if the monitoring is not associated with a real environmental issue (it would show good faith by the Borrower). The monitoring program should clearly indicate the linkages between impacts identified in the EA report, indicators to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions, and so forth. The cost of environmental monitoring should be estimated and included in sub-project's total investment costs. It is crucial to monitor and collect data that is useful and will actually be used. There is no value in spending money to collect data that is not properly analyzed, that is not reported or even if reported, no actions can or will be taken. It is useful to know the kinds of analysis to which the data will be subjected before collecting the data to ensure that one can do the anticipated analyses.

Table 11.7 provide an example for supervision and monitoring plan that can be used. Table xx provides an example of how monitoring is structured. Table 11.8 An example of monitoring plan

Table 11.7 Example for supervision and monitoring plan

Phase	What parameters to be monitored? (Note if it is against a set standard)	Where is the parameter to be monitored?	How is parameter to be monitored/ type of monitoring equipment?	When is parameter to be monitored/freq of measurement or continuous?	Responsible Party
Pre-construction					
Construction					
Operation					
Decommissioning					

Table 11.8 An example of supervision plan

Sub-Project stages	Supervision impacts	Supervision unit	Supervision parameters	Approach, equipment	Supervision magnitude	Comparing standard/document
Preparation						
Implementation						
Completion						

Monthly Progress Report of Subprojects/Activities

Instructions: This form will be completed and sent to CPMU every month without fail. Attach additional information as needed should the form below not provide enough space.

Progress report for the month of:_____Subproject Name:_____ Subproject Number:_____
Village/area:_____
District:_____Progress: (List all the subproject components and the progress to date)

Component/ subproject	**Description of subproject implementation to date**	**Remarks**
1.		
2.		
3.		

Comments on Subproject Safeguard Issues:

(Report if there have been any environment and/or social problems that require the attention and assistance of the Program Director or safeguard specialist/consultants).

11.14 Program Safeguard Reporting

Form below should be used for 6 month and/or annual reporting for the Program. Attach additional information as needed should the form below not provide enough space.

Progress report for the period of:_____ Subproject/Activity Owner:_____

11.14.1 Environmental and Social Progress Report Format

No	Sub-Project investment (subproject or activity)	Key environmental and social issues	Mitigation measures taken	Implementation and monitoring of ESMP	Training & capacity building programs implemented	Lessons learnt	Remarks

Implementation of the GRM process and report the results as part of the safeguard monitoring report to be submitted to CPMU and WB. It is expected that a Community Development Committee (CDC) is established to take the lead in responding to the GRM process.

Table 11.9 Sample GRM form

Grievance Number: _____LOCATION : District: _____ Village: _____CDC Name: _____NAME OF COMPLAINANT: _____ ADDRESS:_____Telephone #: _____ DATE RECEIVED:
Classification of the grievance (Check boxes) 1. Water Use 2. CDC formation 3. Land acquisition and Compensation 4. Financial 5. Water Quality 6. Sanitation 7. Other (specify)_____ - Dispute with contractors - Inter-community dispute - Technical/operational coordination- - Process delays - Noise - Water Use
Brief description of the grievance:
What is the perceived cause?
Suggested action (by complainant) to address grievance: