# GFLL
# GOVERNANCE, FOREST LANDSCAPES AND LIVELIHOODS - NORTHERN LAOS

# SESA
# Strategic Environmental and Social Assessment

**October 2019**
**REDD+ Division, Department of Forestry**
**Ministry of Agriculture and Forestry**
**Vientiane, Lao PDR**

## EXECUTIVE SUMMARY

### Emission Reduction Programme Area of Lao PDR and Key Drivers of Deforestation

Lao PDR's ER Programme (ER-P) area includes six of the Northern provinces of the country, constituting approximately 35 per cent of the national territory. The proposed Accounting Area (ER Programme area) is a contiguous landscape, covering the entire administrative areas of Bokeo, Huaphan, Luang Namtha, Luang Prabang, Oudomxay and Sayabouri provinces. The ER Programme area has important functions as critical watersheds feeding the major tributaries including the Mekong river. The hilly landscape is particularly prone to natural disasters including landslides and flooding caused by monsoonal rainfall. This supports the underlying rationale for forest management in the ER Programme area other than the climate change mitigation objectives. Recent expansion of labour-intensive industries (agriculture, manufacturing and services) and robust remittances in flows are expected to continue to support poverty reduction. Growth in agriculture exports in recent years-the sector that engages two-thirds of the labour force has been due to increased participation of traditionally small-scale farming households in the production of export linked commodities, such as rice, fruits, vegetables, rubber, etc. Lao PDR's comparative advantage over the medium-term will clearly lie in resource sectors; however, their sustainable expansion will also require sector-specific interventions.

Forestry has strong potential in Lao PDR, reflecting the availability of land and favorable climatic conditions. The authorities have recently been able to effectively control illegal logging; however, stronger expansion of the sector will also depend on putting in place adequate systems for certification and ensuring timber legality, which are increasingly being required by high-end markets. Successful development of production forests will also provide opportunities for moving up the value added, into industries like wood processing.

The ER-P is designed as a strong, strategic and scalable foundation for addressing the key drivers of deforestation and forest degradation and reduce greenhouse gas emissions beyond business as usual. The ER Programme is formulated based on strong analysis and understanding of the main direct and underlying drivers of forest loss. Direct drivers include permanent agriculture expansion (including rubber) into forest areas, shifting cultivation in its different dimensions encroaching into forest areas and preventing forests to regenerate, and illegal and unsustainable timber harvesting. Hydropower, mining and other infrastructure related developments also play a part. These direct drivers interplay with a set of complex underlying drivers.

### Overall design of the ER Programme

The proposed interventions of the ER-P correspond to each of the four main drivers and are organised into four components, including: i) interventions for an enabling environment for REDD+, ii) agriculture sector interventions, iii) forestry sector interventions, and iv) a program management and monitoring component.

GFLL – Northern Laos Project has been categorized as Category B, considering the following justifications. "Activities with potential mild adverse environmental and /or social risks and or impacts that are few in number, generally site specific, largely reversible, and readily addressed through mitigation measures".

### SESA framework and objectives

Although REDD+ may provide significant long-term benefits, there is also a potential for causing negative impacts on the environment and to the livelihoods of forest dependent communities, including ethnic groups, who are fully or partially dependent on the forests. The Strategic Environmental and Social Assessment (SESA) is a strategic tool, which is designed to ensure that environmental, social, and gender concerns are integrated into the development and implementation processes of the REDD+ strategy and key interventions in the ER Programme

offer a platform for consultation with and the participation of relevant stakeholders to integrate social and environmental concerns into the decision-making process related to REDD+; and, to enhance the ER Programme and Provincial REDD+ Action Plans (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+. The main output from the SESA is the ESMF.

**Social and environmental concerns and safeguards**

Based on consultations during the period 2016-2019 a safeguards and implementation package has been prepared that will provide guidance to the implementation of the GFLL with regards to safeguards, community participation, identification of risks and mitigation, tested technical prescriptions, and finance and procurement standards.

This Strategic Environmental and Social Assessment (SESA) provides an analysis of the social, economic, and institutional context of the six provinces that constitute the project area. The SESA identifies risks and offers mitigation measures that aim to enhance positive benefits from the project, and avoid or reduce any likely negative impacts.

An ESMF, a Process Framework (PF), a Resettlement Policy Framework (RPF), and an Ethnic Group Policy Framework (EGPF) that is equivalent to the Indigenous Peoples Plan (IPP) as defined in OP/BP4.12 have been prepared to address environmental and social safeguards.

The ESMF provides a framework that: 1) set out the principles, rules, guidelines and procedures to assess the environmental and social impacts of emission reductions program; and 2) helps reduce, mitigate, and/or offset such adverse potential environmental and social impacts and enhance any positive environmental and social impacts associated with the implementation ERPD. It should also contain provisions for estimating and budgeting costs of such measures to address impacts, and information on the relevant institutions for implementing them. Both the SESA the ESMF build on Lao's existing legal and institutional frameworks as far as possible and the ESMF should be compliant with applicable World Bank safeguard policies.

This safeguards package responds to the seven World Bank safeguard policies that has been triggered for GFLL. These include environmental policies on Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), Pest Management (BP/OP 4.09), and social policies on Indigenous Peoples (OP/BP 4.10), Physical and Cultural Resources (OP/BP 4.11), and Process Framework (OP/BP 4.12).

**Potential environmental and social issues and mitigation measures**

Annex 2 provides a summary of environmental and social issues identified by stakeholders and Annex 3 shows the assessment of the impact of the different strategic interventions on the environmental and social variables. Some strategic interventions may subsequently result in either positive or negative impact depending on how they are implemented in practice. Improved forest management will reduce or stop deforestation and degradation, biomass reduction, loss of biodiversity and habitat, and carbon emission. On the other hand, poor management would result in deforestation and degradation, biomass reduction, loss of biodiversity and habitat, and an increase in carbon emissions. Some interventions are expected to have only positive impacts on all of the indicated environmental variables.

**Land use planning and land tenure**

The National Master Plan for Land Allocation (NMPLA) was approved by the National Assembly in June 2018 and its summary of land allocation by sector is as follows:

Land areas to be conserved and reserved to achieve 70 per cent forest cover across the country (including water areas) are as follows:

- Conservation forest area: 4.7 million hectares or equal to 20 per cent.
- Protection forest area: 8.2 million hectares or equal to 35 per cent.
- Production forest area: 3.1 million hectares or equal to 13 per cent.
- Industrial plantation area: 0.5 million hectares or equal to 2 per cent.

Land areas for utilization and development will comprise 30 per cent of the country's total land area (including water areas).

The Land Law (2003) is the principle legislative instrument governing the management, protection and use of land in Lao PDR. Article 3 of the Land Law reaffirms article 17 of the Lao Constitution, stating that land belongs to the national community and the State, as representative of the people, is charged with the management of land, including allocation. The GoL recognises state, communal land, and private rights over ownership (for ownership, use, benefit and collateral) and transference, or allocation, of land rights among individuals, entities, and organisations in accordance with Lao laws.

**Ethnic groups in the project area**

Lao PDR has endorsed the International Labour Organization Convention 169 on Indigenous and Tribal Peoples (ILO 169, 1989) and ratified United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) but the GoL does not recognise the concept of indigenous peoples in its policies and legislation. Instead, the term "ethnic group" is officially used to describe its people, who are categorised into 50 broad ethnic groups. The GoL currently recognises 160 ethnic sub-groups.

Main ethnic groups of ER Programme are as follows:

1. Lao-Tai Ethno Linguistic Family consisting of six groups:
   - Lao and Tai groups are found in all six provinces.
   - Nyoun group is found in four provinces, but not in Huaphan and Oudomxay provinces.
2. Mon-Khmer Ethno Family has nine groups:
   - Khmu group is found in all six provinces.
3. Hmong –Mien Ethno Linguistic Family, have two ethnic groups:
   - Hmong and Ew-mien groups are found in all six provinces.
4. Sino-Tibet Ethno Linguistic Family consisting of five ethnic groups:
   - Phou Noy and Ho groups are found in four provinces, but not in Huaphanh and Sayabouri provinces.

Other groups are generally found in three or less provinces.

**Addressing gender and social inclusion**

Lao PDR currently ranks 106$^{th}$ on the Gender Inequality Index (rank 138 on general Human Development Index; as of 2015). Despite a strong legal framework stating and promoting the equality of Lao women and men, the influence of gender norms and traditional roles is still seen as one of the major obstacles in achieving factual gender equality in Laos.

Major negative contributors to this ranking are the maternal mortality ratio, the adolescent birth rate and the low female proportion of people with secondary education. Three dimensions of women's autonomy—confidence in the ability to exert control over their own health care, self-esteem, and control over own spending or money—are a major challenge for women in Lao PDR. Relevant gender issues in ER-P areas: Gender roles, rights, and responsibilities are culturally defined, and vary among different ethnic groups. Women's relatively low status and position in many ethnic groups prevents from exercising their rights: they thus experience greater vulnerability to poverty, and greater depths of poverty, than do women. Lao PDR's Social Integration and Gender Index (SIGI) was 0.1445 in 2014, in the medium category. Most ethnic

women in upland area lack Lao language skills and this makes it difficult for them to access official information. Women without primary education have three times the number as women who progress to higher education.

**Gender issues**

Gender roles, rights, and responsibilities are culturally defined, and vary among different ethnic groups. Nonetheless, women's relatively low status and position in many ethnic groups prevents them from exercising their rights: they thus experience greater vulnerability to poverty, and greater depths of poverty, than do men. Lao PDR's SIGI (Social Integration and Gender Index) was 0.1445 in 2014, in the medium category. Most ethnic women in upland areas lack Lao language skills and this makes it difficult for them to access official information. In this case, non-Lao speaking ethnic women need support to pass on their local knowledge to each other, and to learn from others new pieces of information, especially related to legal aspects. Women without primary education have three times the number of children as women who progress to higher education.

The Government has established a National Committee for the Advancement of Women, Mothers and Children (NCAWMC), which has branches within different Government agencies and at various levels of government including within the Ministry of Agriculture and Forestry, as well as the Provincial Office of Agriculture and Forestry (PAFO) and District Office of Agriculture and Forestry (DAFO), and has the national mandate to work on gender issues.

**Gender action plan (GAP)**

The Gender Action Plan (GAP) is the basis for operationalizing the findings of SESA. The GAP provides an effective framework for gender mainstreaming and integration of priority issues in the ER program, in order to maximise climate and development co-benefits.

The proposed project aims to support the successful implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management.

The main goal of the GAP is therefore to determine how the project can respond equally to the practical needs and strategic interests of women and men in view of the addressed forest degradation and deforestation, and the proposed measures. Key gender and social inclusion factors and related drivers of change will be identified to achieve the project goals in a sustainable manner and will be reflected in the proposed activities. The action plan has included the outcome from stakeholder consultations.

**Opportunities and risks**

For each of the 18 identified strategic interventions different opportunities and risks have been identified. In addition, an assessment has been made of possible impacts of these interventions on enhancement of carbon stocks and mitigation of deforestation and/or forest degradation and steps for enhancement and mitigation. Risk management will be addressed through the ESMF.

**Administration**

GFLL will be administered by the DoF/MAF and implemented through the sub-project mechanism. Results-based payments will be credited to a new National REDD+ Fund (NR+F) window that will be established by the DoF/MAF. The Ministry of Agriculture and Forestry (MAF) and the National REDD+ Task Force (NRTF) hosted by the Ministry will participate in GFLL management, decision-making, technical support, and monitoring including measurement, reporting, and verification.

GFLL package includes the following documents that will be used to address safeguards and for project implementation: *Volume I* **SESA** - Strategic Environmental and Social Assessment;

*Volume II* **ESMF** - Environmental and Social Management Framework; *Volume III* ***EGPF*** **-** *Ethnic Group Policy Framework; Volume IV* ***PF*** *- Process Framework; Volume V* ***RPF*** *- Resettlement Policy Framework; Volume VI* **Technical Manuals** -PLUP - Participatory Land Use Plan, -PSFM Manual - Operations Manual for Production Forests, -VFMG - Village Forest Management Guideline and Implementation Manual; *Volume VII* **Financial Management Manual**; *Volume VIII* **Procurement Manual.**

A Lao language version of this SESA has been prepared and both Lao and English versions will be disclosed in country on the Lao REDD+ website and in the six provinces of GFLL.

## ACRONYMS

| | |
|---|---|
| ADB | Asian Development Bank |
| BCC-I | Biodiversity Conservation Corridor Initiative |
| CEDAW | Conservation on the Elimination of All Forms of Discrimination Against Women |
| CFA | Conservation Forest Area |
| CIF | Climate Investment Funds |
| CliPAD | Climate Protection through Avoided Deforestation |
| CSA | Climate Smart Agriculture |
| CSO | Civil Society Organisation |
| DAFO | District Agriculture and Forestry Office |
| DFRM | District Forest Resource Management |
| DIMEX | Department of Import and Export, Ministry of Industry and Trade |
| DoF | Department of Forestry |
| DoI | Department of Import |
| DoFI | Department of Forest Inspection |
| DoNRE | District Office of Natural Resources and Environment |
| EGPF | Ethnic Group Policy Framework |
| EIA | Environmental Impact Assessment |
| EPF | Environmental Protection Fund |
| ER-P | Emission Reduction-Programme |
| ER-PA | Emission Reduction-Programme Agreement |
| ERPD | Emission Reduction Programme Document |
| ER-PIN | Emission Reduction-Program Idea Note |
| ESIA | Environmental and Social Impact Assessment |
| ESMF | Environmental and Social Management Framework |
| ESMMP | Environmental and Social Management and Monitoring Plan |
| F-REDD | Sustainable Forest Management and REDD+ Programme |
| FAO | Food and Agriculture Organisation |
| FCPF | Forestry Carbon Partnership Facility |
| FCZ | Fish Conservation Zone |
| FFRDF | Forest and Forest Resource Development Fund |
| FIP | Forest Investment Programme |
| FLEGT | Forest Law Enforcement, Governance and Trade |
| FLM | Forest Landscape Management |
| FLR | Forest Landscape Restoration |
| FMP | Forest Management Plan |
| FSSWG | Forestry Sub-Sector Working Group |
| GAP | Gender Action Plan |
| GFLL | Governance Forest Landscape and Livelihoods |
| GDP | Gross Domestice Product |
| GID | Gender Integration and Development |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit -- German Agency for International Cooperation |
| GoL | Government of Lao PDR |
| FGRM | Feedback and Grievance Redress Mechanism |
| Ha | Hectare |
| IDA | International Development Association |
| IEE | Initial Environment Examination |
| IFC | International Finance Corporation |
| ILO | International Labour Organization [of the United Nations] |
| IPCC | Intergovernmental Panel on Climate Change |
| JICA | Japan International Development Cooperation |
| Lao FIP | Lao Forest Investment Programme |
| Lao PDR | Lao People's Democratic Republic |
| LENS2 | Secod Lao Environment and Social Project |
| LFND | Lao Front for National Development |
| LNCCI | Lao National Chamber of Commerce and Industry |
| LUP/LA | Land Use Planning and Land Allocation |

| | |
|---|---|
| LWU | Lao Women's Union |
| MAF | Ministry of Agriculture and Forestry |
| MoF | Ministry of Finance |
| MoIC | Ministry of Industry and Commerce |
| MoNRE | Ministry of Natural Resources and Environment |
| MPI | Ministry of Planning and Invesement |
| MRC | Mekong River Commission |
| MRV | Measurement, Reporting and Verification |
| NA | National Assembly |
| NAFRI | National Agriculture and Foestry Research Institute |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NCAWMC | National Commission for the Advancement of Women, Mothers and Children |
| NEC | National Environment Committee |
| NFMS | National Forest Monitoring System |
| NGO | Non-governmental Organisation |
| NLMA | National Land Management Autority |
| NMPLA | National Master Plan for Land Allocation |
| NPA | National Protected Area |
| NpA | Non-profit Association |
| NRS | National REDD+ Strategy |
| NRTF | National REDD+ Task Force |
| NSEDP | National Socio-Economic Development Plan |
| NTFP | Non-Timber Forest Products |
| PAFO | Provincial Agriculutre and Forestry Office |
| PAREDD | Participatory Land and Forest Management Project for Reducing Deforestation in Lao PDR |
| PES | Payment for Ecosystem Services |
| PF | Process Framework |
| PFA | Production Forest Area |
| PHC | Population and Housing Census |
| PLR | Policies, Laws and Regulations |
| PLUP | Participatory Land Use Planning |
| PM | Prime Minister |
| PMO | Prime Ministerial Order |
| PMU | Programme Management Unit |
| PoFI | Provincial Office for Forest Inspection |
| PONRE | Provincial Office of Natural Resources and Environment |
| PPP | Purchasing Power Parity |
| PRAP | Provincial REDD+ Action Plan |
| PRTF | Provincial REDD+ Task Force |
| PSFM | Participatory Sustainable Forest Management |
| R-PP | REDD+ Preparation Proposal |
| R&D | Research and Development |
| REDD$^+$ | Reducing Emissions from Deforestation and forest Degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks |
| REL | Reference Emission Level |
| RPF | Resettlement Policy Framework |
| RAP | Resettlement Action Plan |
| SDG | Sustainable Development Goal |
| SESA | Strategic Environmental and Social Assessment |
| SEZ | Special Economic Zone |
| SFM | Sustainable Forest Management |
| SIGI | Social Integration and Gender Index |
| SIS | Social Safeguards System |
| SUFORD | Scaling Up Participatory Sustainable Forest Management Project |
| TWG | Technical Working Group |
| UNDRIP | United Nations Declaration on the Rights of Indivenous Peoples |
| UNCCD | United Nations |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UN-REDD | United Nations REDD+ |
| USD | United States Dollar |

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|---|---|
| VFMP/A | Village Forestry Management Plan and Agreement |
| VMU | Village Meditation Unit |
| VPA | Voluntary Partnership Agreement |
| WB | The World Bank |
| WCS | Wildlife Conservation Society |
| WFP | World Food Programme |
| WWF | World Wildlife Fund |

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# 1 BACKGROUND AND INTRODUCTION

## 1.1 Introduction to the emission reduction program

The Emissions Reduction (ER) Programme of Lao PDR embodies the Government of Lao PDR's (GoL) commitment to reforming land use, enhancing forest restoration and protection. The GoL embraces REDD+ as the opportunity for transforming rural land use, from opportunistic revenue generation at the cost of natural resources, to strategic and efficient land use delivered through participatory and integrated planning design.

The ER Programme (ER-P) launches the implementation phase of the National REDD+ Programme and is designed as a strategic and scalable foundation for addressing the key drivers of deforestation and forest degradation and reducing greenhouse gas emissions beyond business as usual. Key direct drivers interplay with a set of complex underlying drivers. The direct drivers include permanent agriculture expansion, shifting cultivation, illegal and unsustainable timber harvesting and infrastructure development. The interventions of the ER Programme correspond to each of the four main drivers and are organised into four components (see details in Annex 1).

**Component 1. Strengthening the enabling conditions for REDD+** addresses barriers and creates enabling conditions at the national and sub-national levels, including mainstreaming REDD+ into existing policies and frameworks, improved governance and enforcement, incentivisation of deforestation-free investments, and improved land use planning and compliance monitoring.

**Component 2. Climate smart agriculture and sustainable livelihoods** targets the agricultural sector as a key driver of deforestation and aims to reduce specific barriers by enhancing productivity through agro-technological solutions, improving farmers' integration into agricultural value-chains, and developing improved access to finance and private sector participation in deforestation-free agriculture.

**Component 3. Sustainable Forest Management** aims to reduce emissions through Sustainable Forest Management (SFM) and Forest Landscape Restoration (FLR), including the enhancement of carbon sequestration through the rehabilitation and restoration of degraded forestlands. Planned activities include systematic village forest and watershed management, support of national conservation forest management, and the promotion of private sector investments in community-based agroforestry.

**Component 4**. **Programme management and monitoring** provides the necessary services to manage, coordinate, monitor and evaluate the project and ensure that the project is delivered and implemented on time and on budget. This component will be responsible for safeguards, environmental and social management framework (ESMF) and gender action plan implementation and will ensure knowledge is aggregated and disseminated in the project areas and nationwide.

## 1.2 Background of REDD+

**REDD+ Readiness Preparation** Lao PDR has been working on REDD+ Readiness preparation since it was selected as one of 47 participants in the Forest Carbon Partnership Facility (FCPF) in 2007. The Department of Forestry (DoF), under the Ministry of Agriculture and Forestry (MAF), was designated as a focal point for REDD+ implementation on behalf of the GoL. In 2008 DOF established the National REDD+ Task Force (NRTF), consisting of twelve members from line ministries, and a National REDD+ Office under the Planning

Division of DOF to serve as the NRTF Secretariat, as well as coordinating and implementing REDD+ readiness initiatives under the guidance of MAF.
The GoL received a grant of USD 200,000 in October 2009 from the FCPF, through the World Bank (WB), in order to work on the REDD+ Readiness Plan (R-PP) proposal. The R-PP proposal was presented at the FCPF 7th Carbon Fund Participant Committee Meeting and approved on 03 November 2010. Since 2008 many REDD+ activities have commenced and are ongoing, with support from various development partners.

The Lao PDR was accepted in March 2010 as one of the eight pilot countries of the Forest Investment Programme (FIP), under the umbrella of the Climate Investment Funds (CIF). DoF, on behalf of the GoL, worked jointly with the World Bank and Asian Development Bank (ADB) during 2011 to prepare a Lao Forest Investment Programme (Lao FIP) for submission and presentation to the FIP Sub-Committee on 31 October 2011. The Lao FIP was endorsed in principle, with conditions to revise the Investment Plan in response to comments made during the FIP Sub-Committee Meeting. The revised plan was submitted and officially approved by the FIP Sub-Committee on 23 January 2012. A total of USD 30 million grant was approved by CIF as co-financing for three projects: the Scaling Up Participatory Sustainable Forest Management (SUPSFM, also known as SUFORD-SU) with the World Bank and implemented by the GoL; the Smallholder Tree Plantation Project implemented by the International Finance Corporation (IFC) with the private sector; and Protecting Forests for Ecosystem Services with ADB and implemented by the GoL, which provided additional financing for the ADB Biodiversity Conservation Corridor Initiative (BCC-I)

In 2013 the REDD+ Secretariat was transferred to a new Department of Forest Resource Management (DFRM) within the Ministry of Natural Resources and the Environment (MoNRE), pursuant to Notice 314/GO.Sec. dated 4 March 2013. The REDD+ NRTF structure was revised and established under the chairmanship of the Vice Minister of MoNRE. The REDD+ NRTF initially consisted of 24 members, and was subsequently increased to 30 members, and was proposed to operate under the guidance of the National Environment Committee (NEC). During this period DFRM also established a REDD+ Division, which acted as the joint secretariat with the National REDD+ Office of DoF. For the FCPF REDD+ Readiness project it was agreed that DoF would work in collabouration with the World Bank, an arrangement that was earlier planned so as not to further delay the process of REDD+ readiness preparation.

In August 2014 the GoL received a grant of USD 3.6 million from the FCPF, through the World Bank, to implement the approved R-PP activities. These activities included the preparation of the National REDD+ Strategy, benefit sharing mechanism and safeguards (Strategic Environmental and Social Assessment) during 2014 to 15 March 2017. Six Technical Working Groups (TWGs) to support REDD+ were formed in 2015 by MoNRE, under the guidance of the NRTF to work on various elements of REDD+ readiness. These elements include: the policy and legal framework; land issues; social and environmental safeguards; enforcement and implementation of mitigation activities; measurement, reporting and verification (MRV); reference emission level (REL); and benefit sharing**.**

In 2015 the GoL submitted a concept note and an Emissions Reduction – Programme Idea Note (ER-PIN) to the FCPF Carbon Fund. A preliminary concept was presented at the spring meeting of the Carbon Fund, and subsequently the full ER-PIN was presented at the October meeting. The Carbon Fund accepted the Lao PDR ER-PIN into the project pipeline, which led to the signing of the Letter of Intent in mid-2016. In mid-June 2016 DoF hired a team of Lao and international technical advisers, who began working in July 2016 with the REDD+ Office and the six REDD+ TWGs.

At the time of the FCPF Readiness Preparation Project Mid-Term Review (October 2016), DoF requested a second REDD+ Readiness grant of USD 4.575 million. This request received no objection from the FCPF Participant Committee members. A project document for this second grant (R-Package) was prepared by the World Bank and the GoL.

The ER-PD was completed in early 2018 and was accepted by the Carbon Fund during the 18th Meeting in Paris, France during June 2018. The country's self-assessment of REDD+ readiness was prepared by the end of 2017, and subsequently accepted by the FCPF.

Currently the NRTF, pursuant to Decision 2750/MAF, dated 23 May 2017, consists of 16 members with a Vice Minister of MAF as Chair; the Director General of DoF is Vice Chair; and a Deputy Director General of DoF is an ordinary and a standing member and also the national focal point of REDD+. Other members are Deputy Director Generals of departments and Directors/or Deputy Directors of divisions from six ministries including MAF, MoNRE, Ministry of Finance (MoF), Ministry of Planning and Investment (MPI), Ministry of Justice (MOJ), and Ministry of Energy and Mines (MEM). The NRTF also includes representatives from the National University of Laos; the Lao Women's Union; the Lao National Front for Reconstruction (LNFR); and the Lao National Chamber of Commerce and Industry (LNCCI). The NRTF has a role to study, develop, propose and approve policies, legislations, methods, and mechanisms. The role also includes regular reporting on the progress of implementing REDD+ activities within the country to the National Environment Committee for update and further actions.

The Lao PDR is one of 64 countries that participate in activities organised by the United Nations REDD+ Programme (UN-REDD), but it is not one of the 26 UN-REDD Partner Countries that receive direct financial and technical support for national REDD+ programs.

In addition, Lao PDR also receives international support from bilateral donors, international non-governmental organisations, research organisations, and other development partners. The two most important bilateral programs are those supported by the Government of Germany's Climate Protection through Avoided Deforestation (CliPAD) project, and the Government of Japan's Sustainable Forest Management and REDD+ Programme (F-REDD). Both programs are working at the national level, as well as in selected provinces.

### 1.3 SESA framework and objectives

Although REDD+ may provide significant long-term benefits, there is also a potential for causing negative impacts on the environment and to the livelihoods of forest dependent communities, including ethnic minorities, who are fully or partially dependent on the forests. The Strategic Environmental and Social Assessment (SESA) is a strategic tool, which is designed to ensure that environmental, social, and gender concerns are integrated into the development and implementation processes of the REDD+ strategy and key interventions in the ER Programme offer a platform for consultation with and the participation of relevant stakeholders to integrate social and environmental concerns into the decision-making process related to REDD+; and, to enhance the ER Programme and Provincial REDD+ Action Plans (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+.

The main output from the SESA is the ESMF. The ESMF provides a framework to: 1) set out the principles, rules, guidelines and procedures to assess the environmental and social impacts of the PRAPs for the six provinces in the Emissions Reduction Programme (ER-P) area; and 2) help reduce, mitigate, and/or offset such adverse potential environmental and social impacts and enhance any positive environmental and social impacts associated with the implementation

of PRAPs. It should also contain provisions for estimating and budgeting costs of such measures to address impacts, and information on the relevant institutions for implementing them. Both the SESA and the ESMF build on Lao PDR's existing legal and institutional frameworks as far as possible and the ESMF should be compliant with applicable World Bank safeguard policies, as well as promoting and supporting the safeguards included in the United Nations Framework Convention on Climate Change (UNFCCC) guidance related to REDD+.

# 2 METHODOLOGY FOR DEVELOPING SESA

There is no single method of conducting a SESA, although guidance is provided by the FCPF (2016). It has been understood that the SESA is the assessment process that combines analytical work and consultation in an iterative fashion. As such, this process included the following elements: 1) iterative diagnostic work on socio-economic, environmental and institutional aspects of REDD+ readiness, including assessing existing capacities and gaps to address identified environmental and social issues; 2) consultations with different stakeholders, identifying any possible stakeholder gaps; 3) identifying and confirming the environmental and social safeguards (World Bank Operational Policies potentially triggered by REDD+ activities during the implementation of the PRAPs). The SESA process also drew on lessons learnt from past projects implemented in Lao PDR, particularly those that were supported by the World Bank such as the Sustainable Forestry for Rural Development Project (SUFORD).

## 2.1 Methodology and qualitative approach

The SESA process to date has comprised both qualitative and quantitative investigations and consultations on environmental, socio-economic and institutional aspects in the largely ethnic group areas in the ER-P provinces. The SESA Team's qualitative and quantitative work was carried out in all six provinces, districts and kumban (village cluster). Chapter 3 provides a comprehensive set of baseline information in relation to REDD+.

The SESA process consisted of preparatory activities, scoping and baseline studies, stakeholder consultations, and assessment of the National REDD+ Strategy (NRS) strategy options. The preparatory activities included a review of the Lao R-PP and ER-PIN, review of related prior works, and participatory preparation of the SESA work plan. The literature review identified important issues relating to the use of forests and land by different ethnic groups, gender differences in forest resource use, land tenure issues related to forest management, and issues of forest governance. The scoping and baseline studies included stakeholder mapping, stakeholder orientation and engagement, confirming the drivers of deforestation and degradation, identifying proposed interventions and structuring the strategy options, and identifying key environmental and social issues associated with the strategy options. This initial work produced interim working reports – the Updated REDD+ Stakeholder Map, the Stakeholder Engagement Plan, and the Scoping of Key Environmental and Social Issues. These reports have all fed into this SESA report.

The SESA process is not prescriptive, but it must be responsive to the different needs and stakeholders and should be a strongly participative process with a focus on the institutional governance and management, and the geographic and demographic context of the country.

## 2.2 Consultations

This SESA report presents the analysis conducted from July 2016 to March 2019, and includes a review of the consultation work conducted for the six PRAPs, the design of the Emissions Reduction Programme Document (ERPD) and additional consultations that took place in March 2019.

For the preparation of the ER Programme consultations were conducted with a wide range of stakeholder representatives, ranging from the central to the village cluster levels. The objectives of the consultations were to identify drivers of deforestation and forest degradation; possible measures to address the identified drivers and barriers for successful implementation; and to enhance stakeholders' understanding on the aim of the ER Programme and its designed activities and the pros and cons of implementing it under their jurisdiction. Consultation was conducted based on the principle of free, prior and informed consent, particularly with community and village level stakeholders. During the consultations special effort was made to consult women of different ethnicities and other vulnerable groups.

During stakeholder consultations a wide range of topics pertinent to social and environmental safeguards, living conditions, livelihoods improvements and other relevant topics were discussed in the relevant local dialects. Justification for consultation of multiple ethnicities is highlighted by the following numbers: Lao-Tai – 75; Mon-Khmer – 205; Hmong-mien – 150; and Sino-Tibetan - 45.

The preparation of the SESA took place concurrently with the preparation of the ERPD. This approach ensured synergy and efficiency in the parallel development of these two important processes. As such, the two processes were carefully planned to synchronise their methods, schedules and outputs.

Indicating the importance of the REDD + implementation in the country special emphasis in conducting participatory consultations was to identify the possible risks, and address mitigation measures.

A participatory approach was employed in the process of the preparation of the SESA, which involved consulting a broad spectrum of stakeholders. Appropriate meetings were held at village, district, provincial and central levels. An effort was made to cover all stakeholders such as elderly, youth, women and other vulnerable groups. During the period of four years (2016 to 2019) intensive and extensive interviews/meetings were conducted in the six target provinces, with 176 meetings held in total (village - 98; district – 54; province - 22) and 5525 participants engaged (women – 1316; men - 4209).

### *2.2.1 Consultation strategy*

Stakeholders were identified and grouped into five broad groups of: government; civil society; development partners; communities; and the private sector. The ER Programme adopted the same stakeholder grouping for its stakeholder consultations, by building on the results of the consultations for the NRS. This common approach across all processes has helped the stakeholders to further their understanding of REDD+ in Lao PDR. The consultation process for the NRS, SESA and other supporting elements was conducted primarily though the following channels: Technical level consultation with the six REDD+ TWGs. Approximately one-third of the official TWG membership is women and participated in these consultations; strategic level consultations with the NRTF on policy issues; existing sector coordination mechanisms, namely the Forestry Sub-Sector Working Group (FSSWG) under the Agriculture and Forestry Sector Working Group; consultations with representatives of provinces, districts, and kum ban, and consultations with civil society organisations, private sector, and development partners.

### *2.2.2 Consultations for the SESA and ER Programme preparation*

The development of the ERPD was based on a participatory process, and was managed by the REDD+ Division with support from international development partners. Under the leadership of National REDD+ Focal Point and the REDD+ Division, the ERPD Team comprised national

experts and international technical advisors from projects supporting REDD+; namely, World Bank-financed REDD+ Readiness operation, the CliPAD project of GIZ funded by BMZ, the Sustainable Forest Management and REDD+ Support Project (F-REDD) of JICA, and the UN-REDD Programme support from the Food and Agriculture Organization (FAO). This team met regularly and more frequently as required to discuss and draft sections of the ERPD. The ER Programme team consulted with other government actors and non-government actors directly or through TWG meetings, consultation meetings, and through other channels.

For the ER Programme formulation consultations were conducted on a number of occasions for different thematic focal areas as well as for different purposes in the process leading up to decision-making. In July and August 2015 two regional workshops were held to discuss the ER-PIN development with the proposed six provinces of the ER Programme. After acceptance into the Carbon Fund pipeline further consultations took place with all six provinces in December 2015, in order to elaborate the next steps to develop the ER-PD. At the central level the ER Programme updates were introduced through the aforementioned sector coordination mechanism of the FSSWG in its regular meetings.

From 2016 the six provinces engaged in their respective processes of developing their PRAPs. PRAPs are the provincial level instrument that identifies the strategic interventions to address drivers and barriers for REDD+. The PRAPs for the six provinces are the central instrument through which the ER Programme interventions will be rolled out, and therefore are inherently linked to the ER Programme development. For the PRAP preparation in the six provinces consultation meetings were held in all 50 districts and 50 selected kum ban, engaging with provincial and district staff, and village representatives. The PRAP consultations intensively discussed and identified the main drivers and barriers to REDD+ and priority interventions for the province.

Another regional meeting with these six provinces was organised in September 2016. In October 2017 all Northern provinces gathered in Oudomxay province to discuss the SESA, Safeguard Plans and elements of the ER Programme including institutional arrangements and benefit sharing. Consultations were also held in 2018 and in early 2019.

Table 1 provides a summary of consultations held during the period 2016-2019.

**Table 1 Summary of Consultations 2016-2019**

| Period | Consultations | | | Participants | | |
|---|---|---|---|---|---|---|
| | Province | District | Village | Total | Men | Women |
| 2016-2017 | 6 | 54 | 50 | 4060 | 3531 | 529 |
| 2018 | 2 | 2 | 0 | 86 | 80 | 6 |
| Gender in Development | 6 | - | 28 | 500 | 100 | 400 |
| GCF Gender | 2 | 2 | 4 | 148 | 79 | 69 |
| 2019 | 6 | 8 | 16 | 731 | 419 | 312 |
| Total | 22 | 66 | 98 | 5525 | 4209 | 1316 |

### *2.2.3 Additional SESA consultations*

Additional consultation took place in February 2019 on SESA issues as shown in Table 2. The following criteria were used in selecting villages for consultations: villages near ongoing or planned development projects such as agriculture concessions, hydropower, mineral mining, roads; presence of high incidences of shifting cultivation; prevalence of highly degraded forests; communities with ethnic groups; villages identified for having acute malnutrition and stunting of children below five years old; and villages facing environmental and social challenges.

Demographic data, composition of ethnic groups, relocation of households due to infrastructure projects, migration issues were also given importance in selecting villages. Due attention and consideration were paid to data and information contained in recent reports including: Lao Social Indicator Survey 2015; Socio-Economic Atlas of the Lao PDR 2015; and, comments on the gaps and omissions in the SESA.

A set of questionnaires were designed and pre-tested in the field to capture information on access to forest resources; governance and participation of women in decision making; food security and nutrition; land tenure; forest conversion to agriculture; impact of major development projects; knowledge on REDD+ issues; and, income generation supporting facilities to improve livelihoods.

The questionnaires were translated into local languages and interviewers were given training in each province. In each consultation key information was recorded including the date and time of each interview, venue details, and names of the people interviewed. Questionnaires were administered to small groups including women, vulnerable groups, those with high dependence on forest resources, and DoF staff. The criteria for selecting villages and methodology were distributed to each province in advance, in order to identify villages in collabouration with Provincial Agriculture and Forestry Office (PAFO) and District Agriculture and Forestry Office (DAFO) staff.

**Table 2 Additional consultations in February 2019**

| ER Province | District | Village and village cluster | Different ethnic groups present during the consultations |
|---|---|---|---|
| Bokeo | Paktha | Houaysua | Khmu |
| | | Houaylamphaen | Lao Loum, Hmong |
| Huaphan | Samneua | Houykhang | Lao Loum, Khmu, Hmong |
| | | Houykhog | Khmu |
| | | Lak sao | Khmu |
| Luang Prabang | Xieng Ngeune | Suanluang | Lao Loum, Khmu, Hmong |
| | | Bouam Or | Khmu |
| | Chomphet | Houykhair | Khmu, Hmong |
| Luang Namtha | Luang Namtha | Kokmi | Khmu, Hmong, Leu, Lantan, Sida, Phu Noi, Hor |
| | | Namdeng | Lao Loum, Lan tan, Tai Dam, Tai Deng, Phu Noi |
| | | Nateuy | Khmu, Tai Deng, Phu Noi |
| Oudomxay | Namor | Namphaeng | Khmu |
| | | Pangdu | Khmu, Hmong |
| Sayabouri | Sayabouri | Namsong | Hmong |
| | | SaNgaem | Khmu, Hmong |
| | Phieng | Houyphor | Lao Loum |

### *2.2.4 Summary of issues raised during ERPD and SESA consultations*

The local consultations conducted in the six Northern provinces on drivers and their underlying causes also contributed ideas on interventions and challenges and barriers that may be faced in adopting and implementing the proposed interventions, or the basic environmental and social issues associated with the proposed interventions. Table 3 summarises concerns raised during ERPD and SESA consultations.

**Table 3 Summary of issues raised during ERPD and SESA consultations**

| # | Challenges raised during consulations |
|---|---|
| 1 | Inadequate budget and facilities |
| 2 | Inadequate staff and labour, capacity, and commitment |
| 3 | Weak enforcement of laws and regulations |
| 4 | Reliance on traditional practices and lack of experience |
| 5 | Corruption and abuse of power |
| 6 | Reliance on middlemen |
| 7 | Lack of processing facilities and skills |
| 8 | Inadequate technical system and information dissemination |
| 9 | Inadequate incentives for and lack of investment |
| 10 | Inadequate indigenous or foreign language skills |
| 11 | Inadequate advertising |
| 12 | Poor implementation |
| 13 | Reduced land productivity |
| 14 | Inadequate land-use planning, zoning, and tenure security |
| 15 | Weather and climatic condition and natural disaster |
| 16 | Forest and habitat degradation |
| 17 | Unstable prices and lack of market |
| 18 | Shortage of land |
| 19 | Illegal importation of equipment and products |
| 20 | Unstable production |
| 21 | Inadequate access infrastructure |
| 22 | Unclear ownership and village participation and consent |
| 23 | High market demand for the driver product |
| 24 | Lack of respect for contract provisions |
| 25 | Poor supervision and monitoring |
| 26 | Inadequate guidelines and operating rules |
| 27 | Inadequate planning and development |
| 28 | Unclear and inadequate policies |
| 29 | Unsuitable crops |
| 30 | Inadequate forest regeneration |
| 31 | Lack of production groups or cooperatives |
| 32 | Lack of coordination and cooperation |
| 33 | Lack of livelihood alternatives |
| 34 | Uncontrolled population and migration |
| 35 | Lack of food security |
| 36 | Use of chemicals |

### *2.2.5 Consultations with women*

The Gender Integration and Development (GID) Team was able to work with over 400 women (some 100 men also participated with this Team because this is a gender responsive study that also includes men) over a period commencing from the middle of July 2018 and concluded in mid-January 2019. These consultations were conducted on an intermittent basis and provided the study with a series of actions to support the ER Programme in the coming implementation (Sandra Bode, 2019).

The GID Team utilised a variety of tools and techniques including: 1) focus group discussions were facilitated in the six ER-P provinces, of which 18 involved 270 women; 2) structured and semi-structured interviews primarily with women living in partial forest-dependent villages of any significance, of which 475 interviews were undertaken (including 36 key informant interviews); 3) natural resource transects where possible, of which 12 were undertaken involving 84 women; and, 4) *ad hoc* village, roadside, market coffee house meetings. The details of these series of consultations with different ethnic minority women of selected villages in each of the six ER Programme provinces are included in the Table 4 to demonstrate the depth and breadth of consultations that the GID Team facilitated with women.

**Table 4 Consultations with ethnic group women**

| Province | Lao-Tai | Mon-Khmer | Hmong-Mien | Sino-Tibetan |
|---|---|---|---|---|
| *Luang Namtha* | | | | |
| Saleuang | - | 15 | - | - |
| Chomsi | - | 10 | - | - |
| Harddao | - | 15 | - | - |
| Hardnalong | - | - | - | 15 |
| Tha Luarng | - | 15 | 15 | - |
| Nam An | - | - | - | 15 |
| Namet | - | 15 | - | - |
| *Bokeo* | | | | |
| Mu Nua Nam Lave | - | 15 | - | - |
| Paung | - | 15 | - | - |
| Lin | - | - | 15 | - |
| *Oudomxay* | | | | |
| Lao Phe | - | 15 | - | - |
| Na Houang | - | - | 15 | - |
| Denkon | - | 15 | - | - |
| *Luang Prabang* | | | | |
| Long Lao Mai | - | 15 | 15 | - |
| Long Lao Gai | - | 15 | 15 | - |
| Densavang | - | 15 | 15 | - |
| Phonsavat | - | - | - | - |
| Yang | 15 | - | - | - |
| Hat Kam | 15 | - | - | - |
| *Huaphan* | | | | |
| Buamphat | - | 15 | - | - |
| Ponexong | - | - | 15 | - |
| Long Ngua Pa | - | - | 15 | - |
| Nam Neun | - | 15 | - | - |
| Xa | - | - | 15 | 15 |
| Muang Hom | - | - | 15 | - |
| *Sayabouri* | | | | |
| Sala | 15 | - | - | - |
| Na Kok | 15 | - | - | - |
| Na Fai | 15 | - | - | - |
| **Total** | **75** | **205** | **150** | **45** |

Additional fieldwork on gender issues was conducted for the preparation of the SESA. The field consultations took place between 15-24$^{th}$ January 2019: one mission to Huaphan Province from 15-18$^{th}$ January, and one mission to Luang Namtha Province from 22-24$^{th}$ January 2019. In both provinces interviews were conducted with the PAFO and the Provincial Lao Women´s

Union (PLWU). A total of 600 people were consulted, including 312 women and 288 men, across 16 villages that comprised of 2,162 households.

At the district level interviews were conducted with DAFO staff and District Lao Women´s Union (DLWU) in Xam Neua (Huaphan) and Luang Namtha District. In total four village consultations took place including: Ban Yard Village in Xam Neua District; Ban Nam Mad Mai village and Ban Nam Dee village in Luang Namtha District. In total, 148 people were interviewed and consulted, comprised of 79 men and 69 women.

During 2019, field visits were conducted in all 6 provinces for consultation of stakeholders, especially women and vulnerable groups. A total of 29 meetings held with the participation of 312 women and 419 men. Consultations included people of different ages and all ethnic groups. Special emphasis was made to interview women's groups separately, in order to gather information and reveal their thoughts.

A summary of the findings and actions demanded by women includes:

- Women are reluctant to express views in the presence of men. Consequently, a woman who is competent in the specific dialect of the stakeholders should convene separate consultations.
- The main elements of livelihood systems vary across villages, but the major activities of women are: subsistence growing of crops, upland paddy cultivation, small scale animal raising, Non-timber forest products (NTFP) collection, and village-based trading.
- Women and men are very willing to enhance their livelihoods. However, they often lack the ability to do achieve this, including possessing the necessary skills, rural credit access, agriculture extension knowledge, facilities, and market access for produce/products.
- Proper knowledge on systematic NTFP collection, forest management, shifting cultivation stabilization and other activities has not been imparted to communities.
- Many villagers identified the following risks and mitigation measures as being important: livelihoods situation, land access, use and control forest cover, current patterns of marketing, proper use of organic and inorganic materials, and knowledge on REDD+.

Issues that were discussed at the consultations conducted at central, provincial, district, kum ban levels and civil society organisations, private sector actors and development partners are summarised in Table 5.

**Table 5 Key issues for consultations**

| Topics | Central Govt. | Six provinces | Provinces | Districts | Kum ban | Civil society | Private sector | Development partners |
|---|---|---|---|---|---|---|---|---|
| Drivers analysis | X | X | X | X | X | X | X | X |
| Interventions, social and environmental impact | X | X | X | X | X | X | X | X |
| Institutional arrangement | X | X | X | X | | | | |
| Land | X | X | X | X | | X | | X |
| Safeguards | X | | | | | | | |
| Grievance redress | X | | | | | | | |
| Benefit sharing | X | X | X | | | | | |
| Non-carbon benefits | X | | | | | | | |
| Carbon accounting | X | | | | | | | X |

# 3 BASELINE SITUATION

## 3.1 Environmental condition in the ER program area

The Emission Reduction (ER) Programme consists of six Northern provinces of Lao PDR namely; Bokeo, Huaphanh, Luang Namtha, Luang Prabang, Oudomxay and Sayabouri provinces. These provinces were selected for the ER Programme due to a number of critical factors. The proposed Accounting Area is a contiguous landscape, which covers the entire administrative areas of the six provinces, and collectively account for 35 per cent of the national territory.

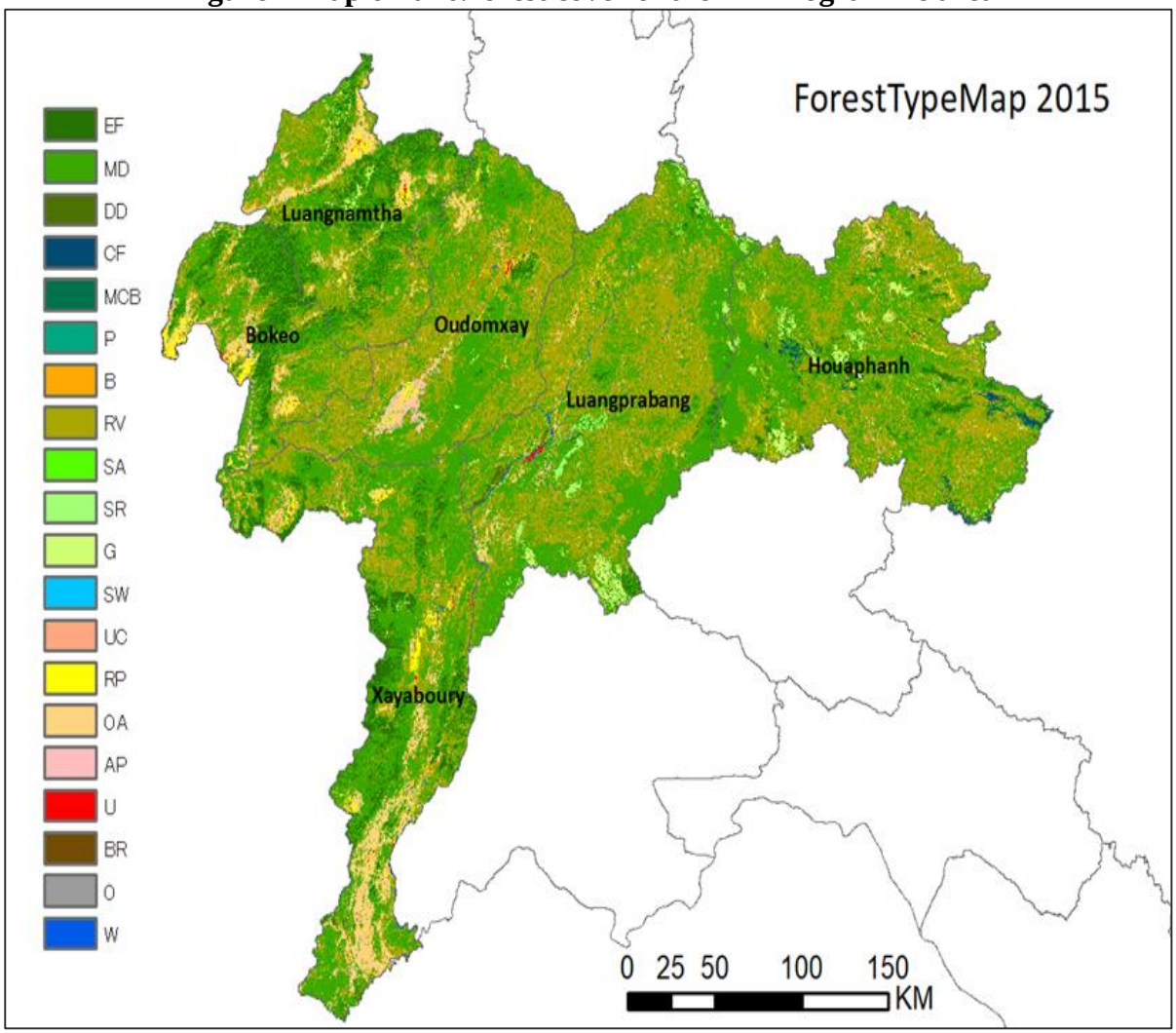
The northern region of Lao PDR is characterised by hilly topography, natural disasters including landslides and flooding, remote accessibility, limited public and industrial infrastructure, over 20 ethnic minority communities, and a persistent prevalence of poverty making it the poorest region in the country. The ER Programme area has important functions as critical watersheds feeding major river tributaries, including the Mekong river. However, the area has experienced 40 per cent of the country's deforestation and forest degradation in 2005-2015 (72,000 ha of deforestation in the region compared to 181,000 at a national level). This northern region is also well known for the prevalence of shifting cultivation practices, which impact forests and present a complicated national challenge. Each province has an international border, connecting them with regional growth centers of Thailand, Myanmar, China and Vietnam. Consequently, this results in concessions and leases to foreign investment, with the region accounting for 38 per cent of the country's land-based investments. This can lead to further pressure on land and forest resources, as well as opportunities and challenges to local communities.

For the above reasons, in the early phase of REDD+ readiness a number of projects supported by development partners focused their REDD+ pilot actions in these Northern provinces. This subsequently gave way to increased capacity and preparedness of these provinces for REDD+, and the eventual selection of the six Northern provinces as the area for the Lao ER Programme. See map in Figure 1.

### *3.1.1 Climate and climate change*

Lao PDR has a tropical monsoon climate, with a pronounced rainy season from May through to October, a cool dry season from November through to February, and a hot dry season in March and April. Generally, monsoons occur at the same time across the country, although that time may vary significantly from one year to the next. Monthly rainfall also varies regionally. The southwest monsoon prevails from mid-May to early October, while the northeast monsoon dominates from early November to mid-March. Generally, the average annual rainfall ranges between 1,250 mm (Luang Prabang) to 1,750 mm (Meuang Ngoy). The recorded annual rainfall in 2009 was 1,340 mm at Oudomxay and 1,260 mm at Luang Prabang, while evaporation rates represented 66 per cent (879 mm) and 67 per cent (847 mm) of rainfall at these stations respectively. Temperatures range from average highs of around 40°C along the Mekong in March and April to lows of 5 degrees Celsius or less in the uplands of Xiengkhuang and Phongsali in January. Except in the northern part of the country, temperatures remain high throughout the year, with an average highest temperature range between 35-38$^{o}$C and lowest temperature of about 16-18$^{o}$C. In the subtropical regions of the north the temperature range is much wider, as cold air from China and Siberia (Russia) occasionally penetrates during the dry season, thereby lowering air temperature to near zero.

**Figure 1 Map of land/forest cover of the ER Programme area**




Flood and drought are the main hazards in Lao PDR. Historical data recorded from 1966 to 2009 shows that Laos experiences an average of 1.5 severe floods and droughts every year. Specifically, in the past few years the country was hit by the Typhoon Kammuri (August 2008), which affected about 200,000 people and damaged 50,000 ha of arable land. This event was followed by Typhoon Morakot (August 2009) and Typhoon Ketsana (end of September- early October 2009), which caused significant damages to several provinces in the central and southern parts of Laos. Typhoon Ketsana alone affected more than 180,000 people and the total damage and loss amounted to USD 58 million. In 2011 Typhoon Haima caused widespread flooding and landslides in Sayabouri, Xiengkhuang and a few other central provinces, with a total damage and loss of USD44 million and USD22 million respectively.

Within the Project area, all six provinces have a two-season monsoonal cycle, with a dry season (October to April) and a rainy season (May to November). The mean annual temperature is around 24°C, except for Huaphan which has a lower annual mean temperature due to its mountainous terrain. December and January are the coldest months for all provinces: the mean temperature during these months can drop to under 20°C. In January 2016 it was reported in Huaphan province that frozen rain had resulted in broken tree branches and die-off in large areas of forest, an extreme weather event that had previously not occurred in the province. Annual rainfall is around 1,200 – 1,900mm, with most project provinces falling below the national average. Nonetheless, intense rainfall often triggers landslides in mountainous areas,

and results in localised flooding within the northern region. Landslides and soil erosion are often driven by clearance of forestland on steep slopes, in order to practice shifting cultivation. This implies the need to protect high-risk areas and maintain these under forest-cover by improving land use planning.

### *3.1.2 Topography and drainage*

Lao PDR topography is characterised by steep terrain, with uplands and mountains spreading from the north to the south and covering nearly 80 per cent of the country. The Annamite mountain range covers the northeast and east, while the Luang Prabang range is located in the Northwest. This mountainous landscape is found across most of the north of the country, except Vientiane and the Plain of Jars in Xiang Khouang Province, which are flat areas. The Mekong River largely demarcates the western border of Lao PDR, which is important for transportation and fisheries. The eastern border with Vietnam lies mostly along the crest of the Annamite Chain. The shortest shared borders are with Cambodia in the south, China in the north and Myanmar in the northeast.

Hilly topography, remote accessibility and limited public and industrial infrastructure characterise the project area. Despite the low population density of the project area, the land coverage under potential forest indicates a high land consumption on a per household level. This can be explained on the one hand by the hilly/ mountainous topography of the project area, and on the other hand by the poor farming and land degrading land use practices.
The need to protect Watersheds from Erosion, help Mitigate Flooding and Maintain Local Weather Regimes. Forests provide important ecosystem services in maintaining water quality, reducing erosion, stabilizing mountain slopes and preventing landslides. Forests can also help control flooding in small and medium-sized watershed catchments during rainfall events (FAO, 2005). Trees can help de-saturate soils, reducing landslide risk, and can also help stabilise soil through deep and extensive rooting. Additionally, natural daily forest evapotranspiration cycles are an important in maintaining local weather and rainfall patterns.

The average maximum temperature (33.4°C) occurs in the north and south, while the lowest temperature (20.4°C) is found mostly in northern parts of Lao PDR or at high altitudes. During the six years between 2010 and 2015, the average temperature slightly increased during the period. This increase could be the result of climate change or the result of deforestation and forest degradation caused by other human development activities.

### *3.1.3 Forests resources*

Lao PDR has the highest proportion of its land area in natural forest cover among the countries in mainland East Asia. However, the total area of natural forests has been declining from approximately 70 per cent of the land area (16.6 million ha) in 1940, to 61 per cent (14.0 million ha) in 2000, to 60 per cent (13.9 million ha) in 2005, to 59 per cent (13.6 million ha) in 2010, to 57 per cent (13.2 million ha) in 2015. The average annual loss in natural forest cover in recent years (2000-2015) has been approximately 53,400 ha or 0.23 per cent of the land area, while it had averaged 42,800 ha or 0.19 per cent in the earlier 60-year period (1940-2000).

According to the forest inventory data in 2015 (see Table 6), the six ER Programme provinces had a total forest area of 7,270,114 ha, of which 2,847,183 ha (39 per cent) was classified as regenerating vegetation. Luang Prabang province has the highest forest cover of 1,824,795 ha, accounting for 91.7 per cent of the province in 2015, of which 48.4 per cent is current forest and 43.3 per cent is regenerating vegetation. Oudomxay province had a forest cover of 1,080,457 ha or 91 per cent of the land area of the entire province, of which 48 per cent was classified as regenerating vegetation. This high percentage of disturbed vegetation is a function

of the shifting agricultural production methods employed by the majority of inhabitants of the province. The remaining forest area is predominantly mixed deciduous forest.

**Table 6 Forest cover in ER-P provinces 2015**

| Land Cover Type | Oudomxay | Sayabouri | Bokeo | Luang Namtha | Huaphan | Luang Prabang |
|---|---|---|---|---|---|---|
| Evergreen Forest | 17,023 | 148,344 | 107,284 | 143,431 | 45,931 | 19,518 |
| Mixed Deciduous Forest | 548,954 | 812,614 | 299,890 | 436,475 | 849,944 | 928,211 |
| Coniferous Forest | 0 | 0 | 0 | 0 | 25,777 | 5 |
| Mixed Coniferous and Broad-leaved Forest | 0 | 0 | 1 | 0 | 2,180 | 0 |
| Dry Dipterocarp Forest | 85 | 9,020 | 0 | 0 | 153 | 8,098 |
| Bamboo | 951 | 3,334 | 230 | 2,544 | 2,026 | 2,725 |
| Regenerating Vegetation | 513,444 | 341,488 | 186,278 | 263,945 | 683,794 | 858,234 |
| Forest plantation | 0 | 0 | 0 | 176 | 0 | 8,005 |
| **Total (Ha)** | **1,080,457** | **1,314,800** | **593,682** | **846,571** | **1,609,805** | **1,824,796** |

### *3.1.4 Forest management*

At the time of preparation of the Forest Strategy 2020, forest was categorised into five categories according to the Forestry Law of the time. These categories included: Production Forest, Conservation Forest, Protection Forest, Regeneration Forest and Degraded Forest. The first four categories were related to expected functions and management objectives, while the last one was based on the current vegetation.

The Forestry Law was subsequently amended and came into effect in 2007, and the concept of forest categorisation was changed. Under the new revised Forestry Law forest was now categorised into three categories: Production Forest Area (PFA), National Protected Area (NPA) and Protection Forest Area, which includes regeneration forestland, dry forestland or barren forestland and village use forest land (Article 56). DoF delineated these three categories. There are also Unclassified forest areas (outside of the three forest categories), which include forests, woodlots and industrial tree plantations, and agricultural land. The ERPD notes "It is commonly understood that, due to lack of operational management systems and proximity to villages, forests outside of three forest categories are more prone to disturbance (e.g. shifting cultivation, agricultural expansion, infrastructure, mining road), and unsustainable timber extraction."

### *3.1.5 Forest sector contribution to the economy*

The contribution of the forestry sector to the total GDP has considerably reduced over the years, from 6 -7 per cent in the mid-1990s to less than 1 per cent in mid-2010s. However, forestry sector GDP is most probably under-estimated, as only the timber harvest quota approved by National Assembly is used and additional timber harvest quota and implementation have not been taken into consideration in the calculation of GDP. The share of timber royalties in the central government tax revenue was 20 per cent from Financial Year (FY) 1993/94 to FY 1995/96. As the manufacturing and service sectors grew, and its turnover tax and excise taxes increased sharply in the late 2000s, the share of forestry GDP has gradually decreased and remained near to 1 per cent from FY 2008/09 to FY 2017/18, with an exception of 3.4 per cent in FY 2014/15.

### *3.1.6 Commercial tree plantations*

The Forest Strategy of Lao PDR sets a target of establishing 500,000 ha of industrial tree plantations by 2020. To achieve this target seed collection, seedling production and tree planting areas are planned by the government and allocated to provinces. Tree planting areas are annually reported to DoF by each provincial forestry service. These figures include plantations for teak, rubber, eucalyptus and indigenous tree species such as rosewood. The cumulative planted area rose to 470,277 ha by 2016. Plantation areas for rubber trees and eucalyptus are 275,146 ha and 76,041 ha respectively from 1975 to 2016. While teak and rubber plantations have been extensively planted by smallholders in the Northern Lao, and *Eucalyptus camaldulensis* and *Acacia mangium* plantations have been increasingly planted by multi-national companies in the central and southern parts.

More than half or nearly 150,000 ha of rubber and eucalyptus tree plantation in Lao PDR have been planted using the 2+3 scheme or by individuals.

Table 7 provides information on plantations of different species during the period 1975-2016. Farmers receive benefits from these industrial tree plantations, as well as leasing their land to investors.

**Table 7 Plantations by species 1975-2016 in Lao PDR**

| Species | Area |
|---|---|
| Rubber | 275,146 |
| Eucalyptus | 76,066 |
| Teak | 48,278 |
| Eaglewood | 31,506 |
| Native fruit decorative trees | 39,231 |
| **Total** | **470,227** |

### *3.1.7 Contribution of NTFPs*

Export data provided by DIMEX shows that the export value of NTFP had increased during the latter half of 1990s and hit its peak at USD 8 million in FY 2001/02. NTFP export value was between USD 3 million and USD 6 million during FY 2002/03 to FY 2005/06. Export of bamboo and rattan has gradually decreased for the last five years and in FY 2006/07 this category was integrated into NTFPs due to its small value. From FY 2007/08 to FY 2010/11 NTFP export was stable at USD 3 – 4 million per year, except in FY 2009/10 when an unusually small value was recorded, possibly due to changes of the data categories. The NTFP export data from DIMEX has not been available since FY 2012/13, as the department stopped collecting trade data.

Exports of some NTFPs such as bamboo shoots, mushrooms, rattan and their products, can be found in the UN Comtrade database. Bamboo shoots are mostly exported as canned shoots to the United Kingdom in 2007 – 2010, while bamboo charcoal is exported to Thailand, Japan and South Korea. Bamboo charcoal is a cheap alternative for white charcoal. Mushroom export has increased in the past two years, with most exported to Thailand, South Korea and Taiwan. Rattan and its products are exported to neighbouring countries including Thailand, China and Vietnam. Relatively large export volumes of rattan furniture were recorded in 2013 and 2015.

The need to maintain Food Security: Non-Timber Forest Products (NTFPs) provide important sources of food, particularly for poorer rural populations during non-cropping seasons. Income derived from the sale of NTFPs can also be used to buy food. Sustainable commercial production of NTFPs can also support important local industries producing rattan furniture, wild honey, various botanical oils, spices and mushrooms. Forest production systems are, in

general, less labour and energy intensive than agriculture because preparation, planting, irrigation, fertiliser and pesticide/herbicide inputs are usually not required.

### *3.1.8 Biological diversity*

The Lao PDR's National Biodiversity Strategy and Action Plan 2016-2025 (NBSAP) notes that the country is "one of the most biodiversity-rich countries in Southeast Asia." Lao PDR is home to "319 species… of global conservation significance" and "many rare and endangered species, … such as: Asian elephant (*Elephas maximus*), tiger (*Panthera tigris),* clouded leopard (*Pardofelis nebulosa*), leopard (*Panthera pardus*), gaur (*Bos gaurus*), saola (*Pseudoryx nghetinhensis*), various gibbons including the black crested gibbon (*Hylobates soo., Nomascus spp.*), Siamese crocodile (*Crocodylus siamensis*), Irrawaddy dolphin (*Orcaella brevirostris*), and white winged duck (*Cairina scultulata*).

Lao PDR has 698 bird species, which include 25 globally threatened species, one country endemic species, and a total of 27 important bird areas (IBA) (Birdlife International 2004). Five IBA are located in the ER Programme provinces and include i) Nam Et and Phou Leuy in Huaphan Province (85,450 ha and 60,070 ha respectively); ii) Mekong River from Luang Prabang and Sayabouri Provinces to Vientiane Capital (18,230 ha); iii) Nam Ha National Protected Area in Luang Namtha province (184,520 ha) and; iv) Nam Xam in Huaphan Province (69,000 ha). The IBA in Nam Ha Protected Area is known to support a rich montane avifauna and a significant number of biome-restricted bird species, including some that are not known to occur in any other IBA throughout the country, such as White-bellied Redstart *Hodgsonius phaenicuroides*, Crested Finchbill *Spizixos canifrons* and White-necked Laughing thrush *Garrulax strepitans*.

In terms of aquatic biodiversity, the country is also known to possess a wide diversity of fresh water fish species. The Mekong River Commission's (MRC) Mekong Fish Database in 2003 listed a total of 26 exotic fish species and 898 indigenous fish species, ranging from the largest: the Mekong giant cat fish (*Pangasianodon gigas*), the giant barb (*Catlocarpio siamensis*) and the giant stringray (*Himantura chaopraya*), to the smallest: *Boraras micros* (with a maximum length of 1.3 cm), *Oryzias pectoralis* (2.2 cm) and *Clupeichthys aesarnensis* (4.6 cm). In Lao PDR Kottelat (2001) identified more than 481 species, including 22 species identified as exotic species. Other aquatic animals, such as frogs, shrimps, crabs, tadpoles, snails, and aquatic plants, have not been as thoroughly studied. According to Kottelat and Whitten (1996) only 37 amphibian species, seven species of crabs and 10 species of shrimps have been recorded for Lao PDR, and these records would probably cover only about 15 per cent of the estimated total.

An estimated 40 per cent of protein for human consumption in Lao PDR is derived from fisheries, making it the main source of animal protein. Several studies of the fisheries of the Nam Ou Basin, which includes Oudomxay and Luang Prabang provinces, have been undertaken, notably by Kottelat (2009) for the World Wildlife Fund (WWF). This study identified a total of 84 fish species, from 23 different families, in the Nam Ou Basin. The Mekong Giant Catfish (*Pangasianodon gigas*), a critically endangered species is reported as being found in the area of the confluence with the Mekong, but not in the Nam Ou itself. The lower part of the Nam Ou from Meuang Ngoy to Pak Ou in Luang Prabang is listed as a key biodiversity area (KBA) by the International Union for Conservation of Nature (IUCN) because of the presence of another critically endangered species called the Giant Barb (*Catlocarpio siamensis* or *Pba Chok*).

Respondents confirmed that this species has been found in the Nam Ou as far up the river as Pak Ban, where fish of up to 10 kg have been caught. However, this fish is not found in Oudomxay Province. Two other endangered fish species, the Mekong Freshwater Stingray

(*Dasyatis laosensis*) and Seven-striped Barb (*Probarbus jullieni*), are also found throughout the Nam Ou. A spawning ground of the Seven-striped Barb and its spawning behaviors have been recorded at Hatkhe Village, which is 41 km upstream from the confluence with the Mekong and 27 km upstream of the proposed Nam Ou 1 hydropower project site in Luang Prabang province. A few turtle species are found in the Nam Ou river basin (Phongsaly, Oudomxay and Luang Prabang provinces), many of which are captured for sale and consumption. Some species are critically endangered, including the Asian Box Turtle (*Cuora amboinensis*) and the Indochinese Box Turtle (*C. galbinifrons*). Both of these turtle species have been captured in Phongsaly. There is also one endangered amphibian species, the Yunnan spiny frog (*Nanorana yunnanensis*).

The loss of biodiversity in Lao PDR is due to a range of key factors including hunting (for consumption); habitat loss and degradation resulting from expansion of agriculture and infrastructure; extraction of forest products; and fires. As noted, "several mining and tree plantation concessions and hydropower projects overlap with national protected areas, protection forests and other forest types, which area areas of high biodiversity." In terms of over-exploitation of forest products, the impact of wildlife hunting for commercial wildlife meat and medicinal uses, rather than for subsistence consumption, has had a very negative impact on wildlife populations. Biodiversity in the Lao PDR is also threatened by invasive species; environmental pollution from residential and industrial sources; agro-chemicals (pesticides, herbicides, and fertilisers); and climate change.

Fish Conservation Zones (FCZ) have been established with assistance from international organisations, such as WWF, at several villages along the Nam Ou and its tributaries. These zones are sections of the river that are recognised by local fishermen as being important habitats for fish. They are usually deep pools that provide refuge for fish during the dry season and serve as spawning areas or fish nursery grounds. Participating fisher folk from surrounding villages agree to abide by the rules and regulations restricting fishing activities in these zones, which are often marked with a string of flags across the river at the beginning and end of the reach. These reaches may be 500m to 1km long. Most fisher folk agree that the FCZ are effective in helping to protect and increase fish stocks. Warren (2010) identified 15 villages with established FCZ on the Nam Ou mainstream. In the Luang Prabang districts of the Nam Ou Basin there are 30 FCZ, with 25 on the Nam Ou (Ngoy – 10, Nam Bak – 11, Pak Ou – 4) and five on the Nam Nga as of 2016. In Oudomxay province more than 90 villages have 35 conservation pools and 101 protection pools.

The Lao PDR is signatory to numerous important multilateral environmental agreements, including the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), and the Ramsar Convention on Wetlands. It is active in the ASEAN-Wildlife Enforcement Network and has established its own Lao-Wildlife Enforcement Network for collaboration among national law enforcement agencies. Lao PDR also cooperates with the International Criminal Police Organization on wildlife trafficking and other environmental crimes.

### *3.1.9 Water resources*

Lao PDR has abundant water resources and water is seen as essential to the life and culture of the Lao people. The contribution of the water sector has been examined through water sub-sectors, with irrigation, hydropower, fisheries, urban and rural water supply being the major water users. Over time the amount of water used by these sub-sectors has significantly increased.

The total annual water flow in Lao PDR is estimated at 270 billion cubic meters, equivalent to 35 per cent of the average annual flow of the whole Mekong Basin. The monthly distribution of the flow of the rivers in Lao PDR closely follows the pattern of rainfall, with approximately 80 per cent during the rainy season (May to October) and 20 per cent during the dry season (November to April). The northern region is known to be the source of many important rivers in Lao PDR, including tributaries of the Mekong River such as the Nam Ou and Nam Xeung. A few rivers (Nam Ma, Nam Sam and Nam Neune) outside of the Mekong Basin flow through Viet Nam into the South China Sea. The limited information on these rivers restricts the ability to assess their potential.

Lao PDR has the largest per capita volume of internal renewable water resources in the Asia region. The country is divided into 64 watersheds, as shown in Figure 2. Fifty-three of Laos' watersheds, or 91 per cent of the land area, drain into the Mekong River and contribute to 35 per cent to the river's flow. The remaining eleven watersheds, located in Xieng Khouang and Huaphan provinces, drain into rivers in Viet Nam. The Mekong originates in southern China and is the world's 12th-longest river and the 7th-longest in Asia. The Mekong River dominates Lao PDR's water resources. The length of Mekong River in Lao PDR is approximately 1860 kilometers of the 4909-kilometer total river length, and serves as most of the country's western border. The river level varies greatly between the wet and dry seasons, and the river's annual flooding plays a vital role in the maintenance of both its biodiversity and its related economy. Flood-deposited sediments help to improve soil fertility, clean the water of pollutants, and recharge groundwater tables.

River transport on the Nam Ou and Mekong River in the northern region has historically been very important. Boats move people and goods up and down the full length of the mainstream, bringing them to villages and towns that would have been difficult to access by land. Most parts of the river are navigable, except in some areas where rapids restrict movements of smaller vessels, which is a particular problem during the dry season. Boats can carry up to 2,000 kg of people and cargo when river conditions are ideal (and 500 kg per boat in the dry season). The connectivity of the river enables trade and socialization between different villages and ethnic groups in the basin.

The construction of the Nam Ou dams 2, 5, and 6 has impacted some of the boat routes. To address the issue, boat landings were built on the reservoirs above the dam wall. Villagers now have to portage around the dam sites using local roads. To some extent, the reservoirs have made navigation easier and safer compared to the river, which was sometimes difficult to navigate, especially at low water levels. However, the dams are expected to pose significant and negative impacts on trade and overall vessel movement between communities.

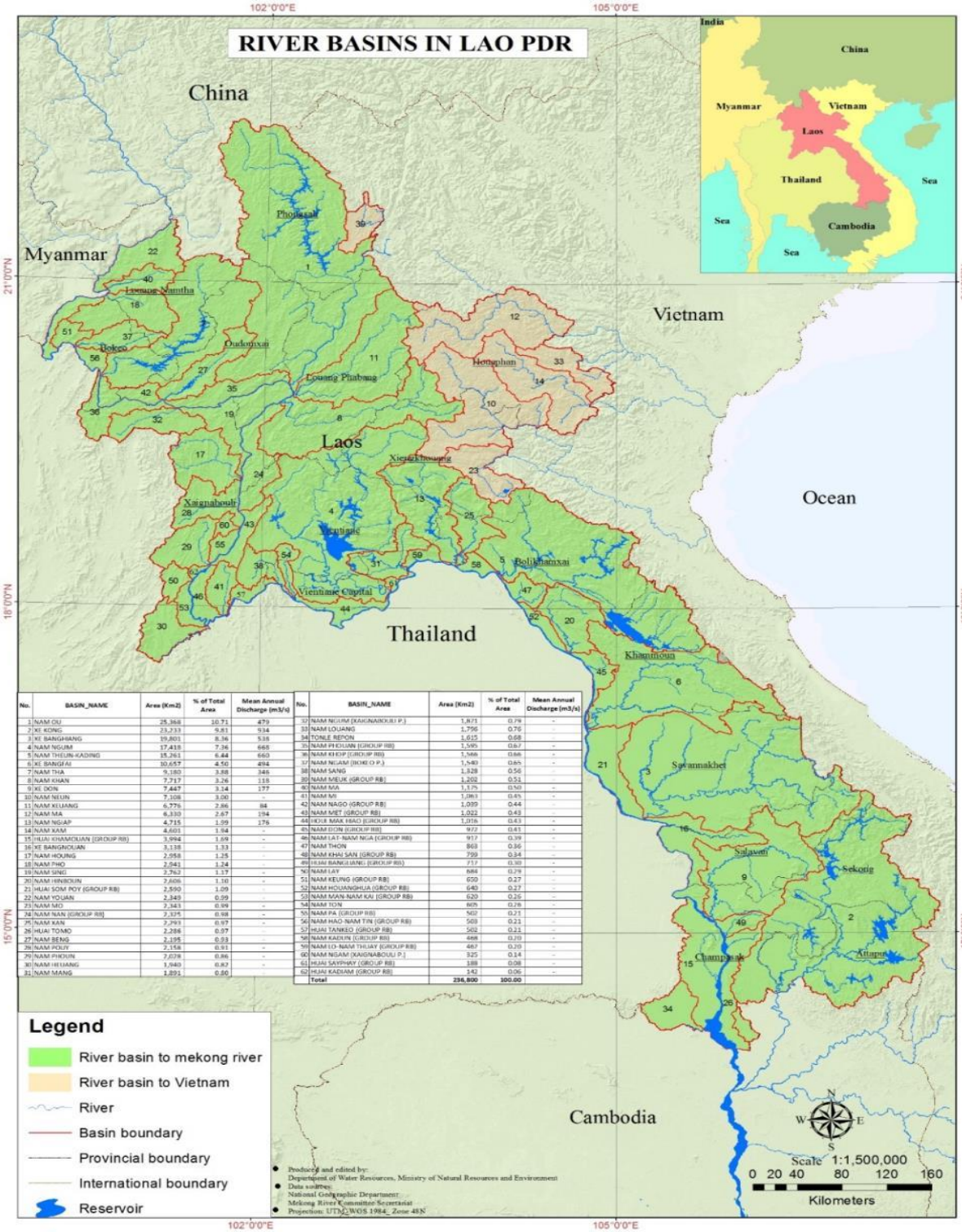
Tourism is an important economic sector in the Nam Ou Basin, especially in the lower reaches of the river between Meuang Ngoy through Nong Khiaw to Pak Ou. These include the areas with dramatic limestone-karst landscape, caves, and river transport to the Mekong. In 2015, there were 13,541 domestic visitors and 38,863 foreign tourists who visit the Nam Ou. Tourism also depends on boat transportation on the river, especially from Meuang Khoa in Phongsaly province to Nong Khiaw and Pak Ou in Luang Prabang province. The construction of Nam Ou 3 and 4 within the main tourist area, will likely have a significant impact on tourism.

The northern region with its watershed, as depicted in the map in Figure 2, has high potential for hydropower development on various scales. The demand for electricity for socio-economic development has increased both within Lao PDR as well as in neighboring countries. This demand has provided opportunities for hydropower development in Lao PDR. Approximately 45 hydropower projects are known to exist at different stages of development and scales in the ER Programme provinces. The first of seven hydropower Projects planned on the mainstream

of the Mekong River is the Sayabouri Hydropower Power Project (HPP), which has a proposed installed capacity of 1,285 MW, and is under construction in Sayabouri province. Another two mainstream Mekong hydropower power projects (Pak Beng and Paklay HPPs) have been planned and will have installed capacities of 912 MW and 770 MW in Oudomxay and Sayabouri provinces respectively.

The Pak Beng HPP (See Box 1) has gone through the MRC's Procedures for Notification, Prior Consultation and Agreement (PNPCA) in 2014, while the Paklay HPP recently completed this process in 2018.

**Figure 2 Watersheds in Lao PDR**




| No. | BASIN_NAME | Area (Km2) | % of Total Area | Mean Annual Discharge (m3/s) |
|---|---|---|---|---|
| 1 | NAM OU | 25,368 | 10.71 | 479 |
| 2 | XE KONG | 23,233 | 9.81 | 934 |
| 3 | XE BANGHIANG | 19,801 | 8.36 | 516 |
| 4 | NAM NGUM | 17,418 | 7.36 | 668 |
| 5 | NAM THEUN-KADING | 15,261 | 6.44 | 660 |
| 6 | XE BANGFAI | 10,657 | 4.50 | 494 |
| 7 | NAM THA | 9,180 | 3.88 | 346 |
| 8 | NAM KHAN | 7,717 | 3.26 | 116 |
| 9 | XE DON | 7,447 | 3.14 | 177 |
| 10 | NAM NEUN | 7,108 | 3.00 | - |
| 11 | NAM XEUANG | 6,776 | 2.86 | 84 |
| 12 | NAM MA | 6,330 | 2.67 | 194 |
| 13 | NAM NGIAP | 4,715 | 1.99 | 176 |
| 14 | NAM XAM | 4,601 | 1.94 | - |
| 15 | HUAI KHAMOUAN (GROUP RB) | 3,994 | 1.69 | - |
| 16 | XE BANGNOUAN | 3,138 | 1.33 | - |
| 17 | NAM HOUNG | 2,958 | 1.25 | - |
| 18 | NAM PHO | 2,941 | 1.24 | - |
| 19 | NAM SING | 2,762 | 1.17 | - |
| 20 | NAM HINBOUN | 2,606 | 1.10 | - |
| 21 | HUAI SOM POY (GROUP RB) | 2,590 | 1.09 | - |
| 22 | NAM YOUAN | 2,349 | 0.99 | - |
| 23 | NAM MO | 2,343 | 0.99 | - |
| 24 | NAM NAN (GROUP RB) | 2,325 | 0.98 | - |
| 25 | NAM XAN | 2,293 | 0.97 | - |
| 26 | HUAI TOMO | 2,286 | 0.97 | - |
| 27 | NAM BENG | 2,195 | 0.93 | - |
| 28 | NAM POUY | 2,158 | 0.91 | - |
| 29 | NAM PHOUN | 2,078 | 0.86 | - |
| 30 | NAM HEUANG | 1,940 | 0.82 | - |
| 31 | NAM MANG | 1,891 | 0.80 | - |

| No. | BASIN_NAME | Area (Km2) | % of Total Area | Mean Annual Discharge (m3/s) |
|---|---|---|---|---|
| 32 | NAM NGUM (XAIGNABOULI P.) | 1,871 | 0.79 | - |
| 33 | NAM LOUANG | 1,796 | 0.76 | - |
| 34 | TONLE REPON | 1,615 | 0.68 | - |
| 35 | NAM PHOUAN (GROUP RB) | 1,595 | 0.67 | - |
| 36 | NAM KHOP (GROUP RB) | 1,566 | 0.66 | - |
| 37 | NAM NGAM (BOKEO P.) | 1,540 | 0.65 | - |
| 38 | NAM SANG | 1,328 | 0.56 | - |
| 39 | NAM MEUK (GROUP RB) | 1,202 | 0.51 | - |
| 40 | NAM MA | 1,175 | 0.50 | - |
| 41 | NAM MI | 1,063 | 0.45 | - |
| 42 | NAM NAGO (GROUP RB) | 1,039 | 0.44 | - |
| 43 | NAM MET (GROUP RB) | 1,022 | 0.43 | - |
| 44 | HOUI MAK HAO (GROUP RB) | 1,016 | 0.43 | - |
| 45 | NAM DON (GROUP RB) | 972 | 0.41 | - |
| 46 | NAM LAT-NAM NGA (GROUP RB) | 917 | 0.39 | - |
| 47 | NAM THON | 863 | 0.36 | - |
| 48 | NAM KHAI SAN (GROUP RB) | 799 | 0.34 | - |
| 49 | HUAI BANGUANG (GROUP RB) | 717 | 0.30 | - |
| 50 | NAM LAY | 684 | 0.29 | - |
| 51 | NAM KEUNG (GROUP RB) | 650 | 0.27 | - |
| 52 | NAM HOUANGHUA (GROUP RB) | 640 | 0.27 | - |
| 53 | NAM MAN-NAM KAI (GROUP RB) | 620 | 0.26 | - |
| 54 | NAM NON | 605 | 0.26 | - |
| 55 | NAM PA (GROUP RB) | 502 | 0.21 | - |
| 56 | NAM HAO- NAM TIN (GROUP RB) | 503 | 0.21 | - |
| 57 | HUAI TANKEO (GROUP RB) | 502 | 0.21 | - |
| 58 | NAM KADUN (GROUP RB) | 468 | 0.20 | - |
| 59 | NAM LO- NAM THUAY (GROUP RB) | 467 | 0.20 | - |
| 60 | NAM NGAM (XAIGNABOULI P.) | 325 | 0.14 | - |
| 61 | HUAI SAYPHAY (GROUP RB) | 189 | 0.08 | - |
| 62 | HUAI KADIAM (GROUP RB) | 142 | 0.06 | - |
| | Total | 236,800 | 100.00 | |

**Box 1 Pak Beng Hydropower Project on the Mekong River in Oudomxay Province**

Pak Beng Hydropower Power Project (HPP) is the most upstream HPP proposed in the Lower Mekong River Basin countries in Oudomxay Province, Lao PDR. The Government of Lao PDR signed a MOU with Datang International Power Generation Co., Ltd. (DTP) on 29 August 2007 to build and operate the run-off river type Pak Beng HPP on a Build-Operate-Transfer (BOT) scheme. The Project investment is USD 2.37 billion and will have an installed capacity of 912 MW and an annual energy generation of 4,765 GWh per year (1,818GWh 2,947GWh in the dry and wet seasons respectively), where 10 per cent of the output will be transmitted through a 110km 230 kV transmission line to Vientiane for domestic consumption and 90 per cent will be sold to Thailand via a 230km 500 kV transmission line to the Mae Moh Substation in Thailand. The construction is expected to start 2020 and the Project is expected to be operational by 2029.

The Pre-feasibility Study Report was completed in August 2008 and the Feasibility Study Report was submitted to GoL in December 2009, together with an IEE. The EIA study was conducted during August 2010-November 2011. An Environmental Compliance Certificate (ECC) was awarded by GoL in March 2014, leading the Project to undertake the MRC's Procedures for Notification, Prior Consultation and Agreement (PNPCA) process as required by the 1995 Mekong Agreement. No preliminary construction work associated with this Project has commenced. However, constructions of access roads for the Pak Beng Mekong River bridge have commenced since 2015.

The HPP site is approximately 14 km upstream of Pak Beng District and about 157 km from Muang Xai District, the capital city of Oudomxai Province. It is located outside the national protected areas in Oudomxay and Sayabouri Provinces. The most common forest type in the proposed reservoir inundation area is mixed deciduous forest and shrub, with small areas of unstocked forest occurring. Nonetheless, some significant patches of dense forest remain along the main rivers and tributary streams. The back-water length is estimated to be 97km.

The field surveys estimated that 26 villages in three provinces of Oudomxay, Sayabouri and Bokeo will be impacted by the project as follows:

- 4 villages of Pak Beng District, Oudomxay Province
- 17 villages of Paktha District, Bokeo Province

### *3.1.10 Agriculture*

The agricultural sector has traditionally been the most important sector in Lao PDR, contributing 25.5 per cent of the GDP and employing about 72 per cent of the country's workforce (FAO 2010). Figure 3 provides information on contribution of different sectors to the GDP. Agriculture is still largely subsistence-based and has traditionally concentrated on rice. However, improved commodity prices and external demand has promoted commercialization and export of other crops of economic importance over the past decade.

These crops include vegetables, coffee, cassava, sweet potatoes, fruit trees, and industrial tree crops (including rubber, acacia and eucalyptus). Rice is expected to remain as the dominant crop for the majority of the population.

Based on the UN Comtrade database, coffee was the only dominant cash crop for export in 2000, however, exports of other cash crops such as maze/corn, cassava and sugar have rapidly expanded from 2000 to 2016. Coffee still keeps its position as a major cash crop for export, but the export market has diversified during this period from European countries to Asian countries, such as Vietnam and Japan. Maize/corn exports have dramatically increased during the same period and are now the third major cash crop for export. In 2016, nearly three quarters of Laos' rubber was exported to China. Export value of natural rubber surpassed that of coffee in 2013, and natural rubber became the most valuable cash crop for Laos. Commercial cassava production and export started to increase in the middle of the 2000s and is currently the fourth major cash crop for export. The main market for cassava is Thailand followed by Vietnam. On the consumption side glutinous rice constitutes about 70 per cent of households' caloric requirements.

Agriculture production is becoming increasingly commercialised. Key challenges are recognised in the current five-year National Socio-Economic Development Plan (2011-2015), while rural development goals are outlined in the Ministry of Agriculture and Forestry's Agricultural Development Strategy 2011-2020 and these goals are grouped around: agricultural modernization and commercialization; enhanced food security; improved productivity and quality; optimal use of natural resources; and improved livelihoods for farmers. Improving the management of agricultural concessions and promoting investment in priority and remote upland areas are key priorities. Issues regarding deforestation, forest degradation, aquatic resource degradation and loss of biodiversity have been observed. The policy of giving out agricultural concessions to foreign direct investment has boosted agricultural exports but has also added to problems of land and forest depletion and degradation, and land related conflicts. To date approximately 1.1 million hectares, or roughly 5 per cent of the country's territory, have been approved for concessions and leases.

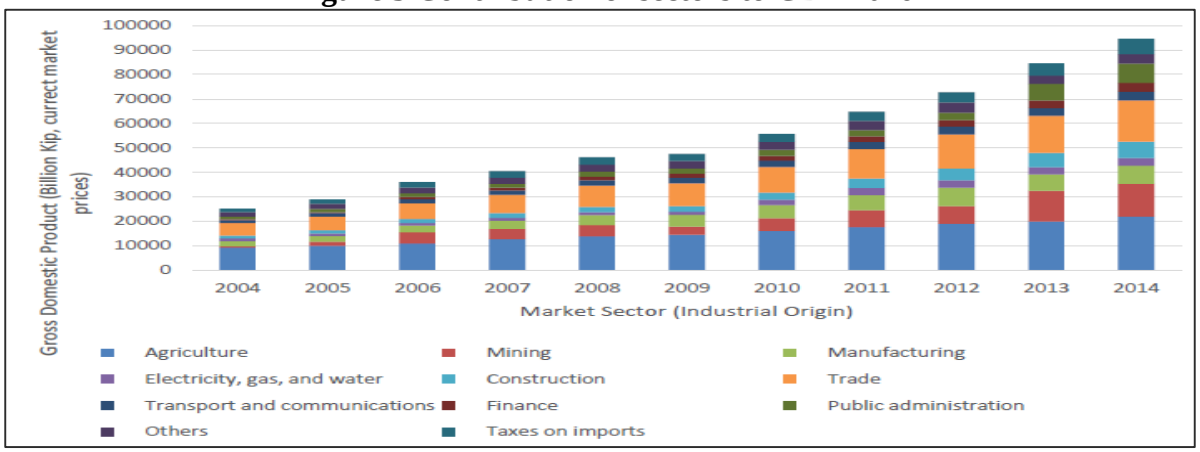
### *3.1.11 Mineral resources*

Lao PDR has numerous geological belts and a wide variety of metallic and non-metallic minerals, with more than 570 known mineral deposits. Commodities include gold, copper, nickel, tin, coal, bauxite, potassium, gypsum, iron, gemstones, sodium chloride, lead-zinc, silver, manganese, limestone, dolomite, and barite. Nearly half (47 per cent) of these deposits contain gold, copper, lead and/or zinc. In recent years the Lao PDR has seen foreign direct investments in the mining sector. As mineral prices have risen mining this has become an increasingly important sector in Lao PDR's economy.

Exploiting these mineral resources is an important dimension of the government's strategy to bring about economic growth and reduce poverty. Seventy-six companies have currently been granted concessional rights to extract minerals, across 138 projects covering a total of 129,849 hectares.

The mining sector accounted for 8 per cent of GDP, about half of the country's exports, and 10 per cent of state revenues in 2010 (Phommakaysone and Homsombath 2012; Boungnaphalom 2010; Fong-Sam 2012). Mining activities provide a significant and increasing portion of the GDP, having grown to 14 per cent in 2014 from 2 per cent in 2004 (ADB 2015). When the total mining services are included this contribution is likely to rise to 20 per cent GDP. Over this time the electricity and water contribution have increased from approximately 1,000 Billion kip (3 per cent of GDP) to 3,100 (4 per cent) as depicted in Figure 4.

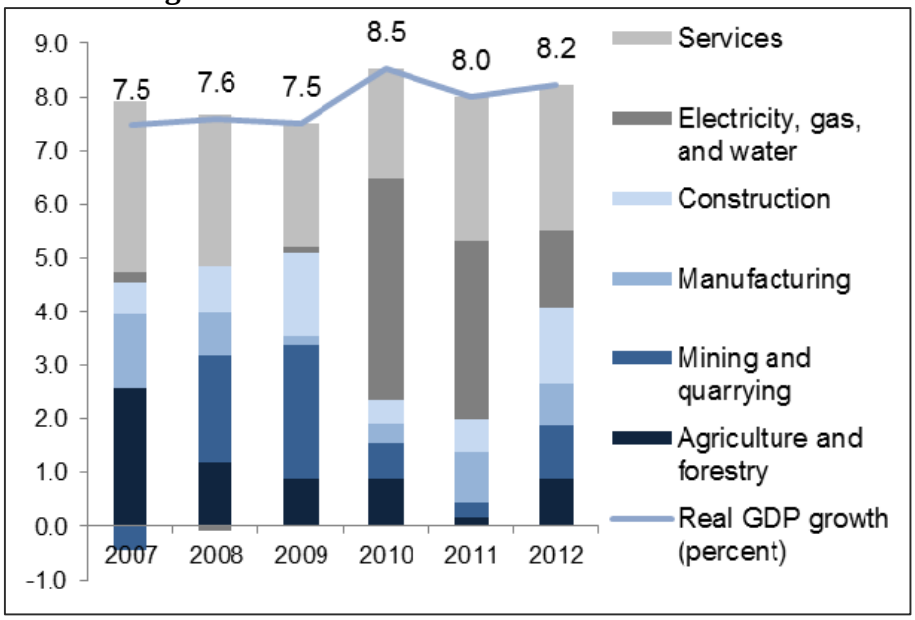
**Figure 3 Contribution of sectors to GDP 2016**




However, the contribution from the mining sector is expected to gradually decline, as current projects reach their end of their mine life, and the issuance of PM Order No. 13 in 2012 on Moratoriums on Concessions for Mining, Rubber and Eucalyptus Plantations. See Figure 5 for a map of mining areas in Lao PDR.

Outside of the resource sectors greater regional integration and improvements in the business environment are expected, as a result of the implementation of the Government Order No.025. This Order aims to improve the ease of doing business, open up opportunities for agriculture, agro-processing, tourism, and trade as well as in manufacturing, which could promote opportunities for Lao PDR to become part of regional value chains. These sectors have significant potential to create jobs and further reduce poverty.

**Figure 4 Lao PDR GDP of market sectors 2016**




## 3.2 Drivers of deforestation and forest degradation

### *3.2.1 Background*

In general there was an increase in the rate of forest loss comparing the change seen in the 1980s and the 1990s, an effect that was particularly felt in the Northern Region of the country. In more recent times, studies show a decline in the rate of deforestation over the second half of the last decade. The annual gross deforestation and forest degradation in the ER Program area

between 2005-2015 was approximately 72,000 ha, compared to 181,000 ha for the national scale, approximately 40% of the deforestation and degradation in the country took place within ER-P six provinces. However, the comparably large size of the ER Program area, which is more than one third of the total land area of the country, does also help explain this figure.

In 2015 Conservation Forest has the highest forest cover rate of 70.9-74.4%, with Production Forest at 63.0-69.2% and Protection Forest at 52.4-57.9%, which is almost same as the national average. Uncategorized land area ("Others" in the table) has lowest forest cover of 42.9%, but there are still more than 3 million ha of Current Forest equivalent to 23.5% of the total Current Forest. Table 8 indicates forest cover loss by forest category during 2005-2015 in the ERP area.

**Table 8 Forest cover loss 2005 - 2015**

| Forest Category | Area (Ha) | | |
|---|---|---|---|
| | 2005 | 2015 | Loss |
| Production | 2,237,000 | 2,142,000 | 95,000 |
| Protection | 4,779,000 | 4,619,000 | 160,000 |
| Conservation | 3,532,000 | 3,470,000 | 62,000 |
| Sub Total | 10,548,000 | 10,230,000 | 318,000 |
| Un categorized | 3,328,000 | 3,139,000 | 189,000 |
| **Total** | **13,875,000** | **13,369,000** | **506,000** |

Forest loss in the un-categorized land area is the largest in terms of both area and percentage. These forests are mostly under village management, due to a lack of clear ownership and management systems. Due to the vicinity of these forests to residential areas of villages they are subject to open access and conversion to crop production, road construction, and logging. Among the three categories Production Forest lost about 95 thousand ha and 4.2% from 2005, Protection Forest 160 thousand ha and 3.3% and Conservation Forest 62 thousand ha and 1.8% respectively.

For the ER Program, the categorization of drivers of deforestation and forest degradation was shaped by the three of analyzing the drivers; namely, i) wall-to-wall mapping based on change detection using remote sensing, ii) a spatial drivers analysis based on Hansen tree cover loss data and attribution of disturbances for change, and iii) stakeholder consultations held through a number of workshops conducted at provincial and local levels.

However, REDD related projects in Lao have generally made relatively conservative choices on the identification of deforestation and degradation drivers focusing on smallholder-related shifting cultivation and smallholder agricultural expansion, to the exclusion of drivers such as agro-industrial concessions, mining concessions and energy and transportation infrastructure. The ERPD and SESA attempt to address all the relevant drivers at work in the ER-P area.

The forests in the proposed ER-P accounting area are under significant pressure from multiple threats and forest cover has continued to decline, as reported in the six ER-P PRAPs and the ERPD, which has led to both deforestation and forest degradation over time. One of the most significant policy goals included in the Forest Strategy is the target for the restoration of forest cover in Lao PDR to 70% by the year 2020. However, the forests in Lao continue to play a particularly important socio-economic role especially for forest dependent ethnic minority communities who occupy many parts of the forested parts of the ER-P area.

Deforestation and degradation of forest in Lao has long been known to lead degraded land, from soil erosion and soil degradation etc. and the impact of degraded land can have serious implications for poor households as often their livelihoods depend of forestry or forest related activities. High rates of deforestation and degradation can potentially result in the rapid

transformation of the landscape leading to the loss of critical ecosystems and biodiversity, and detrimental changes to the socio-economics of an area.

**Direct drivers of deforestation in the ER-P area**

The loss of forests to permanent agriculture is an important driver in the ER-P area and this driver includes general agricultural expansion, particularly industrial tree plantation development.

Loss of forest due to shifting agricultural cultivation practiced by the communities living in the ER-P area can also lead to deforestation. Although this can initially thought of a small scale, over time and coupled with expanding population (leading to increased land pressure, which may also result from other factors e.g. infrastructure) and reduced rotation time, this can have a significant impact on forested area.

The underling causes for both of the agricultural related drivers include the changing economics of the country, including improving opportunities for investment and opening up of trade links particularly to China and Vietnam; and consequent increasing market demands. Introduction of improved agricultural techniques including better planting material and crop protection have also contributed. Finally government policy and institutional issues have also made a contribution. Here it needs to be recognized that some of the policies that have been supported by the government would generally be looked upon as agricultural crop production success stories and, not unreasonably, economic growth is one of the primary objectives for the national government.

An important driver of deforestation in the ER-P is due to infrastructure this includes: hydropower, mining, roads, railway and other infrastructure development. The underlying cause for this driver is government supported economic development polices and related intuitional issues. For some decades Lao has made long-term investments in a variety of large, medium and smaller scale hydropower projects. These were seen offering long-term opportunities for economic development. When a large-scale hydropower project is given a go ahead and before the impoundment of the reservoir can begin the reservoir area needs to be clear of all trees. Subsequently, other infrastructure projects followed including more recently an important railway linking China and Thailand.

Deforestation due to illegal logging is generally thought to be an important driver. However, the quantification of the full extent of illegal logging is not easy to assess, but it has been reported as having an important impact on forested landscapes in all the ER-P provinces. Direct small-scale deforestation by illegal loggers often has knock-on negative impacts including the building of poor access roads used to extract the timber from remote areas. This in turn facilitates increased encroachment into the remote forests due to improved access to previously inaccessible areas.

Illegal logging is exacerbated by weak forest governance and law enforcement, which has further permitted the expansion of illegal activities in the forestry sector in Lao PDR.

**Direct drivers of forest degradation**

An important driver of forest degradation in Lao PDR continues to be illegal logging and unsustainable timber extraction often this is related to commercial logging operations. In the district-level consultations, most districts identified illegal logging as one of the main drivers of forest degradation, and as a priority activity to be addressed.

Shifting cultivation also contributes to forest degradation depending on the scale and length of rotation it also has the potential to cause fragmentation of contiguous forests, which can be of particular importance for biodiversity.

Fuel wood collection is another activity that can result in forest degradation due to unsustainable wood extraction from forested areas. The quantification and impact of this driver is difficult as rural households while often very dependent on fuel wood will generally try to extract, dry dead wood rather than wholesale cutting down of forest, so the impact is often disbursed or may focus on particular tree/ wood burning properties.

Table 9 provides an overview of the key drivers in the ER-Program area of deforestation and forest degradation.

**Table 9 Summary of Drivers of Deforestation and Degradation**

| | Luang Namtha | Luang Prabang | Sayabouri | Bokeo | Oudomxay | Huaphan |
|---|---|---|---|---|---|---|
| Expansion of agricultural land for cash crop cultivation | +++ | +++ | +++ | ++ | +++ | +++ |
| - Rubber plantations | +++ | ++ | + | +++ | +++ | |
| - Banana plantations | | | | ++ | ++ | |
| Shifting cultivation and pioneering expanding agriculture for subsistence (deforestation/degradation) | +++ | +++ | ++ | +++ | +++ | +++ |
| Unsustainable and Illegal logging by companies (degradation) | ++ | ++ | ++ | +++ | ++ | + |
| Infrastructure development (hydropower, mining, road construction) (deforestation) | + | + | + | ++ | ++ | + |
| Forest fires from agricultural practices, shifting cultivation land expansion, hunting (deforestation/ degradation) | + | + | ++ | ++ | + | + |
| Unsustainable and Illegal logging and fuel wood collection by villagers (degradation) | + | + | + | + | + | + |

**Legend:** The importance level of the individual drivers is based on the relative scale of deforestation and forest degradation in the provinces. "+" indicates the level of relative importance per province, "+++" being "relatively high importance" and "+" being "relatively low importance".

**Deforestation, forest degradation and food security**

Overall food security has been improving in Lao PDR in recent years, in 2011, Lao PDR achieved a GNI per capita of US$1,010, enabling it to move from its status as a lower income economy to a lower-middle income economy. At its current rate of growth, the country is on track to achieve its goal of graduating from a Least Developed Country by 2020. Lao PDR's poverty levels have decreased, with the proportion of poor people falling from 39 percent of the population in the mid-1990s to 27.6 percent in 2010 (IFAD). More than three quarters of the population live in rural areas and depend on agriculture for their survival. Agriculture is largely practiced at subsistence levels. Poverty is particularly high in the upland areas of the country, with rates as high as 43 percent compared with 28 percent in the lowlands (UNICEF).

### *3.2.2 Agricultural expansion and agricultural plantations*

The conversion of forest in the ER-P area has been undertaken for the expansion of larger scale permanent agricultural lands or agricultural plantations. Annual cultivation of cash crop monocultures has emerged as a direct result of the commercialization and with the creation of new market opportunities. The majority of the commercial crop production is undertaken on

the basis of contract farming agreements between companies and household farmers or villages, with some investment in industrial concessions. The rapid commercialization of agriculture seen over the past decade has had a mixed impact on livelihoods and the environment. Social concerns include increased vulnerability to economic shocks such as market volatility and environmental fluctuations, greater vulnerability of farmers to exploitation, due to lack of familiarity with contractual obligations and poor awareness of market mechanisms, increased conflicts over land, greater inequality between higher and lower earning families, higher levels of household debt, greater long-term economic risk due to environmental degradation. Environmental degradation concerns include increasing surface water runoff, soil erosion, and soil nutrient loss, increased use of chemical pesticides and fertilizers, reduced fallow periods, encroachment of agricultural areas into protected forests thereby reducing forest cover and increasing forest fragmentation.

Examples of key crops that are attributed to deforestation and forest degradation include:

- **Maize** The maize crop has expanded extensively since the introduction of contract farming systems in the early 2000s, peaking around 2007/08 and subsequently leveling off, particularly in Sayabouri, Oudomxay and Houaphan provinces. Maize is cultivated primarily for use in livestock feed, and much of the production is exported to neighboring countries such as Thailand, Vietnam and China.
- **Banana plantations** These were identified as a major driver in Luang Namtha, Oudomxay and to a lesser extent Bokeo. Prime Minister Order No. 483 banned the establishment of new banana concessions and established a plan to phase out banana production in seven provinces (Luang Namtha, Bokeo, Oudomxay, Luang Prabang, Sayabouri, Phongsaly and Vientiane provinces).

### *3.2.3 Shifting cultivation*

The dominant broad scale agricultural livelihood activity in the rural uplands in the ER-P area is shifting agriculture, also referred to as swidden or 'slash and burn' agriculture, in which forested or fallow land is cut and subsequently burnt before cultivation of specific upland rice varieties. While other crops, such as maize, cassava, soy, chilies, sesame or Job's tears, are also grown, rice has traditionally been planted on the significant majority of available arable land. Shifting agriculture is practiced in either a rotational or pioneering manner in which the same land is either reused on a cyclical basis or virgin land is newly cleared respectively. However, it generally relates to the conversion of forest or regenerating vegetation for shifting cultivation - rotational agriculture using slash and burn practices, where land undergoes rotations of four to nine years. Rotational practices if stabilized in location and managed properly, including control of fires, can be sustainable. Considering the sub-tropical moist conditions of most of the project area, bush fallow can recover back to forest status within the average shifting cultivation cycle.

Whether households practice rotational or pioneering forms of shifting agriculture is often linked to ethnicity, with certain ethnic groups, such as the Hmong, being associated with pioneering practices in particular. In many cases families will plant other crops, such as vegetables and livestock feed, and will collect NTFPs from the surrounding fallow areas. Shifting agriculture offers a diverse set of livelihood opportunities and thus provides a safety net to reduce vulnerability to environmental uncertainty. Off-farm employment opportunities are typically limited in rural areas (unless off-farm out of the village work is sought), but those households with poor access to agricultural land may supplement their earnings through contract work with other farming households.

Forest fires can be triggered by slash and burn cultivation and have been noted as a driver of deforestation and forest degradation in many districts and *kumbans*.

Examples of key crops associated with deforestation and forest degradation include:

- **Upland rice** is a key crop for house hold food security in the ER-P area, especially in areas with limited suitable flat land with access to water for paddy rice cultivation. Yields are often much lower in upland rice production systems compared to paddy rice.
- **Maize** is also can also widely cultivated in upland areas and often on steep slopes.
- **Job´s tear** is cultivated in upland areas, often in areas with poor irrigation and low soil fertility, as is considered a low labor low input crop. Job´s tear is grown and dried before it is exported to neighboring countries, especially China and Thailand. Most provinces have identified Job's tears as a crop to increase production area for, in the coming years.

**Importance of NTFPs**

NTFPs form another important component of upland livelihoods although estimates of the importance vary. Bounthong et al. (2003) report that NTFPs account for 40-60% of household income although the primary data for this is not presented. It is unlikely though that this figure represents the full contribution of NTFPs to household livelihoods since many of the products which are collected have little commercial value and are consumed in the home. These include firewood, building materials, forest vegetables, mushrooms and medicinal products among others. NTFPs provide important sources of food, particularly for poorer rural populations during non-cropping seasons. Income derived from the sale of NTFPs can also be used to buy food. However, the unsustainable collection of commercial quantities of NTFPs, particularly medicinal herbs and orchids which are particularly exported to China, and the wholesale collection of these plants, and especially the medicinal orchids, can act as a contributing factor to further forest degradation, particularly as collectors may have to travel further away from a village to collect the NTFPs.

### *3.2.4 Road and electricity infrastructure*

The construction of roads and electricity lines cause the direct removal/conversion of forest areas. This includes the direct areas for the roads or power lines, as well as buffer zones for maintenance and construction.

While such investments may be key for the development of the region, the lack of effective control, law enforcement and monitoring of environmental concerns and issues has generally led to increased unauthorized and unplanned clearing and harvesting in forests due to infrastructure development.

### *3.2.5 Industrial tree plantations*

This involves the conversion of forest for the establishment of tree plantations, especially rubber and to a lesser extent teak. Rubber has been a major driver of deforestation in the provinces of Luang Namtha, Bokeo and Oudomxay. It was introduced through promotion by local government as a means to stabilize shifting cultivation practices, and also through investors from China and Vietnam. In particular, Chinese investments have seen Lao as a favourable destination for investing in rubber to supply the factories in China and has been supported by government policy incentives to promote replacements to opium cultivation. In the GCF project area rubber investments primarily take on the form of contract farming arrangements, as opposed to plantations which occur in the south of the country. A number of factors have impacted the trends in rubber investments, including labor shortages for tapping, global rubber price fluctuations, and the introduction of alternative crops, namely banana.

### *3.2.6 Mining*

The conversion of forest is often required for the establishment of mines/ mining operations. Major mining investments account as major driver of deforestation, but the investment in mines are also seen as a cornerstone of national economic growth.

- Mining products accounted for over 58% of total export value during the period 2011- 2015.
- Legal mining operations occur on over 100,000 ha of land in the six provinces according to available documents. In coming years, mining activities are likely to expand in the Northern region. Figure 5 Map of Mining Tenements and Companies in Lao PDRillustrates mining tenements and companies in Lao PDR.
- The lack of effective control, law enforcement and monitoring has generally led to increased unauthorized and unplanned clearing and harvesting in forests due to infrastructure development.
- PMO 30 (2012), and PMO 08 (2018) aim to limit unsustainable clearing of land forming activities, although many exceptions exist where clearing is still permitted.

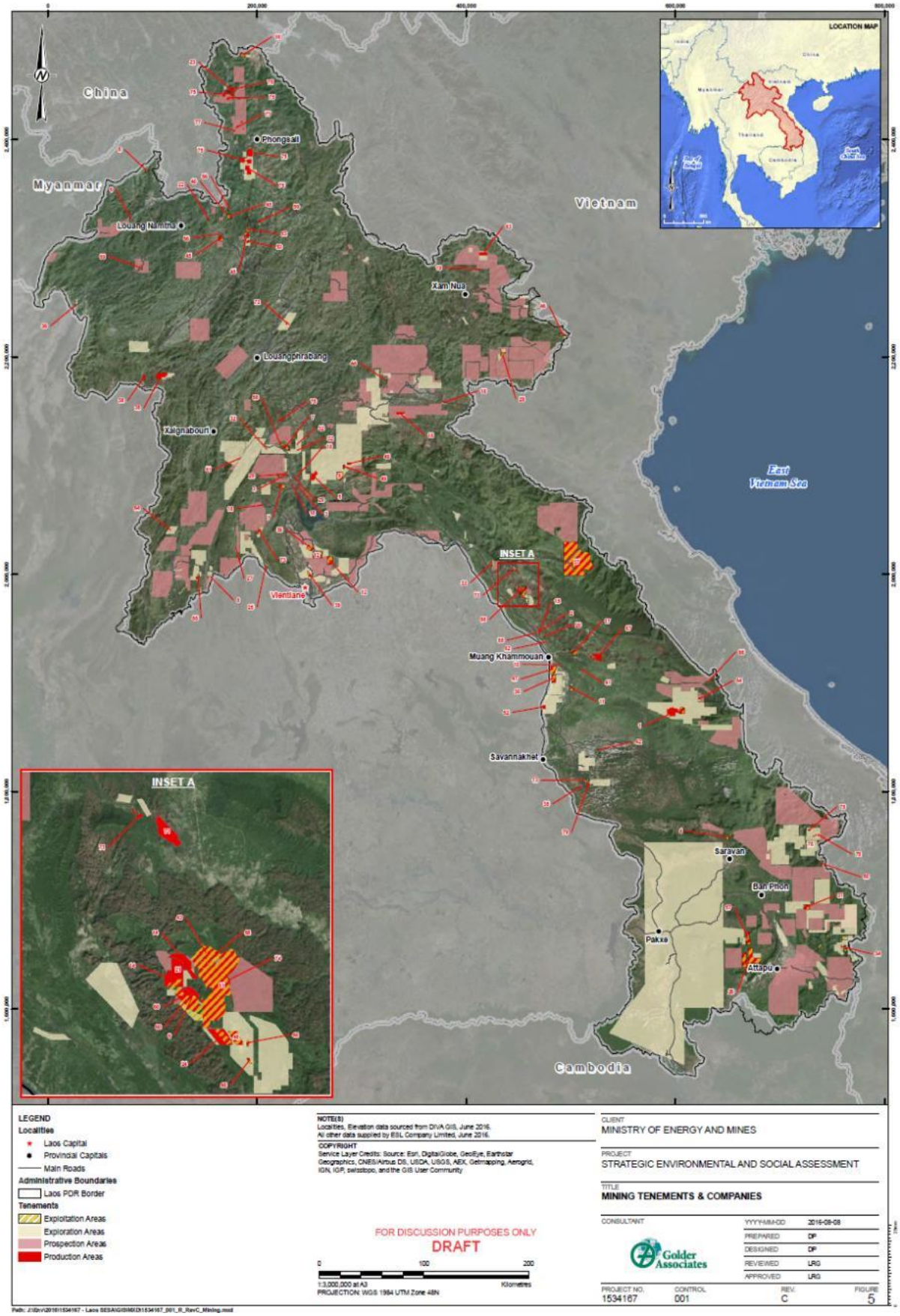
### *3.2.7 Hydropower development*

Development of an hydropower scheme directly leads to deforestation and forest degradation this occurs through the clearance of the reservoir impounding areas roads, and clearance of forest for access roads, power lines, townships etc.). In addition to direct and indirect deforestation from the development of supporting infrastructure it can lead to the displacement of local populations and villages. This can create more pressure on other forest areas further away from the scheme due to village relocation. This can result in a change in agricultural practices if, for example, flat lowland paddy areas are lost due to inundation of the reservoir. Inevitably this leads to the opening up of new upland agricultural areas as 'compensation' for the lost flat lands (or land located close to the river). Hydropower schemes in Lao have typically been built in remote upland areas and due to improved access to previously inaccessible areas, this has allowed deeper encroachment into forests leading to at least further forest degradation. In some areas, the current unsustainable pressure on forests results not only from unsustainable logging, but also from insufficient community access to land. This often happens where land access has been limited by government programs (e.g. LUP, land allocation, resettlements) or where villagers have lost land to government-approved commercial concessions or hydropower projects. Weak land tenure security in rural areas, where often only customary rights are followed, land grabbing has increasingly resulted in the loss of communal and household land. In such cases, villagers are under increased pressure to encroach into forest areas and undertake pioneering shifting cultivation to produce rice and avoid food insecurity, or supplement income through illegal logging.

Major hydropower infrastructure investments represent major drivers of deforestation, but as with mines they also have the potential to make a major contribution to national economic growth in Lao. Similarly, with mines the lack of effective control, law enforcement and monitoring of environmental aspects has generally led to increased unauthorized and unplanned clearing and harvesting in forests due to infrastructure development.

GoL is aware of the challenge to quantify the full extent of the impacts of hydropower on forest areas and carbon stocks due to limited data and availability. Furthermore, data is often incomplete, or the reported areas are not realistic given the land area in the district and or province. For instance, the total inundated area for existing and planned hydropower plants is often unknown.

**Figure 5 Map of Mining Tenements and Companies in Lao PDR**



### *3.2.8 Selective logging and unsustainable harvesting*

Unsustainable selective logging, both legal and illegal, is considered as an important driver of forest degradation. Emissions from such selective logging, in addition to degradation are accounted for through the forest cover change (see Table 9). Taking account of the Government's strong commitment to tackle illegal logging, the FREL/FRL attempts to explore methods to quantify historical emissions caused by selective logging.

Forest degradation due to unsustainable harvesting:

- **Unauthorised logging** for commercial purposes is considered to be an important driver of forest degradation, and a major issue for the country. Within the project area illegal logging is particularly an issue along the borders with Vietnam, where a thriving timber market and increasingly stringent national forest regulations have driven up prices for natural timber species. This logging is often very difficult to police as it often takes the form of selective logging, rather than large scale logging which may be easy to locate, in remote areas for a high value species which is then exported to Vietnam or China. In the district level consultations, most districts identified unauthorised logging as one of the main drivers of forest degradation, and as a priority activity that needs to be addressed. Aside from directly causing forest degradation unauthorised loggers often provide access to more remote areas leading to further deeper encroachment into forests, due to improved access to previously inaccessible areas. The scale of unauthorised logging activities is unknown as are the clear significant economic losses in tax revenue, export tariffs, permit fees, and timber processing in the country.

There are various other activities that contribute to the current rates of unsustainable wood extraction, although to a lesser extent than unauthorised logging. These activities include:

- **Legal commercial logging** has occurred at relatively limited scales. Quotas have been provided by the central and local governments, who also directly receive revenue from commercial logging. Since 2013 there has been a temporary national moratorium on logging in production forests (PMO 31), which has been further extended for implementation through PMO 15 (2016).
- **Small scale logging quotas** can be requested by Government officials and villages for local construction and personal use. It is not clear how many small-scale quotas are given out on an annual basis, however, with insufficient forest control and law enforcement it is likely that logs for personal use and local markets are often illegally harvested. Small scale illegal logging may also occur amongst villagers for the harvest of small trees for construction, as well as for sale to local businesses and villagers.
- **Fuel wood collection** is another activity, which can result in forest degradation, due to unsustainable wood extraction from forested areas. Increasing efforts to promote rural electrification may reduce fuel wood use in the long term. However, in the short and medium term wood remains the preferred fuel for cooking and heating in the provinces, although the scale is very small.

**Summary of ER-P measures to address underlying causes of the drivers**

Maintaining access to land and natural resources, including village forests and fisheries, is an important aspect of food security and nutrition. The rural poor have few assets apart from village land and communal natural resources. The main immediate socio-economic issues identified in influencing people's decision-making at a local-level on forest use (including clearing of forest) were the site conditions, resource management issues, local cultural issues, local development priorities, availability of technology, access to resource areas and markets, land tenure security and awareness.

The ER-P aims to reduce land and forest tenure insecurity in rural areas by improving land tenure security and land use planning thereby improving and sustainably managing land and forests. It is envisaged that this can contribute to increase rural productivity of food products, cash crops, and resources.

An important GOL policy intervention which has been used towards this goal has been the implementation of the Land Use Planning and Land Allocation (LUPLA) program. The aim of this program has been to implement land use planning in all villages to designate specific areas within the village boundary to varying degrees of use or protection.

The policy, legal, and regulatory framework is generally adequate for managing the country's forest resources, however, problems with implementation and enforcement means that the situation on the ground is variable between provinces. For example subsistence logging by villagers (referred to as harvesting for 'customary use' in legal documents) in natural forests is somewhat unclear as interpretation tends to vary by province. The on-going revision of the Forestry Law is reviewing this, along with the process of developing the timber legality definition under the Forest Law Enforcement, Governance and Trade (FLEGT) initiative; the ER-P continues to provide support for forest governance.

## 3.3 Social and economic overview

### *3.3.1 Demography*

Lao People's Democratic Republic (PDR) has 18 provinces, 148 districts, and 8,507 villages.

**Population**. The 4th Population and Housing Census (PHC) was conducted in 2015 according to Prime Ministerial Decree No.89/PM, dated September 11, 2013. The PHC has been conducted in the country every 10 years since 1985. The 2015 PHC collected data on important demographic and social characteristics such as age, sex, marital status, religion citizenship and ethnicity.

According to the 2015 census, Lao PDR has 1,183,386 households, with a total population of about 6.5 million, including 3.23 million women and girls. Over the past three decades the population has increased from 3.6 million (in 1985) to 4.5 million (in 1995), and to 5.6 million (in 2005). Since the previous census the population increased by 1.45 per cent annually. On average, the current national population density is 27 persons per square kilometer, with rural residents comprising 67 per cent of the country's total population.

**Poverty** continues to decline in Lao PDR. Poverty rates were reported to have decreased from 46 per cent (1992) to 46.0 per cent (1993), 23.2 per cent (2013) and 23 per cent in 2015. Poverty is still ranked as one of top priorities for the government to address and this issue is also highly relevant to land and forestry.

Recent estimates from the Lao Expenditure and Consumption Survey carried out in 2012/13 (LECS 5) show that the national poverty headcount rate was 23.24 per cent in 2012/13. Poverty has fallen by 4.3 percentage points from 27.56 per cent in 2007/8, and poverty has fallen in each of the five-year periods since the first LECS survey was conducted in 1992/3. Overall, poverty halved from 46 per cent at the time of the first LECS survey. See map in Figure 6 for the poverty head count by district.

About two-thirds of the Lao population live on an average of less than PPP USD 2.00 per day, compared to less than 20 per cent in Vietnam and less than 10 per cent in Thailand.

- Poverty is also higher among households headed by persons with less education, a disproportionate share of whom are ethnic minorities, and those who primarily depend on agriculture, or are unemployed.

- The rural poverty rate is more than double the urban rate. This discrepancy is most pronounced in the north of the country.
- The fastest decline in the poverty headcount rate took place in the north, with the reduction being greatest in Luang Namtha (14.4 percentage points) and Huaphan (11.3 percentage points).

Further information on poverty differences by province was provided in another study, which examined poverty at the individual level and covered nearly 6.3 million people, of whom more than 1.5 million individuals were reported to be poor.

**Provincial differences in poverty** are due to numerous factors. As indicated in Figure 6 and Table 10, Huaphan Province has the second highest rate of poor people in the country, with 37 per cent of 285,450 individuals categorised as poor. Poverty rates have decreased closer to Thailand, Vietnam and Chinese borders, due to the introduction of cash crops, such as sacha inchi and Maize, and also due to wage labour opportunities in Chinese plantations. Moreover, more contract farming occurs in these parts of the country. The porosity of the international borders allows transnational ethnic groups, such as the Akha and Hmong in Northern Laos, to follow the model of progressive farmers who have long ago become entrepreneurs, who are willing to switch to cash crops and participate in markets.

**Figure 6 District Poverty Headcount**

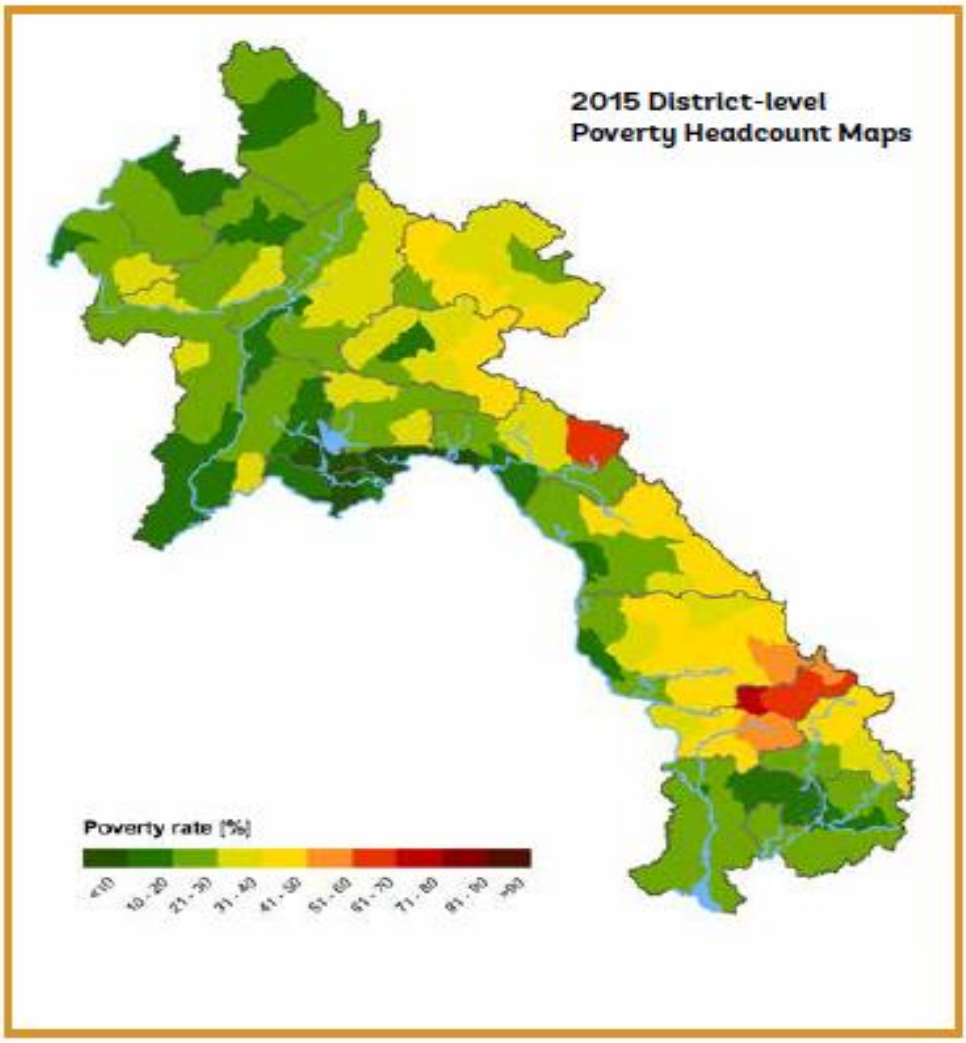


**Table 10 Population and poverty**

| No | Province | Total individuals | Poor individuals | Percentage ( per cent) |
|---|---|---|---|---|
| 1. | Huaphan | 285,450 | 105,680 | 37.0 |
| 2. | Oudomxay | 295,813 | 75,327 | 25.5 |
| 3. | Bokeo | 171,585 | 43,738 | 25.5 |
| 4. | Luang Prabang | 418,000 | 95,575 | 22.9 |
| 5. | Luang Namtha | 168,434 | 35,524 | 21.1 |
| 6. | Sayabouri | 368,267 | 74,325 | 20.2 |
| **Total** | | **1,707,549** | **430,169** | **25.19** |

Source: LaoPDR 2015 Census-based poverty Map: Province and District Level Results

The poverty situation varies considerably between the well-established lowland villages with paddy areas (especially of the Lao-Tai groups) and the mid and upland villages of ethnic minorities, including those who have moved or have been resettled to lower lying areas. The mid and upland villages have little or no paddy areas, thus making the livelihood situation of the overall village generally more precarious. Rice shortages are common in such villages, while traditional coping mechanisms (such as opium poppy cultivation) can either no longer be used or have become less effective livelihoods.

Prevalence of stunting among children from the poorest households is three times higher than found in the richest households, although even amongst the richest households 20 per cent of children are stunted. The highest incidences of stunting are in the upland areas among the non Lao-Tai ethnic groups, where it was found that 27 per cent of children are underweight and 6 per cent wasted; and 42 per cent of children under-five years of age, including 63 per cent of children under two years of age, are anemic. Anemia also affects every third woman in the country (529,000 women of reproductive age). Since the early 1990s, stunting has declined at an average annual rate of 0.8 per cent, less than the average Lao population growth rate of 1.4 per cent. Over time, gains made in stunting have occurred in the second and middle wealth quintile, while nutritional gains for the poorest remain flat. Nutrition improvements depend on many sectors and translating food security and consumption impact into nutritional status requires concurrent improvements in health, sanitation, and care and feeding practices.

### *3.3.2 Economic situation*

Lao PDR's economic growth has moderated in recent years, but remains comparatively high, with income per capita reaching USD 2,330 in 2017. GDP growth averaged 7.8 per cent over the last decade, driven by the country's natural resources. Approximately one-third of this growth is attributed to hydropower, minerals and forests. Economic growth remained vibrant in 2018 with GDP at 6.9 per cent, although slower compared to earlier years. In terms of private investments, 1,222 investment projects were approved for domestic and foreign businesses over the past nine months, with a registered capital of over 25.5 trillion kip (USD 3.13 billion). Out of the total, nine projects were approved in the form of concessions, worth USD 447 million. Approval was given to another 33 projects for operation in special and specific economic zones, with a total value of USD 443.9 million.

Nationwide, the percentage of self-employed workers stands at 85 per cent. The unemployment rate among prime-age individuals is rather low at 1.1 per cent, but the unemployment rate for the younger population is almost four times higher at 4.2 per cent. To date, approximately 80 per cent of the workforce remains engaged in subsistence agriculture and related activities. Lao people are highly dependent upon the primary economic section (i.e. the extraction of natural resources for their livelihoods, such as foraging for non-timber forest products, fishing and traditional agriculture).

### *3.3.3 Social services*

Public health services in the Lao People's Democratic Republic are primarily provided through a network of health centers and district, provincial and central hospitals. There are four central general hospitals and three specialist hospitals in the capital, 16 regional and provincial hospitals, and approximately 130 district hospitals, 860 health centers, and around 5239 village drug kits. Three out of every four villages in the country have a primary school.

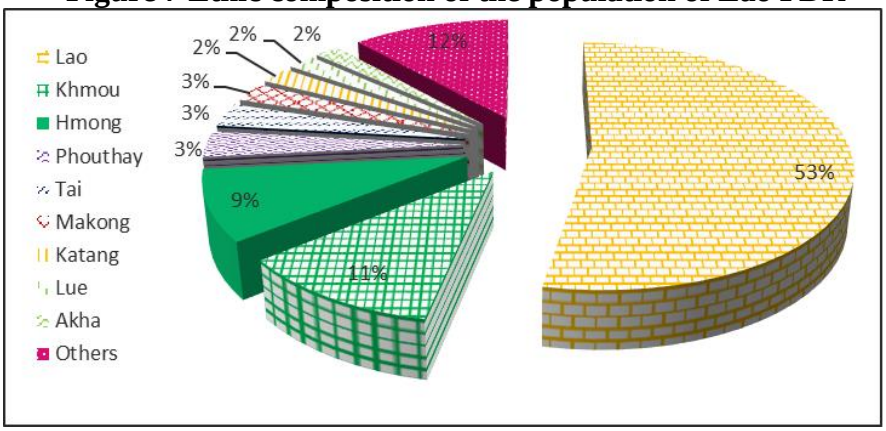
## 3.4 Ethnic groups in the project area

Lao PDR has endorsed the International Labour Organization Convention 169 on Indigenous and Tribal Peoples (ILO 169, 1989) and ratified United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) but the GoL does not recognise the concept of indigenous peoples in its policies and legislation. Instead, the term "ethnic group" is officially used to describe its people, who are categorised into 50 broad ethnic groups. The GoL currently recognises 160 ethnic sub-groups.

The ethnic Lao account for slightly over half of the nation's total population (53 per cent). When combined with other ethnic groups in the Lao-Tai ethno-linguistic family, the ethnic Lao comprise two-thirds of the population. The population of the non-Lao-Tai ethnic groups is greater in the Northern provinces. The ethnic Lao-Tai groups dominate the country economically and culturally. However, in some pockets of the country the number of non-Lao-Tai ethnic groups exceeds that of the ethnic Lao. Khmu and Hmong are the second and third largest ethnic groups respectively. Each of these two ethnic groups comprises more than half a million individuals.

A 1999 map of Ethnic Groups of Laos showed the spatial distribution of ethnic groups throughout the country, with the Hmong-Mien and Sino-Tibetan groups found primarily in the North. The Lao ethnic group is dominant covering 53 per cent of the total national population, followed by Khmu (11 per cent) and Hmong (9 per cent) and the rest are 3 per cent or lower. See Figure 7.

**Figure 7 Ethic composition of the population of Lao PDR**




Ethnic group diversity is reflected in a rich diversity of ethnic languages. Each ethno-linguistic family is divided into main ethnic groups and is further described through sub-ethnic groups. Some ethnic languages are only spoken languages and do not have written forms. While some ethnic languages have enough similarities that make mutual understanding possible, although for others it is impossible to communicate. For example, the Lao-Tai and Tai-Kadai ethnic groups share approximately 90 per cent of their vocabulary, so it is relatively easy for them to reach mutual understanding. The communication situation is similar among ethnic groups within the Sino-Tibetan linguistic family. However, the Mon-Khmer are Austro-Asiatic speakers and are divided into many sub-ethnic groups and they use languages that are not easily

mutually comprehended. Hmong-Mien use Chinese characters and it is difficult for them to understand each other.

Main ethnic groups of ER Programme are as follows:

1. Lao-Tai Ethno Linguistic Family consisting of six groups:
   - Lao and Tai groups are found in all six provinces.
   - Nyoun group is found in four provinces, but not in Huaphan and Oudomxay provinces.
2. Mon-Khmer Ethno Family has nine groups:
   - Khmu group is found in all six provinces.
3. Hmong –Mien Ethno Linguistic Family, have two ethnic groups:
   - Hmong and Ew-mien groups are found in all six provinces.
4. Sino-Tibet Ethno Linguistic Family consisting of five ethnic groups:
   - Phou Noy and Ho groups are found in four provinces, but not in Huaphan and Sayabouri provinces.

Other groups are generally found in three or less provinces.
While cultural traits may explain some variations in literacy, socio-economic factors and geographical location that affect access to education may also have an impact. For example, in some ethnic groups the proportion of people who have never attended school reached more than 50 per cent in some cases, including Lahu (63 per cent), Akha (50 per cent), Tri (54 per cent), and Katang (41 per cent).

**Education** is strongly correlated with ethnicity. Non Lao-Tai ethnic groups make up a third of the population, but constitute a disproportionate share of people in households headed by someone with no formal education (64.4 per cent) or incomplete primary education (44.2 per cent). Education among the various ethnic groups varies greatly. Mon-Khmer and Hmong-Mien, the second and third largest groups, have similar literacy levels in the national language, which is Lao (71.1 and 69.8 per cent, respectively). The lowest literacy rate was observed among the Sino-Tibetan speaking group at 46.8 per cent as illustrated by Table 11.

**Table 11 Ethnic group literacy rates**

| Ethnic group | No formal education | Some primary | Completed primary | Completed lower secondary | Completed upper secondary | Completed vocational training | University degree | All |
|---|---|---|---|---|---|---|---|---|
| Column percentages-distribution of education attainment across ethnic groups | | | | | | | | |
| Lao-Tai | 35.7 | 55.8 | 71.4 | 78.3 | 89.9 | 87.0 | 84.7 | 66.4 |
| Mon-Khmer | 34.4 | 33.0 | 20.5 | 12.6 | 4.9 | 8.3 | 6.9 | 22.3 |
| Sino-Tibetan | 15.1 | 2.0 | 1.5 | 1.5 | 0.9 | 1.7 | 0.3 | 3.4 |
| Hmong-Lu Mien | 14.5 | 7.6 | 5.8 | 7.3 | 4.1 | 2.9 | 7.3 | 7.1 |
| Other | 0.2 | 1.5 | 0.8 | 0.2 | 0.2 | 0.1 | 0.9 | 0.8 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| Row percentages-distribution of education attainment within ethnic groups | | | | | | | | |
| Lao-Tai | 7.1 | 16.9 | 49.7 | 6.3 | 11.0 | 6.8 | 2.1 | 100.0 |
| Mon-Khmer | 20.5 | 29.8 | 42.4 | 3.0 | 1.8 | 1.9 | 0.5 | 100.0 |
| Sino-Tibetan | 59.7 | 12.2 | 20.7 | 2.5 | 2.2 | 2.6 | 0.1 | 100.0 |
| Hmong-Lu Mien | 27.1 | 21.5 | 37.4 | 5.5 | 4.7 | 2.1 | 1.7 | 100.0 |
| Other | 3.2 | 39.0 | 51.3 | 1.5 | 2.4 | 0.7 | 1.9 | 100.0 |
| **Total** | **13.3** | **20.1** | **46.2** | **5.4** | **8.2** | **5.2** | **1.6** | **100.0** |

As a result of differing education levels most government staff are ethnic Lao. In some locations, government staff have difficulty working with local villagers, as they may not know the ethnic languages. Communication with and community engagement of the non-Lao-Tai ethnic groups (i.e. Mon-Khmer, Hmong-Mien and Sino-Tibetan ethnic groups) remains a challenge. The inventory and recruitment of government staff members, including women from those ethnic groups, or reliance of local interpreters, remains a prerequisite for the government staff to communicate with different ethnic groups and to fully ensure local ownership and participation. The Lao Front for National Development has staff throughout the country that can assist the government's district and provincial staff in communication and extension work with different ethnic groups.

**Poverty rates** vary by ethnicity and is higher among ethnic minorities in general, with the non Lao-Tai contributing to 55 per cent of all poor people (2013), despite being only one-third of the population in Lao PDR (The Sino-Tibet ethnic group has been an exception and they have experienced a rapid decline in poverty in recent years). The poverty rates were highest between the Mon-Khmer and Hmong-Mien headed households; with poverty rates of 42.3 per cent and 39.8 per cent respectively, almost double the national poverty rate of 23 per cent.

Ethnicity in the six Northern ER-P provinces of Huaphanh, Luang Prabang, Sayabouri, Luang Namtha, Bokeo and Oudomxay is quite diverse consisting of a total of 23 major ethnic groups classified into four ethno-linguistic families: Lao-Tai (6 groups), Mon-Khmer (10), Hmong-Mien (2) and Sino-Tibet (5). As shown in Table 12, Lao, Tai, Khmu, Hmong and Ew-Mien ethnic groups can be found in all the six provinces. But some other ethnic groups, such as Phounoy, Ho, Lamet and Akha are common in Luang Namtha, Bokeo and Oudomxay provinces, but they are included as ethnic groups in Huaphanh, Luang Prabang and Sayabouri provinces.

**Table 12 Ethnic Groups in Six Northern Provinces (ER-Programme Area)**

| No | Ethnic Groups | Six Northern Provinces | | | | | |
|---|---|---|---|---|---|---|---|
| | | Huaphanh | Luang Prabang | Sayabouri | Luang Namtha | Bokeo | Oudomxay |
| Lao-Tai Ethno-Linguistic Family | | | | | | | |
| 1 | Lao | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 2 | Tai | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 3 | Lue | | ✓ | ✓ | X | | |
| 4 | Nyouan (Luman, Yuan) | | ✓ | ✓ | ✓ | ✓ | |
| 5 | Nyang (Ngang) | | | | ✓ | | ✓ |
| 6 | Tai Nue | | | | ✓ | | |
| Mon-Khmer Ethno-Linguistic Family | | | | | | | |
| 7 | Khmu | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 8 | Pong (Phong) | ✓ | | | | | |
| 9 | Xing (Sing) Moon | ✓ | | | | | |
| 10 | Moy | ✓ | | | | | |
| 11 | Thene | | ✓ | | | | |
| 12 | Bidh | | | | ✓ | | |
| 13 | Lamet | | | | ✓ | ✓ | ✓ |
| 14 | Sam Tao | | | | ✓ | ✓ | |
| 15 | Akha | | | | ✓ | ✓ | ✓ |
| 16 | Prai | | | X | | | |
| Hmong-Ew Mien Ethno-Linguistic Family | | | | | | | |
| 17 | Hmong | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 18 | Ew-mien | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Sino-Tibetan Ethno-Linguistic Family | | | | | | | |
| 19 | Phou Noy | | ✓ | | ✓ | ✓ | ✓ |
| 20 | Ho | | ✓ | | ✓ | ✓ | ✓ |

| No | Ethnic Groups | Six Northern Provinces | | | | | |
|---|---|---|---|---|---|---|---|
| | | Huaphanh | Luang Prabang | Sayabouri | Luang Namtha | Bokeo | Oudomxay |
| 21 | Sila | | | | ✓ | | |
| 22 | Lahu | | | | | ✓ | |
| 23 | Lanten | | | | X | | |
| **Total:** | | **8** | **10** | **(7 or 8)** | **(15 or 17)** | **12** | **10** |

Source:

✓Ms. Manivanh Keokominh, Deputy Director, Lao Front for National Development (LFND), unofficial data, 2017.

X Additional groups noted in the PRAP work. In Sayabouri were also Luman and Yuan, but they are the same ethnic groups as Nyoun.

## 3.5 Agriculture, livelihood, food security, forest use and dependenc

### *3.5.1 Agriculture, livelihood and food security*

Mountains cover roughly 70-80 per cent of total land area of Lao PDR, mostly in the northern region and along the central and southern border with Vietnam where most ethnic minorities live. Most of the population of Lao live in rural areas. Their livelihoods, and those of future generations, directly or indirectly rely on land for agricultural production and forest resources for food and income.

Agriculture production is the most dominant activity for most ethnic groups. These activities include producing rice through traditional shifting cultivation and paddy rice, perennial edibles, raising livestock and fish. Table 13 shows the main agricultural crops, covering about 1,7 million hectares nationwide. Raising animals, such as buffaloes, cows, goats, sheep, poultry and fish, is also important for local subsistence and economy. These figures highlight the importance of rice, especially in northern region where rice production involving (pioneer) shifting cultivation is most practiced. Pioneer shifting cultivation plays a part in forest destruction. Consequently, alternative strategies for rice production of equal or greater effectiveness are needed.

**Table 13 Agricultural crops in northern, central and southern Lao PDR in 2015**

| Crops | Area (Ha) | | | |
|---|---|---|---|---|
| | North | Central | South | Total |
| Tea | 4,545 | 135 | 460 | 5,140 |
| Coffee | 4,710 | 235 | 88,440 | 93,385 |
| Sugarcane | 7,064 | 16,320 | 12,745 | 36,129 |
| Cotton | 610 | 805 | 565 | 1,980 |
| Tobacco | 2,305 | 3,115 | 940 | 6,360 |
| Long bean | 610 | 855 | 1,335 | 2,800 |
| Vegetables | 50,785 | 62,090 | 66,815 | 179,690 |
| Soybean | 6,610 | 325 | 4,945 | 11,880 |
| Peanut | 9,515 | 5,645 | 5,720 | 20,880 |
| Starchy roots | 26,645 | 33,530 | 41,710 | 101,885 |
| Maize | 183,840 | 48,830 | 21,355 | 254,025 |
| Upland rain-fed rice | 87,676 | 23,035 | 6,009 | 116,720 |
| Dry season paddy | 7,647 | 66,389 | 24,983 | 99,019 |
| Lowland rain-fed paddy | 106,987 | 441,592 | 220,614 | 769,193 |
| **Total** | | | | **1,699,086** |

The agriculture sector was estimated to contribute 22,359 billion kip to the GDP in 2015. This includes agricultural cropping (14,523 billion kip), livestock and livestock products (3,908 billion kip), forestry and logging (730 billion kip), and fishing (3,197 billion kip). These figures underestimate the true extent of land and forest related activities that support rural livelihoods, as many of these activities are difficult to quantify in monetary values.

The agricultural cropping systems of Lao PDR are dynamic and influenced by many factors including land availability, land quality, land tenure, population pressure, climate, market price and market facilities, labour availability, food preferences, ethnicity and government policy. Agriculture is a key economic activity in Lao PDR and rice is the most important crop, contributing about 60 per cent of total agricultural production. Over 90 per cent of rice is grown under rain-fed conditions. In the lowlands rain-fed rice accounts for 70 per cent of the area and 76 per cent of total rice production, while in the upland environments this production accounts for about 21 per cent of the area and 14 per cent of total rice production.

Raintree and Soydara have described livelihood and land use systems in Laos. They stressed that most rural households in Laos practice "multi-livelihood" strategies, which involve a mixture of subsistence and income-earning activities. Recent studies indicate that rural villages engage in no fewer than eight and sometimes as many as 15 distinct activities. In order to achieve a measure of livelihood security, this involves combining hunting and gathering with agriculture, horticulture, animal husbandry and forestry. The principle elements of livelihood security are farming systems, dependency on the forest, and the harvest of wild animal, plants and NTFPs.

Three main systems of agricultural cultivation have historically been found in Lao PDR including: plateau plantation agriculture; lowland rice paddies, both irrigated and rain-fed; and upland rotational swidden or shifting cultivation. These three systems are often merged with one another, with no single activity being practiced to the exclusion of the others. Furthermore, there is no sharp distinction in these systems across the transition from lowland to upland and upland to highland. The general characteristics of these three systems are described as follows.

**Lowland rain-fed systems** involve one annual cropping of traditional paddy rice varieties (2-4) with yields between one and three tons/ha. Buffalo and cattle are used as draft animals, for cash income and sometimes for meat. They are free-ranging during the dry season and confined by tethering, often in adjacent forest areas, during the wet season. Domestic pigs, poultry (chickens, ducks and turkeys) and aquatic/terrestrial NTFPs are important for food and cash. Rice shortages of one to four months are common and household incomes are generally low.

**Plateau farming systems** are principally situated on rich volcanic soils (i.e. Bolaven Plateau) that allow commercial cropping of coffee, tea, and cardamom, supplemented by fruit trees and vegetables in home gardens.

**Upland rain-fed systems** involve rotational swidden cultivation of rice (yields of 1.5 - 2 tons/ha), inter-cropped with mixed vegetable, taro and sesame, with fallow periods of 3-10 years. Maize is also grown, and the surplus is sold and used for animal fodder. Maize is the second most important crop, but sweet potato, ginger, cassava, groundnuts, soybean, sugarcane, papaya, coconut, mango, bananas and citrus can also be important locally. Various melon crops are important in the dry season and are often cultivated on paddy land. There is a high dependence on wild animal and NTFPs for both subsistence and cash income, some of which is used to purchase rice. Adoption of rain-fed paddy is common wherever topography and soils (both serious limitations) allow. Three to four-month rice shortages are characteristic of these communities, along with low income, poor health, high infant mortality, low life expectancy, and little access to services.

**Upland rotational (swidden/shifting) cultivation** is generally found in remote upland areas and is characterised by higher poverty rates than the national average in rural areas. Remoteness of shifting cultivation landscapes implies a lack of access not only to markets and capital, but also to other services such as agriculture extension and health services and to information and technology, often making shifting cultivation farmers highly dependent on forest resources for their livelihoods and food security.

Traditional shifting cultivation integrates a short cropping phase and a long forest fallow phase. In the cropping phase many cereals, root crops and vegetables are cultivated to ensure a balanced diet for shifting cultivators. In the fallow phase forests not only produce various forest products, but also contribute nutrients to the soil for the succeeding cropping phase. The length of the fallow period depends on many socio-economic and environmental factors, including market demand, population pressure, and availability of land and soil fertility. Shifting cultivation is coming under increasing pressure to reduce the fallow period and switch to other land uses, which has serious implications on local livelihoods, carbon sequestration and biodiversity.

Fresh water resources also provide significant livelihoods and income sources for villagers in Northern provinces, including in the ER Programme provinces. An important prawn fishery is found in the limestone karst mountainous areas near Meuang Ngoy, Luang Prabang. Several limestone caves in this area have streams that flow into the Nam Ou, a Mekong River tributary, especially the Tham Paho caves near Sopchem Village in Luang Prabang province. The waters found in these streams are cool-cold and are very clear. There is a species of prawn (*Macrobrachium yui*) that lives in the Nam Ou, where it grows to sexual maturity. These prawns are either eaten by villagers or sold to local restaurants and traders, who have specialised marketing outlets in large cities such as Luang Prabang. Four villages are still active in the prawn fishery today, namely Huay Chong, Nong Khiaw, Meuang Ngoy, and Sopchem in Luang Prabang province. From July to September these villagers may catch up to 50 kg of prawns per day, with individual prawns reaching a size of 0.5 kg. An estimate of the total prawn catch has been put at 170,000 kg per year and the price is approximately LAK 150,000 (USD 20) per kg.

Most local villagers, especially woman and children, who live along Nam Ou and its tributaries in Luang Prabang and Oudomxay province, rely on the harvest of river weed (*Cladophora* spp.), a freshwater alga, for their livelihood. The weed is known as "Mekong weed" in English. There are several different algae species that grow on underwater rocks and thrive in clear, shallow water. River weed is collected during the dry season, when flows are low and the water has less sediment, after which it is dried in flat sheets and eaten as a delicacy.

Most families living in riverside villages harvest river weed. For example, there are 80 such families in Pak Ou Village and each could collect up to 25 kg of weed in wet weight per day between January and May. However, in recent years river weed collection has become more difficult and less productive because of river-level fluctuations and increased sediment, due to hydropower construction. Families in the Nam Ou tributaries in Oudomxay collect 10-15 kg of river weed per day from January to May. This yields 2-3 kg of dry river-weed sheets, which measure 40x80 cm each. There are about three to five sheets per kg and each sheet sells for 3,000 kip (or 8,000-10,000 kip per kg). Thus, a full day's collection of river weed in Oudomxay might provide an income of 45,000 kip per day. This can make a significant contribution to household income in the villages. A few other villages in Nam Bak District, Luang Prabang province also harvested river weed and earn an average of 8.7 million kip (about USD 1,000) per household per season.

### *3.5.2 Forest use and dependency*

It is estimated that biological resources contribute to over 66 per cent of GDP in Lao PDR. Furthermore, they provide indispensable benefits for the rural poor as agro-biodiversity is a source of food, nutrition and income, as outlined in the following sections and in Table 14.

***NTFPs***

Over 700 edible NTFPs have been recorded in Laos, including edible shoots and other vegetables, fruits, tubers, mushrooms and wildlife. In forest environments some NFTPs including wild animals, edible insects, bamboo and rattan shoots, fruits, greens, honey, and khem grass are sold in local markets and some are traded internationally. NTFPs also serve as an important source of traditional medicinal plants. NTFPs provide 60 per cent of the monetary income of rural villages.

In the rural areas, agricultural products and NTFPs significantly determine rural household food security and nutrition. Some NTFPs can be cultivated and are either sold in local markets or traded internationally, mainly with China. NTFPs are mainly managed in traditional ways based on customary rules. Many ethnic groups with close attachment to forests in the uplands still heavily rely on hunting, fishing and gathering NTFPs for family consumption and income generation. Some ethnic groups have developed special expertise regarding the domestication and management of NTFPs. For example, the Akha in northern Laos have developed ingenious systems for the domestication and production of rattan.

Women across all ethnic groups are involved in the collection of NTFPs. While men are more involved in activities such as logging and hunting wild animals, women are more involved in shifting cultivation and gathering of NTFPs, including wild vegetable and insects. In villages and communities with longer and more interdependent relations with the forest, and where there is adequate access to reasonable quality forest, women tend to be involved in NTFP collection on a daily basis. The household dependence on forest areas also depends on the general preferences and orientation of the ethnic group, and this will determine what they collect in terms of NTFPs. When the families collect NTFPs for marketing (broom grass, wild palm fruit (*mak thao*), paper mulberry, bamboo shoots, et cetera), there is greater allocation of both male and female labour to this task.

Deforestation is a major concern for the sustainable collection of NTFPs, as forest cover has declined from over 70 per cent in the 1970s, to 40 per cent in recent years. This has the potential to cause particular problems for poorer families, as they tend to rely more on NTFPs (given adequate forest quality and access into the surrounding area) than better off families for subsistence, as their fields and livestock do not provide them with adequate food security.

***Fuel wood***

Wood is the predominant type of fuel used for cooking by households (67 per cent) in Lao PDR. In rural areas without roads the proportion is much higher (88 per cent). Charcoal is used by nearly a quarter of households and at higher levels in urban areas (36 per cent) than in rural ones. Conversely, electricity is rarely used for cooking. Black charcoal is produced from trees logged for agricultural clearing, and primarily serves the domestic market but is also exported to China and Thailand. White charcoal is made from *Mai Tiew* (*Cratoxylon* spp.), a fast-growing pioneer species, and is exported to Japan and South Korea. Unlike in some other countries, the collection of firewood and production of charcoal are not considered to be major causes of deforestation or degradation in Lao PDR.

***Timber for housing***

The use of forest for timber to construct houses is allowed under the Forestry Law 2007.

***Local ecological knowledge***

Forest-dependent communities have customary forest management rights according to customary rules, systems and classifications. These natural resource management practices differ across specific indigenous or ethnic groups and are closely intertwined with the social, spiritual, cultural, and political lives of local communities, and with their livelihoods and food production.

Ethnicity plays a key role in terms of poverty and the practice of shifting cultivation. Indeed, poverty may be independent and a more important factor than accessibility and physical distances to markets, services, and infrastructure. This is demonstrated by the fact that the percentage of marginal shifting cultivation landscapes has increased over time. The work of Andreas Heinimann and co-authors (2013) provides evidence that policies that target the resettlement of marginal shifting cultivation villages may have little effect, as improved accessibility may not be enough to alleviate the poverty of these ethnic minorities (and that shifting cultivation landscapes persist as the dominant land use in remote areas of northern Laos).

Many ethnic groups practice systems of land use and resource management that are uniquely adapted for upland areas. These systems have developed over generations, as part of traditional ways of life, and are underpinned through ritual and customary practices. Within upland land use and resource management systems men and women have developed different concepts of gender-specific rights and responsibilities. These responsibilities serve as a method of ensuring the sustainability of their livelihoods, communities, and cultural identities.

The different customary uses of land and natural resources by different ethnic groups have not been systematically studied. Although, some detailed field studies or ethnographic reports do exist for specific sites. One notable example is *Khmu' Livelihood: Farming the Forest*, which was published in 1998.

Mon-Khmer speaking groups practice swidden agriculture on the higher lands. The field is cultivated one season and subsequently left fallow to allow biomass regeneration. In northern Laos the community is split into smaller production units that live in their fields during the agricultural season. In the south the abundance of land allows periodic displacement of the whole community toward new production land and the circular movement of the migratory trajectories mark the limit of the village land. A related example is Tai Deng (Lied) village in Viengxay district in Huaphan province. In Tai Deng villagers collectively practice a cultivation system that uses suitable plots of land to produce annual crops (rice integrated with other crops including gourds, peanuts, and cucumber), which are subsequently used as grazing areas in a rotation. In another village, Ban Pure, the villagers, especially the women, have knowledge as to what type of crops or seeds are ecologically suitable on their land.

Customary use of both timber and non-timber forest products for household consumption has been long practised by local communities, following unwritten rules that have developed and followed over time by local people. These customary uses and rights are recognised legally in the Forest Law (2007), but the use of forest products is increasingly influenced by demands of both local and international markets. In terms of REDD+ it is important to make clear the benefits those different stakeholders can gain in relation to forest development and protection, as well as their related roles and responsibilities.

Under changing conditions, villagers consciously invest in multiple activities and produce diverse crops to maintain flexibility and implement risk-averse strategies, which have carried them through difficult times in the past. Villagers of differing ages and genders use different

and sometimes conflicting strategies to retain risk-averse livelihoods, adding to the complexity of overall land use and natural resource management.

**Table 14 Household assets and income by ethnicity (per cent)**

| Assets and in come | Lao–Thai | Mon–Khmer | Hmong-Mien | Sino- Tibetan | EM Women |
|---|---|---|---|---|---|
| Farm household | 39 | 31 | 61 | 31 | 50 |
| Buffalo | 29 | 30 | 26 | 27 | 12 |
| Pigs | 39 | 55 | 63 | 63 | 65 |
| Chickens | 62 | 64 | 78 | 52 | 76 |
| Goats | 2 | 5 | 10 | - | 5 |
| Average Number of Livestock per Household | | | EM Group Owns Cows Not Buffalo | EM Group Owns Cows Not Buffalo | EM Women with Exception of Mon-khmer Own Cows |
| Buffalo | 5.8 | 2.9 | 4.3 | 3.5 | 1.0 |
| Pigs | 3.6 | 2.9 | 4.4 | 3.5 | 4.2 |
| Chickens | 19.7 | 13.9 | 18.7 | 17.7 | 22.5 |
| Goats | 5.0 | 8.2 | 6.1 | 3.2 | 4.0 |
| Main sources of income | | | | | |
| Cropping | 54 | 52 | 53 | 53 | 55 |
| Livestock | 6 | 7 | 17 | 9 | 12 |
| Forestry | 1 | 13 | 17 | 1 | 18 |
| Aquaculture | 2 | - | - | 7 | 1 |
| Other | 38 | 28 | 24 | 31 | 14 |
| Use of two wheeld tractors | 77 | 34 | 40 | 48 | 10 |
| Use of mechanical harvester | 85 | 52 | 60 | 48 | 25 |
| Ownership of powered chainsaw | 5 | 35 | 22 | 1 | 15 |

## 3.6 Land use Planning

### *3.6.1 National Master Plan for Land Allocation*

The National Master Plan for Land Allocation (NMPLA) was approved by the National Assembly in June 2018 and its summary of land allocation by sector is as follows:

Land areas to be conserved and reserved to achieve 70 per cent forest cover across the country (including water areas) are as follows:

- Conservation forest area: 4.7 million hectares or equal to 20 per cent.
- Protection forest area: 8.2 million hectares or equal to 35 per cent.
- Production forest area: 3.1 million hectares or equal to 13 per cent.
- Industrial plantation area: 0.5 million hectares or equal to 2 per cent.

Land areas for utilization and development will comprise 30 per cent of the country's total land area (including water areas) and are to be comprised of:

- Agricultural land area: 4.5 million hectares or equal to 19 per cent, which consist of:
    - Paddy fields: 2 million hectares or equal to 8.4 per cent.
    - Perennial plants area: 1 million hectares or equal to 4.2 per cent.
    - Fruit trees area: 0.8 million hectares or equal to 3.4 per cent.
    - Livestock grazing land: 0.7 million hectares or equal to 3 per cent.

- Land areas to be used in other sectors: 2.56 million hectares or equal to 11 per cent, which consist of:
    - Construction land: 0.37 million hectares or equal to 1.6 per cent.
    - Transportation land: 0.18 million hectares or equal to 0.8 per cent.
    - Other types of land including industrial land, cultural land and national defense-security land: 2.05 million hectares or equal to 8.6 per cent.

### *3.6.2 Agriculture land zoning*

According to the Agriculture Development Strategy to the Year 2025 and Vision to 2030 of the MAF agricultural land zoning at provincial and district levels throughout the country has been implemented, and the area categorised as agricultural land is approximately 4.5 million hectares or equivalent to 19 per cent of national land. However, detailed zoning data is available only for 2.5 million hectares.

### *3.6.3 Land Use in Lao PDR*

Current Forest, including Forest Plantation, has been the country's dominant land use or vegetation type. Forest occupies approximately 60 per cent of the total land area of Lao PDR, mostly due to its mountainous terrain. The second largest land use is Regenerating Vegetation, including Bamboo areas, which occupies more than a quarter of the total land area and mostly consists of re-growing vegetation following abandonment of slash and burn cultivation. Some of these areas reach the threshold for definition as forest, but many are burnt again for upland rice and other crops. The next largest land use is Permanent Agriculture Land, which includes rice paddy, agriculture plantations including fruit orchards, and other crop areas. This land use type now occupies 10 per cent of the total land area.

### *3.6.4 Land use change in Lao PDR*

Current Forest has been decreasing continuously from 60.9 per cent in 2000, to 58.0 per cent in 2015 (Natural Forest from 60.9 per cent to 57.4 per cent). Conversely, cropland has increased from 7.0 per cent to 10.1 per cent during these 15 years. Another notable change is the significant increase of Forest Plantations (circa 18,000 ha in 2000 to 138,000 ha in 2015) and Water (276,000 ha in 2000 and 350,000 ha in 2015), even though their share in the total land area is still small at 0.6 per cent and 1.5 per cent respectively. The increase in Permanent Agriculture Land, Forest Plantation and Water reflects the influx of foreign investment, as well as domestic investment in commercial plantations and hydropower projects, in line with the government's development policy.

## 3.7 Land tenure

### *3.7.1 Legal and institutional framework*

The Land Law (2003), is the principle legislative instrument governing the management, protection and use of land in Lao PDR. Article 3 of the Land Law reaffirms article 17 of the Lao Constitution, stating that land belongs to the national community and the State, as representative of the people, is charged with the management of land, including allocation. The GoL recognises state, collective land, and private rights over ownership for use, protection, inheritance, transfer or allocation, of land rights among individuals, entities, and organisations in accordance with Lao laws.

Different GoL agencies are responsible for management of land in accordance with their official mandates. Each land category is allowed for use and management by different legal entities, in order to serve different development purposes set by the government. For example,

the Ministry of Public Works and Transportation is assigned to be responsible for transportation land, while agricultural land is under the responsibility of MAF. All eight-land types may be found within a village boundary although this may not be the case in all communities.

The Forestry Law (2007) stipulates that natural forests belong to the national community, and are managed by the State, whereas planted trees belong to the individuals or entities that plant them. Article 42 of the Forestry Law further recognises customary use of forest and forest products, as well as village use forest. However, customary rights can be found in all types of state forests. Practically, this means that land tenure is still unclear. There is an overlap between traditional customary practices and legal aspects, and in many places villagers or families put their own investments into small tree plantations on land that they lack secure tenure rights. In practice, customary rights have not been widely recognised in the legal system. In August 2014 the National Assembly requested a review of the three forest categories and current land use, in order to improve the understanding of customary tenure.

In reality, various local ethnic groups have been using land for rice production through shifting cultivation and forest resources in traditional and customary ways for years. They have used sets of rules, which their ancestral generations developed and gradually evolved over time. Within a set of social-cultural contexts the rules have been evolved in a way that most people agreed and followed. These kinds of traditional practices can be found within all forest categories, including unclassified forestland.

In an attempt to provide land tenure security to land users, the government allows any organisation or land user to have title to their land through both systematic land registration and upon-request approaches. In the first approach, a land area is selected where all existing land rights in the geographic or administrative area are registered. In the later approach, a land title is considered only upon-request and this title is at the expense of the land owner.

### *3.7.2 Land titling*

Land titling began in 1996 under the support of the World Bank and the Australian and German governments. This project continued into its second phase from 2003-2011. As a result, about 750,000 land parcels were titled for individuals and legal entities and 50,000 parcels for state organisations. In the whole country, about 800,000 land parcels were titled by 2011. Land titling however, primarily focuses on land in urban and peri-urban areas for housing and other construction. With regards to land that has been titled in rural areas, this has been primarily agricultural land (i.e. paddy fields).

The GoL uses a land book system to record land (statistics) types, use and changes. Land users are given land documents to record land uses, land development and land area. However, many customary land users, especially in remote rural areas, only have land use fee tax receipts. Many villagers under-report the areas that they actually use, so that they can pay lower land use fees. The formal land title issued under the Land Law is the only permanent land title and only it can be accepted as collateral for a bank loan.

The GoL provides long-term and short-term documents to land users. Long-term documents include permanent land titles that allow use rights and collateral rights. These land titles have mostly been issued for construction, primarily in urban and peri-urban areas. Temporary land-use rights involve agricultural and forest land. During the three years of validation, temporary land holders cannot sell, lease or use the land as collateral. This restriction includes communal land. Land users have been given long-term and short-term land use documents.

Land users have been given land long-term land documents, which include:

- Land Title (*bay ta din),*

- Land Map Sheet/Land Survey Certificate *(pean vat ti din),*
- Certificate for Original Acquisition of Land (*bay yang yeun kan dai ma kong din),* and
- Land Development Attestation (*bay yang yeun kan pat ta na ti din).*

Short-term documents consist of:

- Temporary Land Use Certificate (*bay mob sid nam sai ti din sua khao),*
- Land and Forest Management Agreement *(kho tok long kan jad san din lae pa mai lair pa mai ban),* and
- Land Lease Contract *(sanya kan nam sai ti din).*

Many villagers do not understand the importance of land titles and other documents. For example, many villagers believe that land use tax receipts will suffice in proving that they use specific areas of land. Also, many women are uninformed of their rights and the importance of having their own names on land documents, and not just those of their husbands.

The GoL in fact, manages the collective land. However, the government can issue title for this land to cooperatives, collective organisations, communities, group of persons, and ethnic groups that have communally used the land, when no one specific individual is the owner of the right.

Prime Minister Decree No 88 supports recognition of customary land tenure and the Ministerial Instruction No. 564/MoNRE defines communal land as land of collectives, community, and organisation, land that villagers or ethnic groups in the village use collectively. Communal land consists of land allocated to families to use for agricultural production, but no individual, household or entity is the owner. The Seventh National Socio-economic Development Plan 2011-2015 (NSEDP) aimed at completing the issuance of one million land parcels by 2015 in a systematic and regulated manner. The number of land titles to be issued was set for 400,000 parcels under the State budget of USD 15 /parcel or USD 5,800 per district. By 2015, however, only 254,377 additional land parcels had been titled. The report on the achievements of the socio-economic development plan for 2011-2015 noted that Lao PDR had issued titles for a total of 990,000 land parcels, which accounted for 38 per cent of an estimated 2.6 million land parcels planned to be registered nationwide. Land titles are mostly issued to individuals and legal entities for construction land, covering 2.6 million registered land parcels in the whole country.

The 8th NSEDP 2016-2020 reports a slightly higher figure of 254,399 titles achieved by 2015, covering 3,779 (43.2 per cent of 8,654) villages and 55 (37.1 per cent of 148) districts. This document also reported that a database on land registration has been developed, as well as a pilot database on land leases, and that land mapping has been undertaken to determine estimates of land prices in residential areas. This document stated that the 4.5 million ha of land (the 2.6 million parcels plus an additional 1.28 million parcels) has been entered into the computer database. In rural areas, except areas where there is project support, land titling has so far not been implemented. Over 70 per cent of the country's population use land in rural areas for subsistence agriculture, yet most of them lack titles to land.

In Lao PDR, the official estimated cost for systematic land titling is USD 15-20/parcels when the titling is undertaken systematically, and USD 200-300/land parcel when initiated through the titling upon-request approach. In the report on implementation of land use and management planning 2011-2015, by MoNRE, it was noted that the allocated budget for systematic land titling per land parcel is insufficient. There are many other challenges including limited human resources, low technical capacity of staff, a lack of modern technologies especially for land survey and measurement, and poor coordination that results in delays in implementation.

In reality, villagers in rural remote areas have been using customarily using land and natural resources, including forest products and agricultural production. This agricultural land, especially in mountainous areas, may be located on steep slopes that are legally described as other land types (i.e. forest land). While clear tenure rights are important for REDD+ the legal status of customary rights related to village communal land and village forest land has not yet been clearly defined.

For several years, work has been ongoing to prepare the first national land policy and to revise the Land Law, Forestry Law, and other natural resource management laws. In August 2017 the national land policy was issued as the Party Resolution on Land. It states that land governance is about land management, land use planning, land development and provision of secured land rights, which include the rights to protect, use, usufruct, transfer the land, and inherit the land to individuals, legal entities, families, collectives, and organisations, in accordance with the Laws of Lao PDR.

Legally recognising customary rights to land would not only help in promoting the necessary investment in the land, but also would improve the livelihoods of local people, especially those who have been closely and directly attached to forests. Clearly, the recognition of customary rights would also be important to the success of REDD+, ensuring that benefit sharing is based on the principles of efficiency, effectiveness and equity. Therefore, it is necessary to carefully take into account the degree, or lack thereof, of clarity and compliance between legality and customary practices regarding land and natural resources while implementing REDD+.

The 8th NSEDP has set the following five targets for land management and administration:

- "Strive to complete the development of the national master plan on land use and complete the comprehensive land allocation in 18 provinces, 92 districts, and 3,455 villages across the country."
- "Issue 400,000 land titles in the rural and urban areas during the next five years."
- "Conduct a survey on land titles and record the data with a computerised system of at least 500,000 land titles."
- "Complete land mapping to assess land prices in 100 districts nationwide."
- "Modernise land management using IT systems to collect a full set of data (land certificate, land lease and concession, land registration, record of land registration and estimated land value) to ensure that people have level rights to use land, resolve land disputes and increase revenue from land."

The REDD+ program can further facilitate land tenure security through support to participatory land use planning at the village level, and where possible, also land titling. However, this titling process is lengthy. At a minimum, villages should be assisted in registering their village forests. Revisions of the Forestry Law should also improve the protection of village forests from encroachment and/or alienation to other land uses and to other land users.

Having secure rights to use and manage land is important for long-term investment in the sustainable management of land, forest, and natural resources. The GoL supports and promotes sustainable land management, including management of forest land. However, over the past few decades, significant areas of forest in Lao PDR have been deforested and changed to other land uses, and other forests have been heavily degraded. Lao PDR's Second National Communication to the United Nations Framework Convention on Climate Change states that 80 per cent of the total emissions is from land use change, mostly due to deforestation.

The GoL considers land to be a critical component for the country's socio-economic and environmental development and sustainability. However, land issues are complex and prone to

conflict. The 8th NSEDP notes that the judicial system is not yet able to satisfactorily resolve land disputes. The National Assembly appointed a committee to look into this matter and delivered its report in late 2017. The GoL sees improvement of relevant policies, laws and under-law-legislations, as well as strict law enforcement, as a way to tackle land issues.

In Lao PDR modern approaches to land management have been ongoing over the last three decades. In 1990 DoF piloted a project to attempt to eradicate pioneer shifting cultivation and initiated land allocation and certification in the two Northern provinces of Luang Prabang and Sayabouri. With this project's field experience land allocation was expanded national-wide in 1993.

The Land Use Planning and Land Allocation (LUP/LA) Manual has been developed. It has many different implementing steps and was applied by the Rural Development in the Mountainous Areas (RDMA) Project in Luang Namtha between 1996 and 2001. During this time, details of the steps were carefully assessed and improved under GTZ technical support and were approved during the National LUP/LA meeting in July 1997.

From 1996 to 2004, LUP/LA covered more than 50 per cent of total villages, amounting to approximately 9 million ha, 6,830 villages and 420,000 families. However, some problems were identified with the approach. For example, many households were only allocated three plots per family for their rotational shifting cultivation, which in some case led to shortened fallow periods, decreased yields, and increased poverty.

In 2009 the National Agriculture and Forestry Extension Service (NAFES), the National Agriculture and Forestry Research Institute (NAFRI) and National Land Management Authority (NLMA) worked together to improve the LUP/LA Manual, focusing on the participation of relevant stakeholders. The Manual changed from LUP/LA to Participatory Land Use Planning (PLUP) and was approved by MAF and the NLMA in 2010 The NLMA has now been replaced by the Department of Land in MoNRE. At the village cluster level, the PLUP Manual introduced a participatory working approach and a development plan that would ensure sustainable forest landscape management. The PLUP process allows further recognition of customary rights to land, forests, and related natural resources. From 2011 to 2012, MAF and MoNRE worked planning with the SUFORD, The Agro-Biodiversity Initiative (TABI), GIZ, and Participatory Land and Forest Management Project for Reducing Deforestation in Lao PDR (PA-REDD) projects using PLUP. Many other governmental sectors have also used PLUP within other projects in the country.

Although demarcation of village boundaries and land use has been conducted in many villages, and in some villages more than once by different projects, it is not clear to what extent such land use plans are actually being followed. Given the rapidly changing land use in the country and growing population, it is possible that many land use plans have quickly become outdated. The government has also tried to promote the idea of Integrated Spatial Planning at the provincial level. A pilot project conducted in Luang Namtha Province succeeded in producing maps of current land use. Although the different sectors in the province were unable to agree on a plan for future land use. However, they did agree on principles for land use for future consideration of land development projects.

Work is ongoing by the SUFORD and Integrated Conservation of Biodiversity and Forests (ICBF) projects to pilot forest landscape management in two provinces, Luang Namtha and Bokeo. The aim is to look at a more holistic approach to the management of all forests, which includes examining the potential for uncategorised forests to be managed as village forests, and considering the establishment of corridors to connect forest fragments.

### *3.7.3 Customary Land Use and Rights*

Land is the most valuable asset held by communities and is often considered to be a sacred. Access to land and resources are traditionally associated with particular ideas of territoriality, whereby a community that has exercised communal rights over that land manages land. Management of land is governed by the consensus of the socio-political group, or emanates from the group it governs. Concepts of land ownership and entitlement to land use vary from ethnic group to ethnic group. However, customary land rights of different ethnic groups become diluted when outsiders influence them, and they are also not legally recognised. Where land is used for traditional shifting cultivation it is customarily communal land. Local community members share this land periodically for crop cultivation mainly for rice. These local sharing rules evolved over time and are based on criteria that only fit with certain social, cultural and environmental characteristics.

The clash between customary uses of land and the allocation or confiscation of customary land for development under state law or policy has had a deleterious, occasionally devastating, impact upon some ethnic communities. The lack of formal recognition of the full range of customary land usage practices means that ethnic groups have an inadequate legal platform for mounting any claims that might be considered by courts. While some adjustments have been made that allow for greater recognition of customary land rights (e.g. subsistence needs in the Decree 27 on the Management and Use of Forest and Forest Land and the recognition of communal land contained in Directive 564 under the National Land Management Authority) there still remain large gaps. The laws only offer limited recognition of rights and protection of customarily managed land, as well as a lack of progress of informing and empowering communities to act upon their rights when land disputes arise.

The Comprehensive Food Security and Vulnerability Analysis conducted by the World Food Programme in 2006 found that ethnic groups in Laos that have less ownership of land are more food insecure. Table 15 shows the relationship between levels of self-reported land ownership and food insecurity, as well as figures for the average amount of paddy land and upland agriculture for each group.

Sino-Tibetan groups are the most food insecure and display the lowest percentage of self-reported land ownership (17 per cent), while at the other extreme the Lao-Tai groups are the fourth most food secure, owning more paddy land and 65 per cent self-reported land ownership.

**Table 15 Ethnicity, food security ranking, and land ownership**

| Ethnic group | Food security ranking | Level of self-reported land ownership (per cent) | Average amount of paddy land (Ha) | Average amount of upland agriculture (Ha) |
|---|---|---|---|---|
| Sino-Tibetan | Most food insecure | 17 | 0.4 | 1.4 |
| Hmong-Lu Mien | Second most food insecure | 35 | 0.9 | 1 |
| Mon-Khmer | Third most food insecure | 35 | 0.9 | 1 |
| Lao-Tai | Fourth most food insecure | 65 | 1.8 | 0.4 |

To adequately engage all ethnic groups in REDD+ activities, it will be vital to ensure that REDD+ projects and programs follow the guidelines in the EGPF, or safeguard framework. These safeguard guidelines include ensuring that facilitators speak the local ethnic languages and that if forestry staff cannot speak the language then they should work with the Lao Front for National Development (LFND) or hire interpreters. Extension materials can make greater

use of visual aids, in order to reach people who are not literate in the Lao language. Moreover, it will be important to ensure that efforts to improve land tenure security take into consideration local ethnic customary practices of land use and management, including in some cases communal management. For ethnic groups that continue to rely upon upland agriculture for food security and customary practice, efforts are needed to stabilise and recognise, through secure land tenure documents, patterns of rotational agriculture.

### *3.7.4 Land concessions and contract farming*

In recent years, as part of the strategy to expand commercial agriculture and to turn land and natural resources into capital, the government has granted a large number of land concessions (leases) to both domestic and foreign investors. Concessions may be granted for agricultural purposes, but also for other types of economic development activity such as development of hydropower schemes, mining, or other infrastructure development. If the development of concessions have certain characteristics, then the Government may require the preparation of an IEE or full Environmental and Social Impact Assessment (ESIA) report. Depending upon the outcome of an ESIA, an Environmental and Social Management and Monitoring Plan (ESMMP) may also be required to be prepared, implemented, and monitored and is provided for in the ESMF.

Land is increasingly being utilised for contract farming. Investors increasingly prefer this mode of agriculture, as the government less regulates it. In this model, investors to grow particular crops, such as Maize, bananas, or rubber may contract the villagers. Varieties of these models exist, such as the 2+3 model, wherein the farmers provide land and labour, while investors provide inputs, technology (extension), and markets. Another alternative is the 1+4 model, wherein the farmers only provide the land. In the 2+3 model, farmers get 70 per cent of the benefits and the investors 30 per cent, whereas in the 1+4 model the farmers get only 30 per cent and the A major issue with expanding commercial agriculture, through land concessions or contract farming, is that the villagers still need to obtain food for their families. Many villagers prefer to use their cash earnings for other household needs, and thus continue to produce their own rice and other food. If their previous land is now used for concession plantations or contract farming villagers may have to encroach on nearby forest land, clearing it for shifting cultivation in order to grow food.

Additional problems have arisen with some of these land investments such as: investors not honoring agreements made with local villages; inadequate monitoring of the activities; and indiscriminate and excessive use of agro-chemicals, such as pesticides, which have negatively impacted human health, livestock, and nearby water systems. A moratorium has been issued on further expansion of concessions, pending a National Assembly review of their social and environmental impacts. A Prime Minister's Order No. 13 in 2012 endorses the moratoriums on concessions for mining, rubber and eucalyptus plantations.

Investment in degraded land and barren forestland is allowed, which is achieved through concessions, leases and contract farming. The Investment Law designates the MPI and the Ministry of Industry and Commerce (MoIC) to have responsibility for investment. Furthermore, depending on the scale of the business governmental authorities at different levels are allowed to lease land to agriculture and tree plantation businesses as depicted in Table 16.

Recently, MPI Minister has issued an instruction on investment approval and land management mechanism for leasing or concession to cultivate crops. This instruction is to implement the Law on Investment Promotion and the Decree of the Prime Minister on controlled businesses and concession activities in Lao PDR. Businesses and concessions listed on the list need further consideration from relevant sectors before getting approval.

Activities relevant to agriculture and forestry sector include:

1. Tree plantations that involve more than 10 ha of private land;
2. Agroforestry plantation and forest activities (with the exception of rubber plantation) including nature tourism activities; **degraded forest restoration**; park creation; aquatic animals, wildlife and endangered and rare species conservation; and **forest carbon credit investment**; and
3. NTFPs plantation and harvest for commercial purpose (within forest areas managed and used by communities)

Relevant to agriculture and forestry concessions include:

1. Concession of state land for agroforestry plantation (except rubber);
2. Concession or renting of state land for planting trees, consumable plants, commercial trees, and herbal plants;
3. Concession or renting of state land for planting fruit trees; and
4. Concession or renting of state land for animal rearing i.e. animal farms.

**Table 16 Governmental authority to lease land for agricultural and tree plantations**

| No. | Authority | Degraded Forestland | | Barren Forestland | |
|---|---|---|---|---|---|
| | | Ha per activity | Yrs. of lease | Ha per activity | Yrs of lease |
| 1 | National Assembly | 15.000-50.000 | 30-50 | >30.000 | 40-70 |
| 2 | Government (Land Department/NLM) | 150-15.000 | 30-40 | 500-30.000 | 40-60 |
| 3 | Province (LMA) | ≥150 | 15-30 | ≤500 | 15-40 |
| 4 | District | | | <30 | |

Wellmann (2012) reported that about 85 per cent of all investment in agricultural concessions comes from foreign investors, which are mostly from China, Vietnam, Thailand, and India. China is the biggest foreign business, holding approximately 50 per cent of foreign investment in the agricultural sector in Laos.

Between 2009 and 2010 the GIZ-Land Management and Registration Project conducted a spatially explicit national inventory of land concessions in Laos. The results of the inventory showed that land leased to either domestic or foreign parties is about five million hectares, amounting to 21 per cent of the total territory of the Lao PDR. Roughly 13 per cent of all villages have at least one concession within their village boundaries. In the early 2000s approximately 15 per cent of the land in rural areas has been handed over to foreign direct investment, mainly for rubber, eucalyptus, sugarcane and cassava plantations.

A study by Schönweger *et al*. (2012) shows that an area of 1.1 million hectares, or about 5 per cent of the total land area of the country, has been granted to national and foreign direct investors through leases and concessions agreements. This figure excludes mining exploration and hydropower projects. The total number of the studied investment projects is 2,642, ranging between 100 ha and 1,000 ha. The larger project sizes are primarily comprised of foreign investment projects. In the ER Programme Provinces alone a total of 110,879 ha of land has been granted as land concessions for plantations of rubber (about 98 per cent) and eucalyptus (about 2 per cent). However, given the falling of rubber prices only 62,769 ha (about 56 per cent) have been developed so far. Once the rubber price increases it is possible that the remaining concession areas will be further developed.

By region, the largest areas granted to investors is in the northern region, followed by the central and southern region, with total area across the country of more than 1.6 million ha. In terms of area investment in rubber plantation is the most important and this is followed by eucalyptus, accounting for 42 per cent and 31 per cent respectively of the total investment area. Table 17 provides information on concessions in GFLL provinces.

**Table 17 Land concession areas in agricultural and forestry sectors**

| Province | Area granted (Ha) | Area already developed (Ha) |
|---|---|---|
| Bokeo | 2,986 | 3,764 |
| Luangprabang | 25,256 | 13,416 |
| Oudomxay | 6,362 | 1,929 |
| Luang Namtha | 31,263 | 23,514 |
| Huaphan | 200 | 197 |
| Sayabouri | 8,180 | 3,983 |
| **Total** | **74,247** | **46,803** |

As part of its larger investment objectives, the government plans to build 41 special and specific economic zones (SEZ), in a bit to attract foreign investment, in order to boost development in rural areas. Figure 8 displays the locations of endorsed SEZs and those that are under construction, which are detailed as follows:

1. Savan-Seno Special Economic Zone (Lao government -Malaysian investor)
2. Boten Zone (China) Special Economic
3. Sarmliem Den Kham Special Economic Zone (China)
4. PhouKieuNakhon Specific Economic Zone (Lao)
5. Vientiane Nonthong Industry and Trading SEZ
6. Saisetha Specific Economic Zone

Potential for new SEZs development

1. Friendship Bridge SEZ Number 3
2. Golf Long Thanh SEZ
3. Xiengkhuang Specific Economic Zone
4. Dongphosy Specific Economic Zone

The GoL has classified land and forest into different categories. The 2003 Land Law allows classification of land use into eight types based on geographical regional conditions. The eight categories of land include: Agricultural Land; Forest Land; Water Area Land; Industrial Land; Communication Land; Cultural Land; Land for National Defense and Security; and Construction Land.

According to the 2007 Forest Law, forests are classified into three categories: Protection Forests (3.1 million ha), Conservation Forests (4.7 million ha), and Production Forests (8 million ha). Other forests are referred to as uncategorised forests (3.3 million ha) and may include areas traditionally managed by communities as village forests.

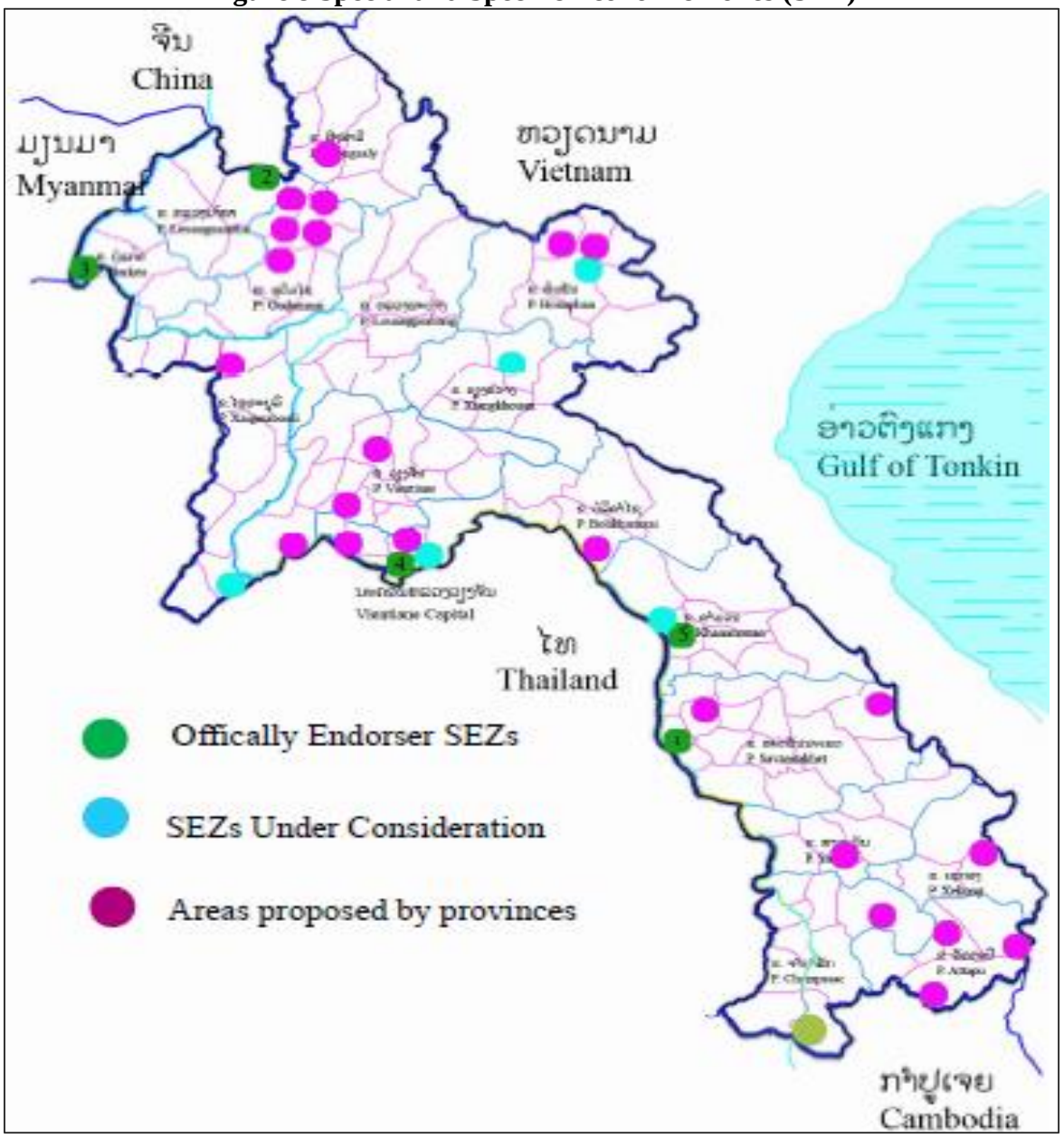
Lao PDR has over 23 million hectares of land, including water bodies. Currently, although 70 per cent of the country land is considered to be forestland, which includes regenerating vegetation, 58 per cent of the land is actually covered with forest. The Government aims to restore forest cover to 70 per cent by 2020.

**Addressing gender and social inclusion**

Lao PDR currently ranks 106$^{th}$ on the Gender Inequality Index (rank 138 on general Human Development Index; as of 2015). Despite a strong legal framework stating and promoting the equality of Lao women and men, the influence of gender norms and traditional roles is still seen as one of the major obstacles in achieving factual gender equality in Laos.

Major negative contributors to this ranking are the maternal mortality ratio, the adolescent birth rate and the low female proportion of people with secondary education. Three dimensions of women's autonomy—confidence in the ability to exert control over their own health care, self-esteem, and control over own spending or money—are a major challenge for women in Lao PDR.

**Figure 8 Special and Specific Economic Zones (SEZ)**




Positive influencing contributors are the proportionally high share of female parliamentarians and the high female labour force participation rate. With 27.5 per cent female Members of Parliament, Laos is well above global average (22.5 per cent). However, women in decision-making positions in the district, provincial and national Government agencies constitute only 5 per cent (as of 2012). The highest proportion of women in the Government can be found in the legislative branches at the national level (more than a quarter); the lowest proportion of women beyond administrative support roles can be found at the Provincial and District level.
Gender equality and social inclusion is deeply influenced by ethnicity in Lao PDR. Many traditional norms within Lao-Tai cultures are favourable with regard to gender equality: women are often financial decision-makers, inherit land and property more often, and have gained equal access to education. However, the other three ethno-linguistic groups mostly have stronger patriarchal traditions and norms, limiting women´s access to decision-making, property and education.

Traditional gender roles directly influence the village-based justice system, in addition to women´s generally weaker access to justice outside the village structures due to illiteracy, lack of Lao language skills and legal knowledge, and lack of means and permission to travel. This becomes most visible in decision-making positions throughout all sectors, as well as at the community level where women continue to struggle to participate on equal terms and in equal numbers.

**Table 18 Consultations with different ethnic women July 2018 and January 2019**

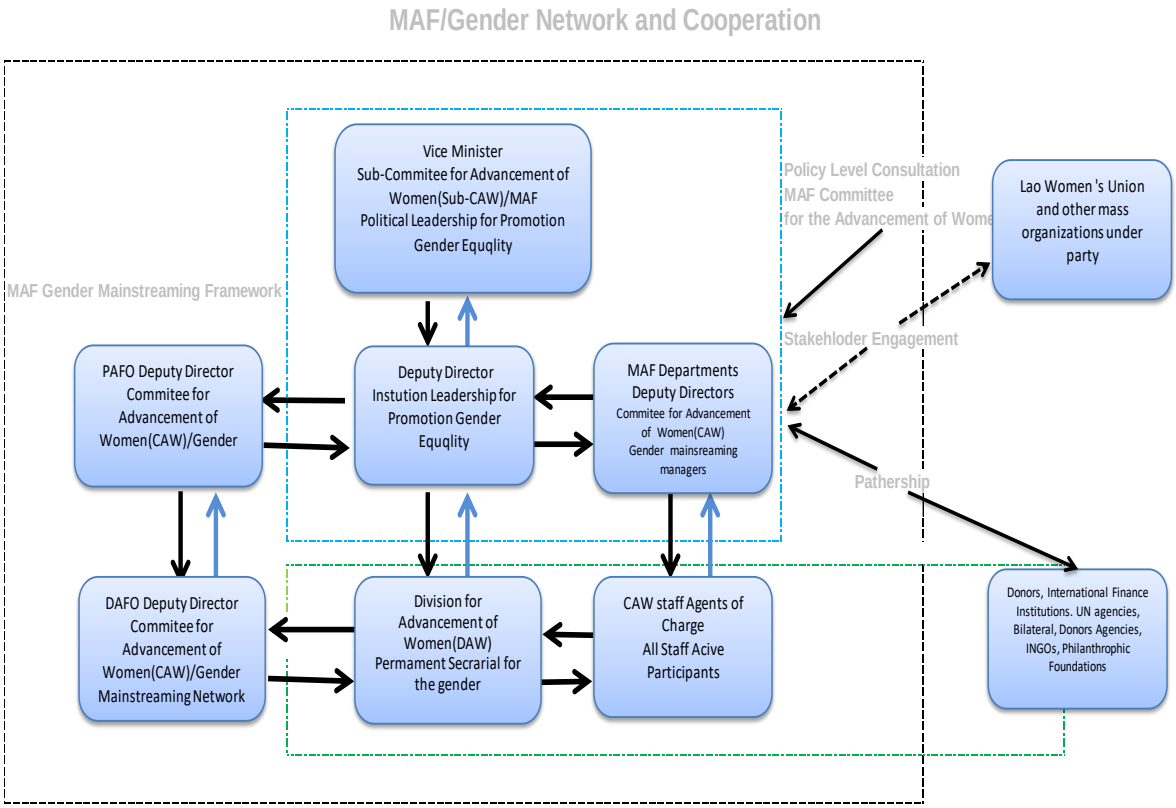
| Province | # of participants | | | |
|---|---|---|---|---|
| | **Lao-Tai** | **Mon-Khmer** | **Hmong-Mien** | **Sino-Tibetan** |
| Luang Namtha | | | | |
| Saleuang | - | 15 | - | - |
| Chomsi | - | 10 | - | - |
| Harddao | - | 15 | - | - |
| Hardnalong | - | - | - | 15 |
| Tha Luarng | - | 15 | 15 | - |
| Nam An | - | - | - | 15 |
| Namet | - | 15 | - | - |
| Bokeo | | | | |
| Mu Nua Nam Lave | - | 15 | - | - |
| Paung | - | 15 | - | - |
| Lin | - | - | 15 | - |
| Oudomxay | | | | |
| Lao Phe | - | 15 | - | - |
| Na Houang | - | - | 15 | - |
| Denkon | - | 15 | - | - |
| Luang Prabang | | | | |
| Long Lao Mai | - | 15 | 15 | - |
| Long Lao Gai | - | 15 | 15 | - |
| Densavang | - | 15 | 15 | - |
| Phonsavat | - | - | - | - |
| Yang | 15 | - | - | - |
| Hat Kam | 15 | - | - | - |
| Houaphan | | | | |
| Buamphat | - | 15 | - | - |
| Ponexong | - | - | 15 | - |
| Long Ngua Pa | - | - | 15 | - |
| Nam Neun | - | 15 | - | - |
| Xa | - | - | 15 | 15 |
| Muang Hom | - | - | 15 | - |
| Sayaburi | | | | |
| Sala | 15 | - | - | - |
| Na Kok | 15 | - | - | - |
| Na Fai | 15 | - | - | - |
| **Total** | **75** | **205** | **150** | **45** |

### *3.7.5 Relevant International and National frameworks*

**Gender roles, rights, and responsibilities** are culturally defined, and vary among different ethnic groups. Nonetheless, women's relatively low status and position in many ethnic groups prevents them from exercising their rights: they thus experience greater vulnerability to poverty,

and greater depths of poverty, than do men. Lao PDR's SIGI (Social Integration and Gender Index) was 0.1445 in 2014, in the medium category. Most ethnic women in upland areas lack Lao language skills and this makes it difficult for them to access official information. In this case, non-Lao speaking ethnic women need support to pass on their local knowledge to each other, and to learn from others new pieces of information, especially related to legal aspects. Women without primary education have three times the number of children as women who progress to higher education.

The Government has established a **National Committee for the Advancement of Women, Mother and Children (NCAWMC),** which has branches within different Government agencies and at various levels of government, and has the national mandate to work on gender issues. The diagram below shows, for example, the set-up within the Ministry of Agriculture and Forestry, as well as the Provincial Office of Agriculture and Forestry (PAFO) and District Office of Agriculture and Forestry (DAFO).




In addition, the Party mass organisation, the Lao Women's Union (LWU), works with women down to the village level. The LWU representative at the village level is a member of the village government.

Rural women contribute labour for a large proportion of agriculture in Lao PDR, including 50–70 per cent of paddy and upland rice growing, 50 per cent of household animal husbandry, at least 50 per cent of cash crop production and most of household vegetable gardening.

Women are farmers across all ethnic groups and farming systems, but household farm labour is highly integrated. Nonetheless, the differences in household allocation of labour result in different impacts on women and men from different government policies and actions which is resulting in greater hardships for women. It is reported that upland farming women's agricultural workload is becoming heavier; while at the same time their families are faced with

increasing difficulties to meet their food needs. Many of the causes of women's reduced rights to a secure livelihood are structural, with some of the causes starting at the policy level, and resulting in women's reduced access to productive resources, especially land. According to Rita Gebert and Ny Louangkhot (2007), the following causes were cited as most important for women's increased workload and reduced food security:

- The implementation of the land and forest allocation policy, which limits the number of upland plots to three, meaning artificially induced reduced fallow times (previously at eight to ten years, now only two or three);
- The "small village" merger policy, which has resulted in smaller villages moving together or in smaller villages moving down to join already existing larger villages, so that there are at least 50 households;
- The implementation of various land concessions, such as for rubber or timber, may also reduce land available nearby the village for women's and men's productive activities.

Government policy to reduce the total number of plots allowed to remain in the rotational cultivation system has two immediate impacts on the farming system itself. First, with the reduced fallows the weed increases; second, the reduced fallowing times do not allow larger trees to grow up anymore. Since women are responsible for weeding they have much more work to do, plus their share of the land clearing work also increases with the increase in brush and shrubs women's task to clear, whereas it is men's task to cut the larger trees. If women cannot keep up with the weeding pressure, they may also choose to make smaller plots.

Merging villages causes many women (and men) to have to walk longer distances back to old fields, as there may be local no land available in the new place. Women often carry children with them, or leave very young children/infants behind, which also has a negative impact on the children's health.

Women also have local knowledge on agricultural practices in related to natural characteristics of land and forests particularly where they reside and without appropriately communicated the knowledge would be lost.

In using forest resources, the Hmong differentiate some roles and duties along gender lines. For example, women are responsible for collecting medicinal herbs and edible plants, while men are responsible for hunting, performing rituals, and collecting wood for house building or making tools.

In Lao PDR, especially in the rural areas, agriculture products and NTFPs significantly determine rural household food security and nutrition and women play a crucial role. While men are more involved in activities like logging and hunting wild animals, women are more involved in shifting cultivation and gathering edible wild vegetable and insects. Women not only address their family's food needs, but they also generate income from use of land and natural resources.

Women across all ethnic groups are involved in the collection of NTFPs equally or more than men. In villages and communities with longer and more interdependent relations with forests, and where there is adequate access to reasonable quality forests, women tend to be involved in NTFP collection on virtually a daily basis. They collect forest foods such as wild banana for pigs, and various greens, insects, mushrooms, shoots and fruits for family consumption. Men may hunt and trap small mammals and birds and collect wild honey. The household dependence on forest areas depends also on the general preferences, and orientation of the ethnic group whether to collect or not. When the families collect NTFPs for marketing (broom grass, wild palm fruit (*mak thao*), paper mulberry, bamboo shoots, etc.), there is greater allocation of both male and female labour to this task.

Land tenure rights that are relevant to women's rights involve rights over ownership, acquisition, management, administration, enjoyment, and disposition of land, territories, natural resources and property. These rights are fundamental for women to be involved in REDD+ and other development efforts. Women's land rights need to be clear in terms of both policy and practice.

Rural areas of Lao PDR are characterised by insecure land tenure and decreasing access to land and common resources. Women are generally less knowledgeable about land use rights and land titles than men, and especially at a community level, it is the village authorities and mostly men who discuss and make decisions regarding village land.

Differences in access rights to land and natural resources may also fluctuate between different categories of women, for example between widows with children, widows without children, daughters, stepdaughters and adopted daughters. Although land titling can include the names of both husband and wife as owners of family land, but this practice is not always followed. Many women do not exercise their legal rights due to cultural or knowledge limitations, which result in only their husband's name being registered on the land documents.

Residence patterns after marriage directly influence women rights and prerogatives over resources. Men and women are treated equally under the 1990 Inheritance Law. However, in practice there is still some discrimination in inheritance rights, as many Lao PDR people, particularly those from rurally-based ethnic groups, still follow customary practices that are related to traditional residence patterns after marriage such as matrilocal, patrilocal or bi-local. The matrilocal system - most of the majority Lao Tai group - where the husband moves in with the wife's family, affords women higher status and decision-making power. In patrilocal Sino-Tibetan and Hmong-Mien groups, women's ability to take decisions with regard to the land is almost non-existent.

In terms of governance or decision-making, the Hmong, men, who are the agents of hereditary transmission of the ancestral line, play the principal role. Only men participate in meetings related to the governance of the group. Women are relegated to the background. Hmong women never take part in discussion and cannot vote in assembly which they may attend only as observers. Old men cast the deciding vote.

The forest sector, and many forestry development projects, aim to involve all relevant stakeholders in their activities. To better communicate with rural women, and engage their participation, the district and provincial staff work closely with the local representatives of the Lao Women's Union in the field on extension activities.

The safeguard plans need to adequately consider how best to engage women and ensure that they benefit from their participation in REDD+ activities. Thus, the strategy options, or policies and measures (PAMs), need to consider gender impact on division of labour, access to land and natural resources, and participation in program design, implementation, and monitoring. Specific measures may need to be taken to encourage women's participation, such as using female extension agents to work with women villagers in separate groups, so that the women can more freely participate. If forestry teams do not have adequate women staff, then they can work with the Lao Women's Union, or the MAF sub-CAW staff, to find women staff to collaborate with rural women. In efforts to improve land tenure security, it is vital to ensure that women learn about their land rights, and that the names of both wives and husbands go onto household land titles. Specific REDD+ projects or programs should consider development of Gender Action Plans and training on gender issues.

### *3.7.6 Gender integration in forestry programmes*

The lead Government agency in the forest, MAF, was the first ministry to create a Division for the Advancement of Women, and a ministry-internal Gender Network with focal points in each department.

The constitutional mandate to protect women's rights and interests is traditionally with the Lao Women's Union (LWU; Article 7 of Constitution). The LWU has representation in every village, with one member of the LWU representing women in each village council. Through its extensive networks, the LWU has been able to bring women's voices into public administration at all levels - often providing the only female voice at the table. The LWU also has its own policy research center (Gender Resource Information and Development Center, Vientiane), which has undertaken research tasks on issues such as violence against women and gender budgeting on behalf of donors.

The current NSEDP foresees a 70 per cent LWU membership of women 15 years and older. Development partners will therefore almost automatically work with members of the LWU and should capitalise on its vast access to, and understanding of, Lao women as much as possible. The LFND oversees and coordinates all Lao PDR mass organisations and is responsible for overall social mobilization and the inclusion of ethnic groups in national development. At the local level, the LFND is a key player in organising activities related to forest protection and resource management.

There is a diverse range of civil society organisations in Laos active in areas of particular relevance to gender equality, including women's rights and development, child protection, support of people with disabilities, environment, education and health. CSOs in Laos are, however, usually not actively invited by the GoL to participate in policy dialogue at any stage. Most CSOs are therefore implementers at the local level but have limited opportunities to feed their implementation experiences into policy processes.

**Table 19 Consultations with different ethnic women July 2018 and January 2019**

| Province | # of participants | | | |
|---|---|---|---|---|
| | **Lao-Tai** | **Mon-Khmer** | **Hmong-Mien** | **Sino-Tibetan** |
| Luang Namtha | | | | |
| Saleuang | - | 15 | - | - |
| Chomsi | - | 10 | - | - |
| Harddao | - | 15 | - | - |
| Hardnalong | - | - | - | 15 |
| Tha Luarng | - | 15 | 15 | - |
| Nam An | - | - | - | 15 |
| Namet | - | 15 | - | - |
| Bokeo | | | | |
| Mu Nua Nam Lave | - | 15 | - | - |
| Paung | - | 15 | - | - |
| Lin | - | - | 15 | - |
| Oudomxay | | | | |
| Lao Phe | - | 15 | - | - |
| Na Houang | - | - | 15 | - |
| Denkon | - | 15 | - | - |
| Luang Prabang | | | | |
| Long Lao Mai | - | 15 | 15 | - |
| Long Lao Gai | - | 15 | 15 | - |

| Province | # of participants | | | |
|---|---|---|---|---|
| | **Lao-Tai** | **Mon-Khmer** | **Hmong-Mien** | **Sino-Tibetan** |
| Densavang | - | 15 | 15 | - |
| Phonsavat | - | - | - | - |
| Yang | 15 | - | - | - |
| Hat Kam | 15 | - | - | - |
| Houaphanh | | | | |
| Buamphat | - | 15 | - | - |
| Ponexong | - | - | 15 | - |
| Long Ngua Pa | - | - | 15 | - |
| Nam Neun | - | 15 | - | - |
| Xa | - | - | 15 | 15 |
| Muang Hom | - | - | 15 | - |
| Xayabouly | | | | |
| Sala | 15 | - | - | - |
| Na Kok | 15 | - | - | - |
| Na Fai | 15 | - | - | - |
| **Total** | **75** | **205** | **150** | **45** |

### *3.7.7 Key gender related challenges*

Forest degradation and deforestation pose a significant risk to the livelihoods of a majority of the Lao population. Women, the poor, and geographically remote communities are typically most vulnerable to these changes due to their limited adaptation capacities and limited access to alternative means of securing their livelihoods.

Lao PDR's SIGI (Social Integration and Gender Index) was 0.1445 in 2014, in the medium category. Most ethnic women in upland areas lack Lao language skills and this makes it difficult for them to access official information. Non-Lao speaking ethnic women need support to pass on their local knowledge to each other, and to learn from others new pieces of information, especially related to legal aspects. Women without primary education have three times the number of children as women who progress to higher education.

Forestry at the community level is highly "female" on the user side, with women collecting non-timber forest products and making up a significant proportion of the small business workforce in the forest and timber sector.

The land sector shows similar dynamics: whereas women and men have the same legal rights to land, women´s factual land tenure is still less secure than men's. Women are also often not actively included in decision-making steps of land use planning. The subsequent forest management plan is then seen as an even further specialised step which women perceive having even less access to. Lack of education, lack of technical knowledge and lack of confidence to participate in management decisions were key contributory factors. Traditional gender norms of many ethnic groups further contribute to these dynamics.

With approximately 250,000 direct beneficiaries from at least 23 different ethnic groups, and an additional 250,000 women and men indirectly benefitting, the ER Programme aims to mainstream gender and ethnic sensitivity throughout all planned measures.

To adequately engage all ethnic groups in REDD+ activities, it will be vital to ensure that REDD+ projects and programs follow the guidelines in the ESMF, or safeguard framework. These safeguard guidelines include ensuring that facilitators speak the local ethnic languages, and that if forestry staff does not, then they should work with the LFND or hire interpreters. Extension materials can make greater use of visual aids to reach people who are not literate in

the Lao language. Moreover, it will be important to ensure that efforts to improve land tenure security, taking into consideration local ethnic customary practices of land use and management, including in some cases communal management. For ethnic groups that continue to rely upon upland agriculture, both for food security and customary practice, efforts are needed to stabilise and recognise, through secure land tenure documents, these patterns of rotational agriculture.

Table 20 captures the priorities of women by ethnicity in the ER-P Villages that the GID Team visited. One positive step forward from the outset would be for "owners and managers" of the forests to carefully listen to what local women have to say. This requires a "cultural change" but the ER-P may assist in such a change.

**Table 20 Priorities of women by ethnicity in the ER-P villages (per cent)**

| Women's Priorities | Lao-Thai | Mon-Khmer | Hmong-Mien | Sino-Tibetan |
|---|---|---|---|---|
| To be treated with Dignity and Respect by Local and Provincial Authorities | 25 | 100 | 100 | 100 |
| Year-Round Food Security through Consumption of Nutritious Foodstuffs | 65 | 100 | 100 | 100 |
| Affordable Access to Health and Education Services at Village Level | 100 | 100 | 100 | 100 |
| Issuance of Permanent LUCs in Name of Wife and Husband by GoL | 100 | 100 | 100 | 100 |
| Improved and Safe Transport Connectivity to District and Capital | 100 | 100 | 100 | 100 |
| Robust Restrictions on Outsiders Harvesting NTFPs near Villages | 15 | 65 | 35 | 25 |
| Public Recognition by the GOL that Many Illegal Loggers are Outsiders | - | 70 | 25 | 10 |
| GoL to Supply Quality Inputs to Maximise Agriculture and Forestry | 100 | 100 | 100 | 100 |

The traditional gender division of labour demands women as farmers across all ethnic groups and farming systems to carry a heavier burden of work. Different government policies result in varying and often unequal impact on women and men within households leading to greater hardships for women. It is reported that upland farming women's agricultural workload is becoming heavier; while at the same time their families are faced with increasing difficulties to meet their food needs. Many of the causes of women's reduced rights to a secure livelihood are structural, with some of the causes starting at the policy level, and resulting in women's reduced access to productive resources, especially land.

Although women have significant roles in agriculture and forestry, they have less access to, and control of, farming and forestry-based inputs and outputs. Key decisions related to land and forests are usually taken by their husbands and the village authorities. Experience from other sectors, such as fisheries, shows that woman's multiple roles in traditional, complex and lengthy value chains tend to diminish when value chains are modernised. This may also be true for the forestry sector, but the lack of data does not allow us a clearer picture. Women's rights to forest and tree products tend to be restricted to products that are not profitable or have little commercial benefits.

According to Rita Gebert and Ny Louangkhot (2007), the following causes were cited as most important for women's increased workload and reduced food security:

- The implementation of the land and forest allocation policy, which limits the number of upland plots to three, meaning artificially induced reduced fallow times (previously at eight to ten years, now only two or three);
- The "small village" merger policy, which has resulted in smaller villages moving together or in smaller villages moving down to join already existing larger villages, so that there are at least 50 households;
- The implementation of various land concessions, such as for rubber or timber, may also reduce land available nearby the village for women's and men's productive activities.

Government policy to reduce the total number of plots allowed to remain in the rotational cultivation system has two immediate impacts on the farming system itself. First, with the reduced fallows the weed increases; second, the reduced fallowing times do not allow larger trees to grow up anymore. Since women are responsible for weeding they have much more work to do, plus their share of the land clearing work also increases with the increase in brush and shrubs women's task to clear, whereas it is men's task to cut the larger trees. If women cannot keep up with the weeding pressure, they may also choose to make smaller plots.

Merging villages causes many women (and men) to have to walk longer distances back to old fields, as there may be local no land available in the new place. Women often carry children with them, or leave very young children/infants behind, which also has a negative impact on the children's health.

In using forest resources, the Hmong differentiate some roles and duties along gender lines. For example, women are responsible for collecting medicinal herbs and edible plants, while men are responsible for hunting, performing rituals, and collecting wood for house building or making tools.

Women across all ethnic groups are involved in the collection of NTFPs usually more than men. In villages and communities with longer and more interdependent relations with forest, and where there is adequate access to reasonable quality forest, women tend to be involved in NTFP collection on virtually a daily basis. They collect forest foods such as wild banana for pigs, and various greens, insects, mushrooms, shoots and fruits for family consumption. Men may hunt and trap small mammals and birds and collect wild honey. The household dependence on forest areas depends also on the general preferences, and orientation of the ethnic group whether to collect or not. When the families collect NTFPs for marketing (broom grass, wild palm fruit (*mak thao*), paper mulberry, bamboo shoots, etc.), there is greater allocation of both male and female labour to this task.

Insecure land tenure and decreasing access to land and common resources characterise rural areas of Laos. Women are generally less knowledgeable about land use rights and land titles than men. At a community level, it is typically the village authorities and mostly men who discuss and make decisions regarding village land.

Land tenure rights that are relevant to women's rights involve rights over ownership, acquisition, management, administration, enjoyment, and disposition of land, territories, natural resources and property. These rights are fundamental for women to be involved in REDD+ and other development efforts. Women's land rights need to be clear in terms of both policy and practice.

Differences in access rights to land and natural resources may vary based on women's social status, for example between widows with children, widows without children, daughters, stepdaughters and adopted daughters. Although land titling can include the names of both husband and wife as owners of family land, but this practice is not always followed. Many

women do not exercise their legal rights due to cultural or knowledge limitations, which result in only their husband's name being registered on the land documents.

Women's role in Governance or decision-making is directly influenced by ethnicity. Amongst the Hmong community, only men participate in meetings related to governance issues. Hmong women may not participate in discussion and cannot vote in an assembly that they may attend only as observers. Elderly men cast the deciding vote.

The safeguard plans need to adequately consider how best to engage women representing all ethnic groups and ensure that they benefit from their participation in REDD+ activities. Thus, the strategy options, or policies and measures need to consider gender impact on division of labour, access to land and natural resources, and participation in program design, implementation, and monitoring.

Table 21 illustrates the limited information women have about forestry related programs in the six ER-P Provinces. The province with the greatest awareness of REDD+, Forest Laws, Understanding for BSP, collaborative management, and other forestry programs is Luang Prabang and the province with least awareness of Oudomxay: the women the GID Team discussed the ER-P with had never heard of REDD+, which clearly indicates the Provincial REDD+ Committee has not been able to reach out to local communities either in person or via other forms of dissemination. However, there also needs to be more commitment to reach out to village women. The SESA has clearly stated that forest-dependent women must be consulted and engaged and not be included as passive participants.

**Table 21 Forestry programmes awareness among women (per cent)**

| Province | Knowledge of REDD+ | Familiar with Forest Laws | Understanding of BSP for Forests | Awareness of Collaborative Management | Knowledge of Other Forestry Programmes |
|---|---|---|---|---|---|
| Luang Namtha | 10 | 5 | - | - | 15 |
| Oudomxay | - | 1 | - | - | 5 |
| Bokeo | 5 | 8 | - | - | 5 |
| Luang Prabang | 20 | 15 | 5 | 2 | 25 |
| Huaphan | 12 | 10 | 5 | 5 | 15 |
| Sayabouri | 8 | 9 | 8 | 5 | 12 |

### *3.7.8 Gender Action Plan*

The Gender Action Plan (GAP) is the basis for operationalising the findings of SESA. The GAP provides an effective framework for gender mainstreaming and integration of priority issues a co in the ER program, in order to maximise climate and development co-benefits.

The proposed project aims to support the successful implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management.

The main goal of the GAP is therefore to determine how the project can respond equally to the practical needs and strategic interests of women and men in view of the addressed forest degradation and deforestation, and the proposed measures. Key gender and social inclusion factors and related drivers of change will be identified to achieve the project goals in a sustainable manner and will be reflected in the proposed activities. The action plan has included the outcome from stakeholder consultations.

The GAP will be executed by the designated entities identified in the project management, including relevant Government line agencies and development partners.

The Action plan proposes measures and actions against each of the project components:

**Component 1**: Creation of an enabling environment for REDD + implementation
Measures and actions:

- Gender responsive regulations and guidelines to implement SFM, FLR and village forestry under the revised Forest Law and the PRAPs.
- Develop the capacities of line implementing Government agencies and the Lao Women's Union to provide facilitation on gender and social inclusion in all program activities in village communities.
- Review the potential for community–based women-led patrolling groups and support their creation with capacity development and awareness raising.
- Ensure an inclusive land use planning process that addresses gender and social equity issues in the target communities.
- Capitalise on local women's extensive knowledge about community forests in making them an integral part of the community engagement process to the National Forest Monitoring System.

**Component 2**: Implementation of deforestation-free agriculture
Measures and actions: Ensure all women have equitable access to and benefit from the promotion of new agricultural practices and value chains.

- Integrate a gender assessment in every analysis for potential new agricultural practices and value chains.
- Support the creation and capacity development of local women's collectives to initiate the production, processing and marketing of new value chains.
- Establish micro-finance institutions and/or funds and invest in building local women's business skills to enable their access to loans.

**Component 3**: Implementation of Sustainable Forest Management and Forest and Landscape Restoration Measures and actions: Women are an active and equitable part of village forest management and watershed management.

- Empower women to become members of Village Forest Management Committee and other forestry decision-making bodies.
- Support the recruitment and capacity development of female staff for all relevant implementing government agencies on all levels to improve the gender balance within the forestry sector.
- Ensure equitable participation of women in village consultations regarding potential private sector investments in community-based agroforestry

**Component 4**: Project management, monitoring and reporting Measures and actions:

- Ensure a gender-sensitive and gender-responsive M & E system
- Ensure gender-sensitive and responsive communication
    - Collect and analyse sex-disaggregated data to design equitable measures to hold all partners accountable to gender equality and effective gender mainstreaming.
    - Promote identified gender concerns through development of culturally sensitive awareness-raising materials and campaigns.

## 3.8 Policy and institutional issues

### *3.8.1 International commitments*

Lao PDR is a signatory of several multilateral environmental agreements that are of particular relevance to REDD+. Lao PDR has signed the three Rio Conventions of the United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity and United Nations Convention to Combat Desertification (UNCCD). Lao PDR is a signatory to the Paris Agreement and has also signed a number of important multilateral agreements that pertain to human rights, and thus social safeguards.

Lao PDR has endorsed the United Nations **International Labour Organization Convention No. 169 on Indigenous and Tribal Peoples (ILO 169)**, which includes respect for the culture, spirituality, social and economic organisation and their identity, all constituting essential premises regarding the enduring nature of indigenous and tribal peoples. The Convention also presumes that indigenous and tribal peoples are able to speak for themselves and to take part in the decision-making process as it affects them and that they have a right to take part in this decision-making process.

While not an international treaty, it is nonetheless an important document, and Lao PDR signed the UNDRIP in 2007. This identifies the individual and collective rights of indigenous peoples, and the duties of governments to respect those rights.

Lao PDR is a signatory to the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and has established the NCAWMC that has the mandate to lead on gender issues, and all government organisations have NCAWMC representatives.

Lao PDR aims to follow the voluntary guidelines of the 2012 FAO Voluntary Guidelines on Land Tenure. Each country is required to take governance of the associated natural resources into account in their implementation of these guidelines on responsible tenure governance, as appropriate. Under these guidelines, recognition of equity and justice were mentioned in the rights and responsibilities to promote equitable tenure rights and access to land, fisheries and forests, for all, women and men, youth and vulnerable and traditionally marginalised people, within the national context.

### *3.8.2 National policy and legal framework*

Key strategies that provide the context for the ER Programme include:

The **Eighth National Socio-economic Development Plan (8th NSEDP)** covers the period from 2016 to 2020. The strategy aims to maintain economic growth at 8 per cent, achieve the Sustainable Development Goals (SDG) for full integration with the Association of Southeast Asian Nations (ASEAN), lay the foundation to graduate from the Least Developing Country status by 2020, and ensure sustainable development by integrating economic development with socio-cultural development and environment protection to the nations advantage, and ensure political stability, public security and support international cooperation. The strategy provides the analysis of the current interaction between economic decisions and environment soundness in each sector, and also provides guidance in the development of balanced programs. The provinces and districts also have their own socio-economic development plans, which are aligned with the 8th NSEDP.

The **Forestry Strategy 2020**, No. 229/NA, dated 09 August 2005, identifies the objectives of the forestry sector to enhance the capacities of government institutions and relevant stakeholders to strengthen sustainable forest management and protection in Lao PDR. It includes participatory mechanisms for all three-forest categories (protection, protected and

production forests) to ensure the production of timber and forest products, biodiversity conservation and environment protection. It also aims to develop and update the legal and institution structures.

The first **National Biodiversity Strategy and Action Pla**n (NBSAP) covering the period up to 2010 was prepared in June 2004. It was updated for 2016-2025 and adopted in 2016 to promote the biodiversity conservation and sustainable use based on 20 targets set by the CBD. Lao PDR is signatory to the CBD, which commits the country to achieve targets set in the NBSAP (e.g. diversity of the ecosystems, protected areas management). Given the current situation, Lao PDR needs to take urgent actions for biodiversity conservation, sustainable land use approaches, and fair and equitable sharing of benefits, to reduce the rate of loss of biodiversity nationally. To achieve biodiversity and forest targets, the highest importance is given to activities that will also enhance national economic development, livelihood improvement in the rural areas, and food security.

The **National Agriculture Development Strategy 2016 to 2025 and Vision to 2030** laid out development goals to improve techniques in flatland agricultural production according to market forces, including adaptation to climate change, and for small-scale agricultural production and for ecosystem conservation in mountainous areas. The strategy aims both to expand agriculture from 3 million hectares to 4.5 million hectares, and to increase the efficiency of agricultural production. In terms of national land use, the area suitable for agriculture is considered to be 4.5 million hectares.

The **National Climate Change Strategy** No. 137/PM, dated 12 March 2010, has a vision to establish programs, adaptive strategies and mitigation options, to increase resilience of key sectors to the impacts of climate change and aims to promote sustainable economic development, reduce poverty, protect public health and safety, enhance the quality of Lao PDR's natural environment to protect ecosystem integrity and productivity of forest resources, and advance the quality of life for all Lao people. It requires strong cooperation, partnerships with national stakeholders and international partners, and increased public awareness of climate change, and increased stakeholder willingness to take actions to implement the national development goals.

### *3.8.3 National framework for social and environmental safeguards*

The key national policy, laws and regulations that have explicit and implicit social and environmental safeguards of relevance to REDD+ include:

- The National Constitution, 2015
- Environmental Protection Law No. 29/NA, 2012:
    - PM Decree on EIA No. 21/GoL, 2019
    - MoNRE's Instruction on ESIA No. 8030, 2013 and Instruction No. 8029 on IEE, 2013
    - Minister Agreement on the Acceptance and Announcement on the Use of Project Investment List and Activities that require the Conduct of IEE and ESIA No. 8056/MoNRE, 2013
    - PM's Decree on Compensation and Resettlement for People Affected by Development Projects No. 84, 2016
- Land Law No. 04/NA, 2003 (revised Land Law approved in 2019)
- National Policy on Land No. 026/CC, 2017
- Law on Minerals No. 02/NA, 2011
- Law on Grievance Redress No. 53/NA, 2014
- Law on National Roads No. 03/NA, 2016

- Law on Electricity No. 19/NA, 2017
- Law on National Heritage No. 44/NA, 2013
- Lao Women's Union Law No. 31, 2013
- Forestry Law No. 99/NA, 2003 (revised Forestry Law approved in 2019):
    - PM Order No. 10/PM on the Prevention of Harvesting and Buying-Selling of Protected Species, 2011
    - PM Agreement on the Endorsement of the Meeting Outcomes on Forest Management, Forest Inspection and Business, 2012
    - President Decree No. 001/President on Revenue Sharing for Timber Harvested from Production Forest Areas, , 2012
    - PM Order No. 13/PM on Moratoriums on Concessions for Mining, Rubber and Eucalyptus Plantations, 2012
    - PM Order No. 31/PM on the Temporary Suspension of Logging in All Production Forests, 2013
    - NA Decision No. 273/NA on the Approval of the Protection Forests, Protected Areas and Production Forests, 2014
    - PM Order No. 15/PM on Intensifying Strictness in the Management and Inspection of Wood Exploitation, Timber Removal and Wood Related Businesses, 2016
    - PM Order No. 09/PM on the Enhancement of Land Management for Industrial and Agricultural Crop Concessions, 2018
- Village Forestry Regulation No. 0535/MAF, 2001
- Wildlife and Aquatic Law No. 07, 2007
- Water and Water Resources Law No. 02/NA, 2013
- Ministerial Instruction on Customary Rights No. 564/NLMA, 2007
- National Policy on Health Impact Assessment No. 365/MOH, 2006
- MAF Manual Participatory Land Use Planning (PLUP), 2010
- Public Involvement Guideline, 2012
- Ethnic Group Consultation Guidelines, 2012
- MAF Regulation on the Control of Pesticides in Lao PDR, 2860/MAF, 2010
- Decree on Pesticide Management, No 258 /GoL, 2017

**The Constitution of Lao PDR** No 63/NA, dated 8 December 2015, acknowledges all forms of property rights under Article 16, and encourages protection and restoration of environment and natural resources in a participatory and sustainably manner under Article 17**.**

The Constitution specifies that Lao PDR is a multi-ethnic society, and that all ethnic groups and citizens have equal rights. The GoL promotes the development, protection, and advancement of women, and supports their participation, decision-making, and equitable benefit-sharing in all development activities according to Article 4 of the **Lao Women's Union Law, No. 31/NA**, dated 23 July 2013.

Every five years, the country prepares **Socio-Economic Development Plans (SEDP)** at the national, provincial, district, and village levels, which in turn guide annual work plans and budgets. Currently the 8$^{th}$ NSEDP is under implementation, for the period 2016-2020. The management and implementation of the SEDP at the local levels (districts and villages) and the distribution of village boundaries by local authorities on the use of natural resources, environment and other resources is described in Articles 2, 5, and 43 of the **Local Administration Law** No. 017/NA, dated 14 December 2015.

Article 7 of the **Environment Protection Law** (2012) describes the responsibilities of individuals, households and institutions to protect the environment, while participation of the

public -- with the engagement of institutions, local authorities and affected people -- in the preparation of all environmental activities is specified in the Article 48. Key activities under the environmental activities are specified in detail in Articles 19, 21 and 22 of this law, including the requirements for Strategic Environment Assessment (SEA), an IEE and an ESIA. The Environment Protection Law promotes the conservation of natural resources together with the policies and measures clearly specified in Article 50. The registration of specific natural resources is noted in Article 49, while the responsibilities of individuals, households and institutions in rehabilitation of degraded environment in impacted areas is described in Article 55.

In the Environmental Protection Law No 29/NA (2012), Article 5 recognises the importance of the social and natural environment in daily life. Therefore, the GoL requires that certain types and sizes of development projects carry out an IEE and/or an Environmental and Social Impact Assessment (ESIA). This analysis must include a proper consultation process with all stakeholders, especially those who are directly affected by the projects, as described in MoNRE's Instruction on ESIA, No. 8029 (2013) and Instruction No. 8030 (2013). These guidelines are followed by large infrastructure projects, like hydropower schemes or mining operations, but usually not followed for forestry projects.

In January 2019, the GoL led by MoNRE, approved a new Decree on Environmental Impact Assessment that aims to close loopholes by incorporating some of the provisions provided in the Regulations No. 8029 and 8030. The PAFOs and DAFOs have been consulted as part of the IEE/ESIA processes concerning possible impacts on forests, biodiversity and local communities. If significant impacts are discovered and cannot be avoided or mitigated the Water Resources Law 2017 requires that project developers must compensate for forest and biodiversity loss through reforestation, watershed management and biodiversity offset as part of the ESMMP to be approved by GoL and monitored by both the project proponent and GoL. **PM Decree No. 84 (2016)** on **Compensation and Resettlement for People Affected by Development Projects** allows people affected by projects to receive compensation for the loss of assets and opportunities by development projects.

**Water and Water Resources Law 2017** requires that project developers prepare a plan for the protection and rehabilitation of protection forests (Article 24). It also stipulates that individuals or organisations have obligations in protecting water and water resources, rehabilitate forest resources and land in the watershed areas in strict compliance with management plans of water resources, forests and land (Article 26), as well as encouraging forest rehabilitations and protection in the watershed areas, promotion of organic fertilisers, waste disposal and wastewater treatment as means to restore damaged water resources (Article 56).

**Electricity Law 2017** requires that ESIA is undertaken at an early stage of hydropower project development, i.e. after signing MOU and Project Development Agreement (PDA) stage as part of the overall Feasibility Study (Article 59) and obtaining approvals from MoNRE in cooperation with MEM (Article 60). In addition to the payment of royalty, duty and tax, the Project Company or the concessionaire shall pay its contribution to the Environment Protection Fund and funds for socio-economic development of the localities where the project is located and surrounding areas, downstream area of the project and contribution to the Fund for watershed and reservoir protection, plantation of forest in flooded forest land area and land area for temporary use.

The **Participatory Land Use Planning (PLUP) Manual** was endorsed by MAF in 2010 to replace the former LUP/LA Manual issued in 1996. At the village cluster level, the PLUP Manual introduced a participatory working approach and development plan that would ensure

sustainable forest landscape management. Within the steps the PLUP Manual gives instructions on many issues including sharing roles and responsibilities among related local governmental organisations, application of modern technologies, work in various ecological conditions, land registration and titling including for individual and collective land that supports recognition of customary tenure. The PLUP Manual encourages stakeholders, especially villagers, to participate in planning, forest and/or land management fully and effectively.

**Public Involvement Guidelines**, Ministerial Instruction No. 29/MoNRE (2013) introduces Environmental and Social Impact Assessment by every Investment Project and Activity of a public and private both domestic and foreign enterprise operating in Lao PDR that causes or is likely to cause environmental and social impacts. The instruction also brings into consideration four public involvement processes, which are information gathering, information dissemination, consultation, and participation, to ensure project activities are designed with consideration to minimise social and environmental negative impacts and to maximise positive impacts in a long run.

The **Ethnic Group Consultation Guideline**s was launched by the Lao Front for National Construction in 2012 and is in line with the National Guideline on Public Involvement, 2012. It aims to ensure that all ethnic groups who benefit from or are adversely affected by a development project, without regard to the source of funding, are fully engaged in a meaningful consultation process at all stages from preparation into implementation. The guideline also aims to ensure that the potentially affected ethnic groups are fully informed of project objectives, as well as their potential positive and adverse impacts on their livelihood and their environment and provided with opportunities to articulate their concerns. The guidelines provide principles and processes to carry out meaningful consultations with, and obtain free, prior and informed consent of all ethnic groups affected by developments projects in a culturally sensitive manner.

Conflicts can be addressed through a legal conflict resolution system, as described under the **Law on Grievance Redress No 53/NA 2014**, through a traditional or customary system, or Village Conflict Mediation Unit. Above the village are the Regional, Provincial, and National Supreme Courts. Any urgent issues, complaints, or inquiries can be publicly voiced to National Assembly members, or through the National Assembly Hotline, which is open during the National Assembly sessions.

It should be noted that the government encourages villages to prevent conflicts or problems related to family issues through effective village Grievance Redress Mechanism, drug trafficking and health, and recognises villages that do so as "model cultural villages." Moreover, many villagers are unaware of grievance redress mechanisms that exist above the village level, and/or how to access such mechanisms.

The Politburo (Central Committee) recognises that the country has been facing many land issues including land allocation, land use planning, benefits from land and issued a **Resolution, or National Policy, on Land** No. 026/CC, dated 03 August /2017. The Resolution provides general guidance on land management and development, with a focus on centralization and consistency of land management nationwide. The Resolution requires a review of agriculture land use to ensure conformity with protecting the environment, meeting the demands for national development with green growth and sustainability, increasing land quality and ensuring land for agriculture to guarantee food security. On one hand, the policy affirms that land rights already granted to individuals are legally in compliance and will be retained. But on the other hand, the policy states that the government has the right to withdraw (cancel) land use rights held by individuals, entities, collectives and organisations for the purpose of national

social-economic development plans. Thus, ultimately any land rights can be revoked by the government, but if this occurs, the rights holders are due compensation.

Article 55 of the **Land Law No. 48/NA (2013)** describes the responsibilities of individuals, households and institutions in rehabilitation of degraded environment in impacted areas. The protection of land user rights benefits is specified in the Article 5. The Land Law has been under revision for several years.

The **Forestry Law (2007)** sets key conditions for the management of forests, and thus is of particular relevance for the development of natural resources in Lo PDR. Article 7 encourages individuals, households and institutions to protect and develop forests, forest resources, water sources, biodiversity, and environment in line with the regulations to avoid the degradation, erosion and others. Many forests are categorised into three types (production, conservation, and protection forests) under the Article 9 to 12 of the Forestry Law. Other forestlands are "uncategorised." Article 13 of the Forestry Law (2007) clarifies that degraded and barren lands, which were distinct forest categories under an earlier version of the law, are included now in the other forest categories.

The State promotes the preparation of the management plans for all three forest categories (including the water sources, watersheds) to develop sustainable forest management, including approved areas under rotational agriculture and for wood and forest products use based on the Article 22 to 26 of Forestry Law. The use of wood and forest products for the community, household livelihoods, and customary use is described in Articles 40 to 42 of Forestry Law (2007), while harvesting for trade is in Articles 43 and 49, and the conversion of forest lands to other development objectives is described in Article 70 of Forestry Law.

The **Presidential Decree No. 001/PM** (PMO No. 001, 2012) describes benefit sharing in Production Forest Area among the entities engaged in participatory sustainable forest management (PSFM). Under this decree, 30 per cent of the all timber revenues go to the Forest and Forest Resources Development Fund, and the Fund then distributes the revenue to PAFOs, 30 per cent; DAFOs, 30 per cent; and local communities 40 per cent. This decree, however, has not yet been implemented, due to the logging ban that has been in force for the Production Forest Areas (PM No. 31). Previous approaches to timber revenue benefit sharing with communities and the government have been applied. This decree is an improvement over previous timber revenue benefit-sharing policies, as it will increase the percentage of revenue going to local communities.

**Prime Minister's Order No 15** (PMO 15), dated 13 May 2016, informs line authorities on the increasing of strictness on the management of forests and the monitoring of logging, transportation and timber business, including the prohibition of exports of logs and timber. It prohibits wood processing from natural forests, and further supports implementation the **PM Order No. 31 (2013) on the temporary ban of logging** in all production forests and follow-up on the preparation of sustainable management plans for production forests.

The National Assembly released the **Decision on the Approval of the Protection Forests, Protected Areas and Production Forests No. 273/NA, on 21 August 2014.** It acknowledged the rights of people living in or adjacent to the three categories of forests to use lands for agriculture production. This National Assembly Decision requested the government to re-delineate the boundaries of the three categories of forest, to exclude land being used for agriculture or other non-forest purposes, and to replace it with suitable forestland. Methods for undertaking this re-delineation have been piloted in two areas, but there is not yet agreement on how to proceed. Thus, this re-delineation has not yet been proposed. Having more clear

boundaries of the three categories of forests would facilitate implementation of REDD+ and the Forest Strategy.

The **Wildlife and Aquatic Law No. 07**, dated 24 December 2007, specifies the management of wildlife and aquatic resources and controls their harvesting. It promotes conservation of biological diversity, including rare and endangered species. The Department of Forest Inspection (DoFI), created in 2007, has responsibility nationwide for the enforcement of both the Forestry Law and the Wildlife and Aquatic Law.

The **Regulation on the Control of Pesticides** (Lao PDR, 2860/MAF, 2010) provides details on the use of pesticides, as well as the ways to collect and destroy the pesticides, to avoid negative impacts to people, animals and environment according to the Article 23 and 24. This was followed by the **Decree on Pesticide Management**, No 258 /GOV, 24 August 2017, which defines the principles, regulations and measures regarding the use of pesticides, management and monitoring of pesticide activities to ensure the quality, efficiency and safety for humans, animals, plants and environment, with the aim of allowing the agricultural and forest production to be carried out in line with clean, green and sustainable agriculture, capable to ensure regional and international integration, and contribute to national socio-economic development.

### *3.8.4 Environmental Protection Fund*

The Environment Protection Fund (EPF) was established in 2005 for the purpose of strengthening environmental protection, sustainable natural resources management, biodiversity conservation and community development. The EPF manages funding from international donors, as well as private companies, and provides finance by means of grants, preferential loans, and interest rate subsides. However, this fund only provides finance to government agencies. The ADB provides financial support to establish a USD 5.8 million-endowment fund to operate and maintain the EPF Office.

From 2005 to 2010 the World Bank provided USD 4 million through the Lao Environment and Social Project (LENS1 Project). The original plan was that some revenue from Nam Theun 2 (NT2) Hydropower Station would be provided for the fund after 2010, at a time when NT2 had commenced operations and had started generating revenue. However, the GoL decided against using the revenue from NT2 for the EPF, but for use in other projects that the government gave priority. As a consequence, the World Bank provided additional finance of USD 3 million from 2010 to 2013/14 for the purpose of keeping the fund active. In 2014/15 the World Bank decided to provide USD 38 million for five years for the Protected Area and Wildlife Project (PAW). Later the fund from the International Development Association (IDA) of the World Bank was added to the project and the project was renamed as the Second Lao Environment and Social project (LENS2). About 10 per cent of the fund (total of USD 38 million) is used for strengthening the fund in the fields of i) institution, ii) human resources, and iii) finance. The USD 38 million fund is composed of i) WB-AF USD 12 million, ii) GEF 6.5 million, and iii) IDA 19.5 million. LENS2 consists of 38 projects across four fields – i) forestry, ii) wildlife trade, iii) environment (including DESIA), and iv) academic (five faculties of the National University of Laos).

Mining and hydropower companies have an obligation to contribute to EPF, in accordance with concession agreements. From 2005 to 2010 a total of USD 200,000 was paid to EPF and the amount increased to USD 2 million from 2011 to 2015. It is expected to attain an amount of USD 30 million for the five years from 2016 to 2020. Mining companies have made most of the contributions to the EPF. For example, during the 15 months from 1st October 2015 to 31st December 2016, EPF received a total of USD 647,040 from private companies, of which, USD

447,040 were from 66 mining companies and USD 200,000 were from a single hydropower company (Theun-Hinboun Hydropower Company which contributed USD 200,000 per year based on the Environmental Management and Monitoring Plan).

As of 2017, 133 hydropower projects are in operation, under construction, or at the planning stage. Concession Agreements (CA) for 19 hydropower projects require a contribution to EPF, but most of the hydropower companies have not implemented their duty. 37 hydropower projects have CAs without any description on the contribution to EPF. Remaining hydropower projects have still not reached agreements on EPF at the signing of the CAs.

EPF provides financial support through the following five windows:1) Policy Implementation and Capacity Enhancement (PICE) ; 2) Community and Biodiversity Investment (CBI); 3) Pollution Control; 4) Sustainable Land Management; and 5) Water Resource Management.

The first two windows (PICE and CBI) are financed by LENS2 of the World Bank. In March 2017 the Revised Decree on the EPF (No.94/PMO) was issued. The Decree mandates the following capital and income as the sources of the EPF:

- State budget
- Contributions under the concession agreement of investment projects according to Electricity law, the Mineral law, and other relevant laws
- Direct grant aids from national and international organisations
- Contributions from person, legal entity, and organisation
- Interest and profits generated from capital investments of the EPF in the bank
- Environmental rehabilitation fees from investment projects and activities
- Payment for ecosystem services (PES)
- Fines and indemnities of environmental damages

### *3.8.5 Policy and implementation challenges*

Most of the 8th NSEDP targets complement REDD+ objectives (i.e., achieving economic growth to graduate from the group of "least developed countries (LDC)" status by 2020, and to provide balanced development by incorporating analysis of the current interactions between economic decisions and environment soundness in each sector). They also contribute towards the new "green growth" approach being supported by the government. The REDD+ technical working groups have analyzed key gaps and challenges in the policies, laws, and regulations (PLRs) regarding safeguards. The key points are as follows:

Social aspects:

- To meet policy directives on "Three Build (*Samsang*)," which outline the development roles at the provincial, district, and local levels, more support is still needed at the local level to increase the local authorities' capacities and support their decision-making, including access to information.
- Rural land tenure security and customary rights remain problematic, as not much land has been titled, especially in the rural areas.
- The Constitution and the Law on the Lao Women's Union: gender has been mentioned in very few legal documents related to forestry and environment. The relative rights, roles, and knowledge of women versus men in the forest management are not well acknowledged, especially in the rural areas.
- Public consultation is mentioned in most of the laws, but the procedural aspects of participation are not well defined. Public consultations mostly rely on project holders, in particular with the IEE and ESIA preparation and implementation process. Therefore, promotion of stakeholder engagement is a prerequisite for all development. All ethnic

groups and women should be engaged through proper consultations and awareness raising.

- Grievance Redress Mechanisms are not clear enough to citizens. At the local level people usually use only the village mediation unit (VMU) for conflict resolution system.
- Benefit sharing has been primarily done through development projects.

Environmental aspects:

- The existing delineation of the three forest categories at the national and provincial level was undertaken on maps and covered other land use types such as barren land, village forest and others. In practice it has not yet been feasible to achieve the complex process of delineation of all three-forest types, according to the Article 15 (3rd item) and Article 16 of the Forestry Law 2007. This has been due to insufficient resources and inadequate coordination among relevant sectors at central and local level on the management of different forest categories. Moreover, no clear criteria exist for delineation of agriculture areas and classification of village forest according to sections 3.1.2.2 and 3.1.2.3 of the Forestry Strategy 2020. The non-forest lands can be identified after the delineation for other purposes, including concessions for agriculture expansion. The 2014 request of the National Assembly to re-delineate the forests has not yet been achieved.
- Poverty and population growth has led to the conversion of forestland to various forms of agriculture and shifting cultivation, which have resulted in deterioration and destruction of forest. The government has focused on the eradication of poverty to reduce the adverse impacts of these agricultural practices on forest and forest resources.
- The use of land and forest under the forestland allocation process has been found to be unsustainable. Land allocated to villagers was often insufficient to sustain their livelihoods. Local villagers have not acknowledged their responsibilities and efforts in eliminating pioneering shifting cultivation practices, based on the set of goals and objectives in the Forestry Strategy 2020.
- Some improvements to the legal framework on the conservation of biodiversity have been made, but they are not integrated into the socio-environment assessment and the investment development processes, especially concerning genetic resources.
- Although the business registration requirement and the IEE and/or ESIA processes follow some guidelines, a thorough stakeholder consultation process is required that identifies information sharing and dissemination, risks, impacts and measures. Furthermore, a process regarding follow-up monitoring and reporting is also needed.
- The conversion of barren land and degraded forest to agriculture land is supposed to follow the socio-economic plan and to be based on the Article 70 of the Forestry Law. But the implementation at provincial level is often not fully followed, especially delineation of areas on maps and into the planning of infrastructure development. Proposed Provincial REDD+ Action Plans in pilot provinces and/or work to promote provincial-level forest landscape management may improve this situation, by improving the alignment of provincial and national policies.
- There is a need to amend the concession regulations, compensation, technical and administration costs, rehabilitation and other fees. In the case of temporary concessions, such as mining and other production, there is a need for law enforcement on the requirements for site rehabilitation after completion of the concession. The PAFO is responsible for overseeing forest restoration. According to Article 31 of the PM Decree on Protection Forest, the mining companies are supposed to contribute funds for replanting of the areas, but no information exists on whether or not this had been done.

- Sustainable Forest Management has been implemented in Production Forest Areas, based on the Forestry Law on the use of forest and forest products for business. The logging operational plans have followed the Sustainable Forest Production Management Plan, including identification of the key strict zones for species, habitats and/or ecosystems, and other requirements such as institutional set-up for operational and management of forest through an equitable, fair benefit sharing mechanism, and the set-up of the monitoring system on logging operations for rehabilitation for the next logging operation cycle.
- Few Conservation Forest Areas or Protection Forest Areas have sustainable forest management plans. Support for development of such plans, with the participation of adjacent communities, is needed.
- Village forest management plans are prepared, based on the use of forest and forest products (medicinal plants) for community, household consumption and traditional use. However, these plans still need to follow all procedures according to Articles 43 and 45 of the Law on Forestry.
- Specific regulations on the restriction of slash and burn cultivation practices are needed. This objective should also be specified in strategies and action plans including: the need for awareness raising; cooperation and collabouration in land use planning across all sectors for livelihood improvement; setting proper measures; law enforcement with regulations on pioneering shifting cultivation; and, monitoring forest fires and erosion.

The following outline the key challenges found from the legal and regulatory framework review under social and environmental aspects:

- No specific social and environmental provisions or guidelines exist for conducting consultations with different ethnic groups, in ways that the groups consider appropriate.
- Unclear Grievance Redress Mechanisms beyond the village level as recently practiced under the VMU and limited ways for dispute resolution.
- Procedural aspects of participation are not well defined and are not usually followed in the absence of donor-supported projects.
- Understanding and disseminating information on environmental and social safeguards is insufficient and is not always updated.
- Low staff understanding of, and capacity to work, on safeguards issues.
- Weak or irregular collaboration between social and environmental related institutions.
- High and frequent demand for external support for both social and environmental aspects.
- Inconsistency in terms of the time and financial support available versus actual development needs.
- Challenges in enhancing the capacities of government institutions and relevant stakeholders to strengthen forest protection and establish sustainable forest management in Lao PDR.
- Complex process of delineation of the three forest categories has been found to be a major challenge, in particular for where these forest categories overlap with village territories and village forests. In such areas, customary rights to use the forest remain an important part of people's lives and people rely upon customary means of dispute resolution.
- Promotion of biodiversity conservation and sustainable use for all planning and implementation programs has also been found to be a major challenge for achieving the main goals of the Forestry Strategy 2020.

In 2015 the CliPAD program commissioned a study of policies, laws, and regulations in Lao PDR in relation to the REDD+ safeguards. The report argues that "significant gaps" exist in

the policies, laws, and regulations of Lao PDR regarding REDD+ safeguards. The report also notes that major weaknesses exist regarding security of land tenure for villagers, especially when confronted with the expansion of concessions for use of land traditionally used by villagers. The study argued that the existing legal framework does not consider the cultural differences among ethnic groups in respect to how each group uses forests and forest resources. In addition to improving the Land and Forest Laws the report advocates improvements in benefit sharing with local communities, transparency and dissemination of information, and the provision of mechanisms to lodge and resolve grievances. To achieve "full and effective participation" of stakeholders, the study recommends that greater responsibility should be given to villagers and village authorities. This move would also involve communal titling of village forestry land and giving villagers greater authority in managing their lands for village forests and for agriculture, including shifting cultivation. The report also provides recommendations for designing the REDD+ benefit-sharing mechanism and the Safeguards Information System (SIS).

### *3.8.6 REDD+ institutional framework*

In Lao PDR the highest policy-making body is the Politburo (Central Committee) of the Lao Communist Party. The Country has a President and a National Assembly, headed by a Prime Minister. The national government is organised primarily into ministries, departments, and divisions. The country is comprised of 17 rural provinces, with Vientiane Capital comprising the 18th province. Each province is headed by a Governor and Vice-Governor and contains provincial branches of the main ministries. The Ministry of Agriculture and Forestry is represented at the provincial level by the PAFO, whereas DoFI has Provincial Offices of Forest Inspection (POFI) and MoNRE has Provincial Offices of Natural Resources and Environment (PoNRE). The province, in turn, is comprised of districts, which are made up of *kum ban* or village clusters. The lowest level of government is the village *(ban)* level. The 18 provinces are made up of 148 districts and 8,507 villages. The number of villages has decreased in recent years, as the government has consolidated some hamlets and smaller villages into larger units.

As indicated in Figure 9, Lao PDR has made institutional arrangements to manage the development and implementation of its REDD+ Programme on both national and provincialevels.

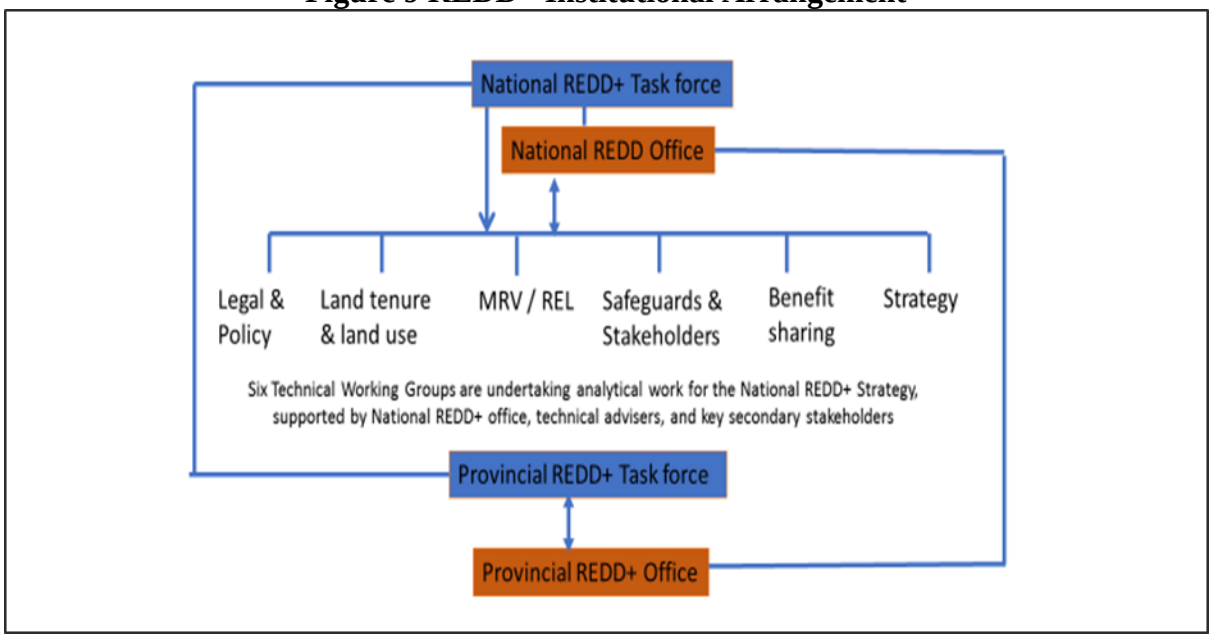
The **National REDD+ Task Force (NRTF)** was established in 2008 but has been reconfigured periodically. The NRTF was originally under the Department of Forestry (DoF) within the MAF. After the MoNRE was created in 2012, the NRTF moved under MoNRE's DFRM. Initially the NRTF had 12 members, then later 16 members, and was chaired by the Director-General of Forestry. Following the move to MoNRE the NRTF grew to 24 and then 30 members and was chaired by the Vice-Minister of MoNRE. However, in April 2016 the new government decided to reorganise some ministerial mandates, which resulted in the responsibility for forest management to be returned from MoNRE back to MAF. On 23 May 2017 MAF appointed a new National REDD+ Task Force, comprised of 16 members and headed by the Vice-Minister of MAF. This NRTF is an intersectoral body, with members of key concerned agencies. The new Task Force had its first meeting on 31 August 2017.

The NRTF reports to higher levels of government, via the Minister of MAF, which allows work to be shared and guidance received from other Ministers at monthly meetings. The NRTF was originally supported by a secretariat, or National REDD+ Office (NRO), which was established under a Division of Planning at DoF. DFRM also established a REDD+ Division in 2012, while DoF maintained the DoF REDD+ Office. These two offices aimed to coordinate their REDD+ activities and were joint focal points for REDD+ in Laos. Following the ministerial reorganisation in 2016 the two offices were merged and became the REDD+ Division. Six

REDD+ TWGs were formally established in late 2015, and their Terms of Reference approved on 23 August 2016. The DoF REDD+ Division also serves as the Secretariat for the six TWGs.

The development of REDD+ activities in the field is being developed in a gradual manner. To date, Provincial REDD+ Task Forces (PRTFs) and have been established in three provinces – Huaphan, Champasak, and Luang Prabang. Subsequently, PRTFs and provincial REDD+ offices have been established in Luang Namtha, Bokeo, Oudomxay and Xayabory Provinces. The six Northern provinces (excluding Champasak) are proposed to be part of a future Emissions Reduction Programme Agreement (ER-PA) with the FCPF Carbon Fund. With support from the German Government assisted CliPAD three PRAPs have been prepared in Huaphan, Luang Namtha and Sayabouri. The Japanese International Cooperation Agency (JICA) assisted Forestry and REDD+ (F-REDD) project has assisted Luang Prabang Province to complete its PRAP. The FCPF Readiness Project funded PRAPs in Bokeo and Oudomxay Provinces. The six PRAPs were used in the development of the ERPD.

**Figure 9 REDD+ Institutional Arrangement**




Lao PDR's FIP supported the BCC-I and includes work on promoting REDD+-related activities with protection and conservation forests in two southern provinces, Attapeu and Xekong. Previously the World Wild Fund for Nature and now the Government of Austria have supported the development of a pilot REDD+ project for the Xe Pian Conservation Area, which is primarily located in Champasack, but also in Attapeu provinces. This project has been developed in line with Verified Carbon Standards.

The Lao FIP also supports REDD+ activities in most of the national production forests, through the Scaling-up Sustainable Forest Management (also known as SUFORD-Scaling Up or SUFORD-SU) Project operational in 13 provinces and provides support to forest law enforcement nationwide through DoFI. The SUFORD-SU Project was co-financed by GoL, the World Bank, the FIP under the global CIF, and the Government of Finland. The third project under the Lao FIP is the Smallholder Plantation Project, which is implemented by the IFC in partnership with the private sector to pilot sustainable smallholder forestry in selected project areas.

### *3.8.7 Institutional capacity*

In 2014 the CliPAD project commissioned a preliminary study to assess the capacity of staff members working with the DoF, as well as in the field under the PAFOs and DAFOs. GCF has conducted capacity needs assessment and gap assessment on the Implementation of the Lao PDR Emission Reduction Programme through Improved Governance and Sustainable Forest Landscape Management.

Currently, the DoF REDD+ Division is comprised of 18 staff and volunteers. The National REDD+ Focal Point is a Deputy Director of the DoF and he oversees all the government REDD+ work. A Director and four Deputy-Directors head the Division. The senior staff members have good experience and fluency in English and have participated in many regional and international meetings and workshops related to REDD+ over the past decade.

At the provincial level, the PRTF is comprised of representatives from different sectors, and the Vice-Governor chairs the PRTF. A few government employees working in the PAFO staff the PRTF Office. Provincial and district staff members, villagers, and other stakeholders have limited understanding of REDD+ issues, but various projects are working to enhance stakeholder capacities in this regard. For example, since mid-2016 the REDD+ Readiness project has supported numerous consultations and workshops. In the Mid-Term Report to FCPF the DoF stated that capacity building at the provincial and lower levels will be a focus of the second REDD+ Readiness grant. In terms of institutional capacity building, organisational development requires further work, with clear mandates, terms of reference for personnel, and staff development plans. In addition, although the country has received official development assistance for the forest sector, the sector still remains understaffed, undertrained, and under-equipped. Forest management centers and/or extension centers closer to villages have been proposed as one means to improve extension and forest management.

## 4 Environmental and Social Safeguards

### 4.1 Approach to safeguards

The World Bank assumes functions of trustee and secretariat for the FCPF and the Carbon Fund. Consequently, the methodological framework of the Carbon Fund states ER Programmes must meet World Bank social and environmental safeguards, promote and support the safeguards included in UNFCCC guidance related to REDD+, and provide information on how these safeguards are addressed and respected, including through the application of appropriate grievance mechanisms. See Box 2.

The GoL acknowledges the value and importance of the support from the World Bank and the ensuing obligation to meet relevant safeguards, but it is also recognised that opportunities will arise for funding from other development partners. As such, the GoL also notes the importance of retaining ER Programme consistency irrespective of the source of funding and implementation actors. Therefore, the government has stated in the ERPD that it will apply a jurisdictional approach to safeguards, undertaking necessary due diligence such that proposed intervention activities meet not only the World Bank safeguards, but also the national legal framework, other donor requirements and UNFCCC safeguards (i.e. a jurisdictional approach to safeguards, as opposed to a project-based approach).

**Box 2 Carbon Fund methodological framework on safeguards**

Criterion 24: The ER Programme meets the World Bank social and environmental safeguards and promotes and supports the safeguards included in UNFCCC guidance related to REDD+.

Indicator 24.1: The ER Programme demonstrates through its design and implementation how it meets relevant World Bank social and environmental safeguards, and promotes and supports the safeguards included in UNFCCC guidance related to REDD+, by paying particular attention to Decision 1/CP.16 and its Appendix I as adopted by the UNFCCC9.

Indicator 24.2: Safeguards Plans address social and environmental issues and include related risk mitigation measures identified during the national readiness process, e.g., in the SESA process and the ESMF, that are relevant for the specific ER Programme context (e.g., land tenure issues), taking into account relevant existing institutional and regulatory frameworks. The Safeguards Plans are prepared concurrently with the ER Programme Document, and are publicly disclosed in a manner and language appropriate for the affected stakeholders.

## 4.2 Project screening

The World Bank undertakes environmental screening of proposed projects and classifies each project into categories depending on its type, location, sensitivity, and the nature and magnitude of the impacts on communities and the environment.

A proposed project is classified as Category A if it 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 subject to physical works. The environmental assessment (EA) for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives, and recommends any measures needed to prevent, minimise, mitigate, or compensate for adverse impacts and improve environmental performance. The borrower is responsible for preparing a report, normally an Environmental Impact Assessment (EIA) or an ESIA.

A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmental important areas (including wetlands, forests, grasslands, and other natural habitats) are less adverse than those of Category A projects. 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 projects. The scope for environmental assessment for a Category B project may vary from project to project, but is narrower than that of Category A. Like Category A, the assessment examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimise, mitigate, or compensate for adverse impacts and improve environmental performance.

GFLL – Northern Laos Project has been categorized as Category B, considering the following justifications. "Activities with potential mild adverse environmental and /or social risks and or impacts that are few in number, generally site specific, largely reversible, and readily addressed through mitigation measures"

National Land Use Master Plan and Land Allocation Strategies of the GoL are in the process of drafting by MoNRE for submission to the National Assembly.

UXO (unexploded ordnances) clearance has been stipulated in the UXO National Strategy for the period from 2011-2020. According to the National Strategy, UXO clearance is demanded in all projects, especially in provinces with high densities: Xieng Khouang, Huaphanh, Savannakhet, Saravane, Attapeu, Sekong, Luang Prabang and Luang Namtha. The percentage

of accidents occurring in areas as a result of UXOs is classified as: inside villages (39 per cent); shifting cultivation (22 per cent); paddy fields (16 per cent); forest (15 per cent); and roads (8 per cent). The percentage of the main activities that result in accidents occurring include: tampering (29 per cent); planting (27 per cent); NTFP harvesting (17 per cent); result of fires (14 per cent); and playing (13 per cent).

### 4.3 Summary of applicable safeguards

A total of seven WB's safeguard policies are triggered for the project. These include environmental policies on Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), and Pest Management (BP/OP 4.09); and social policies on Indigenous Peoples (OP/BP 4.10), Physical and Cultural Resources (OP/BP 4.11) and, Process Framework (OP/BP 4.12). Reasons for triggered safeguards and proposed approach are summarised in Table 22.

**Table 22 Summary of applicable World Bank safeguard policies**

| WB Safeguard Policies | Triggered | Proposed approach |
|---|---|---|
| Environmental Assessment OP/BP 4.01 | Yes | The environmental and social risks from project activities would arise in the event that the strategies fail to achieve their objectives, thereby creating unexpected direct and indirect adverse impacts on forest, land use, forest dependent communities, and landowner rights. The potential social and environmental impacts of the GFLL have been assessed in detail in the SESA; and will be managed through the ESMF that has been completed. |
| Natural Habitats OP/BP 4.04 | Yes | This policy has been triggered as the project 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 ESMF includes provisions to assess possible impacts prior to actions being undertaken on the ground following OP4.01 and Lao PDR environmental assessment legislation. This policy will ensure that the interventions in the area take into account biodiversity conservation and critical natural habitats. During the implementation phase, monitoring activities will be established to ensure that biodiversity conservation and critical natural habitats are not adversely affected and that risk of displacement of forest conversion, both planned and unplanned, to regions outside the project area is monitored. |
| Forests OP/BP 4.36 | Yes | The overall programme 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+ activities may indirectly affect the rights and welfare of people and their level of dependence upon or interaction with forests. GFLL includes activities affecting management, protection, or utilization of natural forests and/or plantation forests. Potential impacts and proposed enhancement and mitigation measures have been included in the ESMF. Community based forest management plans are planned to be prepared during implementation and will conform to OP 4.36 and include use of NTFPs. |
| Pest Management OP/BP 4.09 | Yes | This policy is triggered since it is conceivable that some forestry, agricultural and livelihood activities supported by activities under GFLL may involve the use of pesticides. Impacts and risks of any potential use of chemicals in forest management and other activities, if needed, will be |

| | | |
|---|---|---|
| | | analyzed and mitigated through actions contained in forest and landscape management plans. The ESMF provides guidance on development and implementation of an Integrated Pest Management (IPM) plan 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 project could indirectly affect areas containing sites with physical and cultural resources. Ethnic groups often have close connection with forest areas, including spiritual connections, and, it is possible that in isolated cases project activities could interfere with community- defined sacred forest sites. The ESMF includes 'chance find' procedures and guidance on development and implementation of a Physical and Cultural Resources Management Plan. |
| Indigenous Peoples OP/BP 4.10 | Yes | The OP/BP 4.10 on Indigenous Peoples is triggered. The project area covers six provinces in Northern Laos. The implementation of the programme interventions is expected to affect ethnic groups and other forest dependent communities. Programme implementation may also, in some cases, lead to restrictive land zoning processes throughout the area that may put ethnic groups' livelihoods at some risks. The EGPF has been prepared in compliance with the Bank's OP/BP 4.10 on Indigenous Peoples.<br><br>The EGPF takes into consideration emission reduction interventions that could impact on ethnic groups lands and livelihoods. The EGPF will be used during the implementation of the project under the principle of free, prior and informed consultations that will lead to the development of Village Forest Management Agreement. Extensive consultations with broad community support were carried out during the SESA and ESMF preparation in the project area. These consultations included the engagement of mass organisations such as the LWU and LFND. In addition, NGOs, and CSOs who work with ethnic groups supported the consultation processes and promoted meaningful participation of ethnic groups in the consultations.<br><br>A Feedback and Grievance Mechanism (FGRM) for the project has been developed that will receive, identify and resolve concerns and grievances. The FGRM is developed consistent with Laos' laws and fully encompasses the need for free, prior and informed consultations of affected ethnic groups. In addition, a Social and Environmental Safeguards Unit (SESU) with staff and resources at the national and provincial levels will be established to build capacity, monitor safeguards, and track and resolve grievances, including maintaining data and records. |
| Process Framework/Involuntary Resettlement OP/BP 4.12 | Yes | With the interventions of the GFLL potential impacts could include land acquisition, economic or physical displacement or restriction of access to natural resources. 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 informed by OP/BP 4.12 are adopted. |

| | | |
|---|---|---|
| | | 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 programme-affected persons. The RPF will guide the preparation of site-specific Resettlement Action Plan (RAP). There is higher potential for an involuntary restriction of access to fuelwood collection and NTFPs from legally designated production and protection forest areas, and protected areas resulting in adverse impacts on the livelihoods of affected persons. A Process Framework (PF) has been prepared to guide procedures to identify, assess, minimise and mitigate potential adverse impacts on local livelihoods by restriction of access. The PF is to ensure adequate consultations are undertaken with specific communities in specific locations for proposed interventions for the preparation of process plans. |
| 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; therefore, this policy is not triggered. |
| Disputed Areas OP/BP 7.60 | No | This policy is not triggered because neither the program nor related investments will be implemented in disputed areas as defined in the policy. |

### 4.4 Frameworks to address safeguards

Recognizing the World Bank safeguards triggered under the implementation of the ER Programme, the government will use the ESMF to ensure the relevant monitoring and reporting systems for safeguards are in place. The government will use the existing institutional setting and draw on relevant climate change response programs, and international agreements and obligations to ensure the ER Programme's social and environmental integrity.

While the aim of the ER Programme is to improve environmental, social, and governance conditions, the interventions could have potential negative impacts if the social, environmental and gender considerations and issues are not well designed, implemented, and monitored. Of particular concern are any possible negative environmental impacts of activities aiming to reduce pressure on forest lands, as well as any possible negative social impacts on local communities, especially with regards to ethnic groups, women, or poor people that may be particularly disadvantaged with respect to the ongoing access to land and natural resources.

An ESMF is an output of the SESA process. The ESMFwill serve as the framework instruments for managing and mitigating the environmental, social, and gender risks and impacts of future REDD+ investments (projects, activities, and/or policies and regulations) associated with implementing a REDD+ program. The ESMF provides a direct link to the relevant safeguard policies and procedural requirements of the World Bank. These safeguard guidelines are to be followed by the ER Programme.

In Lao PDR, several different World Bank programs have developed an integrated approach to the social safeguard policies through preparation of a EGPF. It provides guidelines for working with ethnic groups found in local communities, and thus responds to the Ethnic Group (Indigenous Peoples) OP 4.10. The EGPF also incorporates the main elements of an access restriction process framework and the Resettlement Policy Framework, required to mitigate

and compensate for impacts under the World Bank's operational policy on involuntary resettlement.

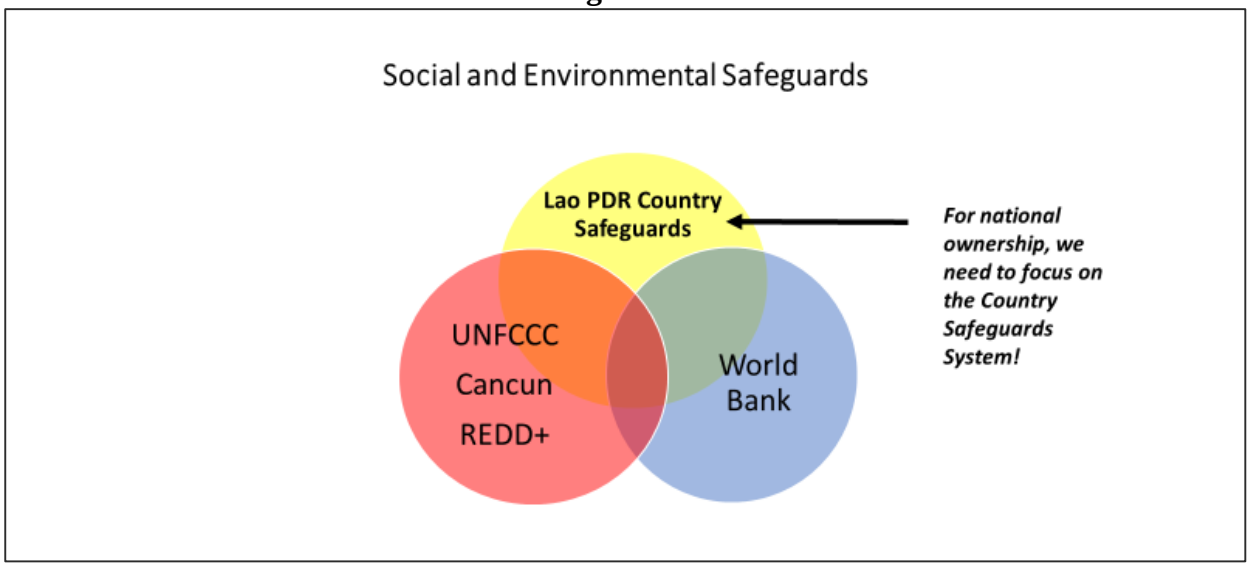
### 4.5 Safeguards of development projects

Lao PDR has its own existing national policies, laws, regulations, and institutions that address environmental and social safeguards in forestry operations and development activities. This national policy and legal framework, or Country Safeguards System, specifies how potential environmental and social harm (negative impacts) will be avoided, minimised and/or mitigated, and how potential positive impacts can be promoted. In addition, the country is obliged to fulfill the safeguard requirement of the UNFCCC REDD+ (Cancun) safeguards as a signatory of the UNFCCC, as well as satisfying the World Bank's safeguard or Operational Policies and Basic Proceduresas a participant of the FCPF Carbon Fund. The requirements will also need to complement and support national policies, laws, and regulations on environmental and social management. Therefore, all sub-projects that are included in the ER Programme will follow the ESMF.

When working on safeguard issues sometimes confusion has arisen among national stakeholders, who mistakenly think that safeguards are conditionalities, or requirements, of the donor and/or international community. To avoid such confusion, it has been important to stress that the UNFCCC REDD+ (Cancun) safeguards and the World Bank safeguards are complementary to the Country Safeguard System as shown in Figure 10.

The ESMF is designed to address includes those that are provided in (1) UNFCCC REDD+ Safeguards and other relevant international conventions; (2) World Bank Safeguard Policies; and (3) related Lao policies, laws, and regulations. In the event that funding for individual activities comes from other bilateral or multilateral development partners their specific safeguards requirements will also need to be addressed.

**Figure 10 Complementarity of UNFCCC Cancun, World Bank and Lao PDR Safeguards**




### 4.6 UNFCCC REDD+ safeguards

As a signatory to the UNFCCC Lao PDR is bound to respect its agreements. In particular, the Parties at the UNFCCC 2010 Cancun conference agreed on seven UNFCCC REDD+ safeguards. The safeguards help ensure that REDD+ activities do not inadvertently harm communities and ecosystems by providing for transparency, respect of the knowledge and

rights of local people, full stakeholders' participation, and biodiversity conservation. When undertaking REDD+ activities the following safeguards should be promoted and supported:

1. Those actions complement or are consistent with the objectives of national forest programs and relevant international conventions and agreements.
2. Transparent and effective national forest governance structures, taking into account national legislation and sovereignty.
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples.
4. The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities.
5. That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the [REDD+] actions are not used for the conversion of natural forests, but are instead used to incentivise the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits, taking into account the need for sustainable livelihoods of indigenous peoples and local communities and their interdependence on forests in most countries, reflected in the United Nations Declaration on the Rights of Indigenous Peoples, as well as the International Mother Earth Day.
6. Actions to address the risks of reversals.
7. Actions to reduce displacement of emissions.

### 4.7 International Conventions

As already noted in Section 0, the GoL (See Section 3.8.1for details) is a signatory of a number of multilateral environmental agreements. Agreements and conventions that are also relevant to the conduct of REDD+ activities include those concerning indigenous peoples and cultural heritage, such as:

- Respect of indigenous peoples and their rights
  - UN Declaration on the Rights of Indigenous Peoples (UN General Assembly 2007)
  - ILO Convention on Indigenous and Tribal Peoples (1989)
- Management of cultural resources
  - Convention on the protection and promotion of the diversity of cultural expressions (2005)
  - Convention on the Protection of the Intangible Cultural Heritage (2003)
  - Convention on the Protection of the Underwater Cultural Heritage (2001)
  - Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)
  - Recommendation Concerning the Protection, at National Level, of the Cultural and Natural Heritage (UNESCO 1972)
  - Recommendation Concerning the Safeguarding of the Beauty and Character of Landscapes and Sites (UNESCO 1962)

Some work on has been undertaken to address REDD+ social and environmental safeguards at the national and international levels, including the UNFCCC Cancun decision and the World Bank requirements. In 2015 the CliPAD project commissioned an important desk review of national safeguards for REDD+, identifying national policies, measures, and gaps. Subsequently the SESA process of stakeholder engagement and other analysis has built upon the CliPAD study, and upon relevant safeguards and free, prior, and informed consultations experience with SUFORD-SU; similar work done by PAREDD and F-REDD. The SESA

process has examined drivers of deforestation and degradation, possible strategic interventions, and also key social and environmental issues, risks, and impacts.

## 5 Potential Environemtnal and Social Issues and Mitigatoin Measures

Table 23 analyzes the possible negative social and environmental risks and impacts associated with the ER Programme interventions, and corresponding possible mitigation measures.

**Table 23 Analysis of Environmental and Social Risks, Impacts and Mitigation Measures**

| Interventions | Relevant WB Policies | Potential risks and impacts | Mitigation Measures |
|---|---|---|---|
| **Component 1: Strengthening the enabling conditions for REDD+** | | | |
| 1.1 Strengthening policies and the legal framework | • Environmental assessment<br>• Natural habitats<br>• Forestry<br>• Pest management<br>• Ethnic groups *(Indigenous Peoples)*<br>• Resettlement<br>• Cultural resources<br>• Gender | • Deep integration on paper, but not in practice (as *sam sang* policy proceeds, more decentralization to provinces and districts). | • Aside from dialogues at different levels, difficult to mitigate. |
| 1.2 Improved forest law enforcement & monitoring | | • Major delays continue to affect finalization and passing of key legislation which will delay updating of regulations. | • Difficult to mitigate, project duration may be increased to accommodate delays. |
| 1.3 Improved provincial, district & village level land use planning | | • Risk of targeting "little guys" instead of major actors; in short-term, some people will lose access to former (possibly illegal) livelihoods. | • Capacity building for offices of Forest Inspection at the district level is crucial, main sources of "risks to forests". |
| | | • Failure to recognise "legal" or "semi-legal" deforestation through concessions of any type. | • Must have detailed list of all existing and planned concessions (including 1+4 arrangements) in district with indicative mapping. |
| 1.4 Enhanced land and resource tenure security through land registration and other processes | | • LUP (and VFMA) do not refer legal tenure security unless put into new laws and regulations. | • Will have to continue to dialogue on necessity of legal recognition (at all levels) of LUP/VFMA. |
| | | • If not well implemented, people could lose access to land or natural resources that they have customarily used. | • FPIC and community engagement procedures that include ethnic groups, women and poor will help mitigate against land losses. |
| | | • Risk that different district development plans incongruous with forestry objectives – integrated spatial planning may increase confusion if it is completed, then ignored; | • Through participatory land use planning classify sufficient land for sustainable future rotational agriculture (reduce land use category "forest"); |
| | | • Related to point immediately above: | • LUP exercises will need to take the necessary time to |

| Interventions | Relevant WB Policies | Potential risks and impacts | Mitigation Measures |
|---|---|---|---|
| | | Failure to recognise environmental values in local level land use planning and failure to recognise high conservation value (HCV) areas during land use planning processes; | ensure HCV and cultural value areas are protected; |
| | | • Failure to recognise areas of cultural value; | • Programme will have to establish VMU and administrative channels. |
| **Component 2: CSA and sustainable livelihoods for forest dependent people** | | | |
| 2.1 Establishment of an enabling environment to promote CSA and REDD+<br>2.2 Implementation of climate smart agricultural models | • Environmental assessment<br>• Natural habitats<br>• Forestry<br>• Pest management<br>• Ethnic groups *(Indigenous Peoples)*<br>• Resettlement<br>• Cultural resources<br>• Gender | • High pesticide use;<br>• Risks of inequitable participation and benefits, i.e. elite capture;<br>• Environmental risks from irrigation systems, cash crops, fodder and livestock production systems, including use of pesticides; | For all activities, there is a risk of the poor, especially women, being left out or not benefiting – the only way to mitigate this is to have special consultations with them to find out what is appropriate and then act accordingly; FPIC.<br>• Ensure that pesticides (if required) are legal (not on any international banned lists); ensure local authorities able to monitor;<br>• Ensure that proper safety measures are taken when pesticides are used (awareness creation as a start). GRM must be in place and known to all people. |
| | | • Small-scale irrigation could lead to land access losses for poorer families using land in higher parts of watershed. | • Repeated, mentoring and participatory style capacity building to ensure understanding and practice of climate smart agriculture.<br>• Ensure that irrigation infrastructure in accompanied by rigorous, inclusive LUP to make sure that poorer households don't lose access to land while not gaining access to irrigation facilities. |
| | | • Traders may demand feeder roads to fields; feeder roads in turn may lead to further DD. | • To promote "environmentally friendly" value chains, must engage in many dialogues and consultations with private sector traders/investors. |
| **Component 3: Sustainable forest management** | | | |
| 3.1 Establishment of an enabling environment to | • Environmental assessment<br>• Natural habitats | • Risks of lands of communities under customary use being subject to reforestation | • A review of forest categories (production, protection and conservation) as they |

| Interventions | Relevant WB Policies | Potential risks and impacts | Mitigation Measures |
|---|---|---|---|
| implement & scale up SFM<br>3.2Implementing & scaling up of village forestry<br>3.3 Implementing & scaling up FLR and sustainable forest plantations for forest carbon enhancement. | • Forestry<br>• Pest management<br>• Ethnic groups *(Indigenous Peoples)*<br>• Resettlement<br>• Cultural resources<br>• Gender | efforts (thereby losing access to land and worsening livelihoods); | overlap with village lands should be undertaken – it may be they are unreasonable in some cases;<br>• Through participatory demarcation and land use planning classify sufficient land for sustainable future rotational agriculture (reduced land use category "forest") |
| | | • Past forest law does not support villagers' selective harvesting for commercial purposes from production areas;<br>• Elite capture at expense of poorer households, including women-headed households are unable become involved in SFM. | • New forest law revision does not allow for local timber harvesting from production forests and Programme must support implementation, with adequate benefit-sharing mechanisms in place (or people will lose interest). |
| | | • Too strict management denies local people customary harvesting of NTFPs; possible risk of denied access to cultural heritage sites | • NPAs should be supported to work according to principles of co-management with local communities;<br>• Project should advocate for access to cultural heritage sites in the project area to be respected in NPA management plans. |
| | | • Risks from tree plantations (hydrology, pesticides);<br>• Conversion of natural forests to other uses, including (mono-species) forest plantation;<br>• Risk that investors do not recognise intangible cultural heritage of ethnic groups (such as spirit forests)<br>• Risk that investors bring in external labour to work on plantations. | • Investors also have to be schooled in implementing environmentally friendly agroforestry and project should have eligibility criteria for working with investors;<br>• Regulations so that investors rely on local labour for agroforestry projects. |

In addition, Annex 2 provides a summary of environmental and social issues idenfied by stakeholders and Annex 3 shows the assessment of the impact of the different strategic interventions on the environmental and social variables. Some strategic interventions may subsequently result in either positive or negative impact depending on how they are implemented in practice. Improved forest management will reduce or stop deforestation and degradation, biomass reduction, loss of biodiversity and habitat, and carbon emission. On the

other hand, poor management would result in deforestation and degradation, biomass reduction, loss of biodiversity and habitat, and an increase in carbon emissions. Some interventions are expected to have only positive impacts on all of the indicated environmental variables. For example, improving the extension services (Strategic Intervention 11), raising the standard of private and village forest management services (Strategic Intervention 16), and raising public awareness on key forestry issues (Strategic Intervention 18).

## 5.1 Opportunity and risk management

For each of the 18 identified strategic interventions different opportunities and risks have been identified as outlined in Table 24. In addition, an assessment has been made of possible impacts of these interventions on enhancement of carbon stocks and mitigation of deforestation and/or forest degradation and steps for enhancement and mitigation. Risk management will be addressed through the the ESMF.

**Table 24 Opportunity and risk matrix**

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| 1. Address gaps in policies, laws, and regulations (PLRs) | **Opportunities**<br>• Policy and legislation against conversion of natural forests to farms and plantations<br>• Policy and legislation against encroachment into natural forests by infrastructure projects and mining<br>• Current legal revisions provide opportunities for addressing inconsistencies among laws and for making laws that can be implemented (based on capacities for implementation, dissemination and awareness-raising, etc.)<br>• Current NSEDP encourages foreign investment, but inadequate legal framework to adequately manage such investment<br>• Future Safeguard Information System can help monitor PLRs | **Enhancement**<br>• If enforcement of existing policies and laws is improved then, encroachment into natural forests will decrease, thereby enhancing forest conservation |
| | **Risks**<br>• Some potential negative impacts or loopholes cannot be foreseen when legal work is ongoing<br>• It can be difficult to determine the sequence in which laws, policies, and/or regulations should be revised (i.e. if Land Law does not adequately cover forestry, but comes first, it may be difficult for forest sector revisions)<br>• Participation of outsiders in legal revision is often limited, and some technical issues may be left out by powerful decision-makers | **Mitigation**<br>• Improved policy and legal framework will reduce opportunities for illegal harvest of timber and other non-timber forest products, especially in relation to agricultural and infrastructure concessions and mining<br>• Close collarboration amongst relevant departments is needed. |
| 2. Revise the Land Law and Forest Law | **Opportunities**<br>• Ongoing work to revise the Land Law and Forest Law, and to recognise customary rights to land<br>• More clarity is needed on the distinction between agriculture and forest land in sloped (upland) areas<br>• Clear objectives for each forest land category and zones are needed (i.e. for protected forest areas, zones within forests for community use) | **Enhancement**<br>• Management of forests with the participation of local communities will improve forest conservation<br>• With more secure land rights, people will have improved incentives for long-term sustainable resource management |
| | **Risks** | **Mitigation** |

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| | • If Land Law and National Land Use Master Plan does not adequately address the need for conservation of natural forests then the forest estate could be reduced | • Management of forests with the participation of private sector (including timber plantations) can decrease pressure on natural forest |
| 3. Revise laws on concessions and investments | **Opportunities**<br>• Improve implementing regulations and build capacity of staff and cross-sectoral collabouration to clearly demarcate land for concessions and investments, to minimise encroachment into natural forests<br>• Enhance third-party monitoring; sufficient bonds from mining companies to cover the cost of hiring third-parties to undertake rehabilitation after mining operations cease, if this is not done by the mining companies themselves | **Enhancement**<br>• Encourage corporate responsibility in private sector investments to follow green growth and sustainable approaches, in order to support natural forest conservation; This approach needs to be coupled with close collarboration with the State.<br>• Rehabilitation (including possible replanting) of forest ecosystems after mining operations and other infrastructure projects, to offset loss of forest from projects |
| | **Risks**<br>• Integrated spatial planning prescriptions may not be accepted by administrative decision makers and actual land users; Consequently, these prescriptions may be ignored<br>• It may be difficult to limit concessions and investments to degraded and barren forest land<br>• Investors and government agencies do not follow the proper process and procedures for concessions and investments<br>• Provincial and district governments grant concessions to gain funding to conduct their own activities, due to low budget support from the national budget<br>• The concession rental fees are too low, they do not adequately consider the cost-benefit issues, especially pertaining to environmental and social costs for local communities<br>• Inadequate government monitoring and law enforcement<br>• Lack of interagency collabouration will continue<br>• Lack of adequate regulations on contract farming leads many investors to pursue contract farming in lieu of concessions | **Mitigation**<br>• Forest Landscape Management (FLM) allows discussions by stakeholders on specific land-use/allocation proposals, resulting in rational decisions with good prospects of being honored by administrators and the actual land users, particularly if the latter are well represented in the discussions<br>• Improved, near real-time, monitoring linked with improved forest law enforcement to monitoring possible encroachment of concessions and other investments into natural forest areas (beyond permit boundaries)<br>• Limit feeder roads for concession areas and investments, as roads open up more areas for forest encroachment (in contracts, specify exactly the access roads that are permitted) |
| 4. Revise the decree on the Forest and Forest Resource Development Fund (FFRDF) | **Opportunities**<br>• Ongoing work to revise Decree 38 on FFRDF to cover REDD+ Fund<br>• There is a need to carefully analyze funding needs and prioritise the use of funds in order to maximise benefits<br>• There is a need to develop implementing regulations for PM Decree No. 001/2012 on timber revenue benefit sharing<br>• There is a need to reconcile Climate Change Law proposals with climate change finance | **Enhancement**<br>• Increased value of forest (due to REDD+ payments) will provide additional incentives for sustainable management<br>• Increased support for forestry research and extension<br>• Increased opportunity for international investment |
| | **Risks**<br>• Other funds may try to "capture" REDD+ payments (e.g. Climate Change Law proposes funds to go to EPF) | **Mitigation**<br>• Increased value of forest (due to REDD+ payments) will provide |

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| | • Effective, efficient, and equitable use of REDD+ funds may not be carefully designed, negotiated, implemented, and monitored<br>• Funding has been primarily used to support government operations, but limited support to CSOs, local NpAs, and communities | additional incentives for sustainable management<br>• Increased support for forestry research and extension<br>• Increased opportunity for international investment |
| 5. Re-delineate the three categories of state forests | **Opportunities**<br>• National Assembly (NA) decision of re-delineation of state forest areas could also delineate uncategorised forests as village forests<br>• On-going project implementation of the NA decision (but it has been delayed)<br>• Opportunity to have clear forest management plans for each category of forest | **Enhancement**<br>• Clarity on forest areas would help minimise encroachment for other land uses, and facilitate monitoring and law enforcement |
| | **Risks**<br>• The delay in re-delineation of the three forest categories could result in a loss of forest area, if the National Land Use Master Plan allocates more land to other land uses<br>• The implementation of the re-delineation could be difficult in technical terms, as well as in regard to the level of collabouration required<br>• Re-delineation as state forest might be interpreted as management by state forestry agencies alone | **Mitigation**<br>• Clarity on forest areas would identify areas of forest degradation, for forest rehabilitation efforts<br>• Provide zones in state forest areas for management by communities and the private sector, with state agency oversight |
| 6. Revise laws to allow commercial village forestry | **Opportunities**<br>• Improve villager livelihoods and promote collective production groups<br>• Improve capacity of local community members for management and effective forest protection, and to provide diverse products to meet market requirements<br>• Encourage NpAs and the private sector to support village forestry, processing and marketing of village forest products | **Enhancement**<br>• Increase the value of natural forests<br>• Provide for zoning of high conservation value forests and maintenance of high conservation values in village forestry areas |
| | **Risks**<br>• Mismanagement of village forests and possible over-harvesting of specific species<br>• Risks of elite capture (i.e. inequitable sharing of benefits) | **Mitigation**<br>• Regular oversight by state forest agencies through accreditation or certification of good village forestry management<br>• Increase villager incentives to help prevent outsiders' cause deforestation and degradation |
| 7. Pass legislation governing REDD+ and Payment for Ecosystem Services (PES) | **Opportunities**<br>• REDD+ and PES issues can be addressed in the ongoing revision of Forestry Law and Decision 38 | **Enhancement**<br>• REDD+ and PES offer incentives for sustainable forest management |
| | **Risks**<br>• If there is inadequate consultation on legislation then benefit-sharing may not be equitable | **Mitigation**<br>• REDD+ and PES offer incentives for improved forest management |
| 8. Strengthen enforcement of policies, laws, and regulations | **Opportunities**<br>• Improvements in MRV capabilities will enable the development of near real-time monitoring, which could be linked to forest law enforcement | **Enhancement**<br>• Improved enforcement of existing policies, laws, and regulations would stabilise and eventually increase the area of natural forest |

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| | • Political will to support improved forest law enforcement | |
| | **Risks**<br>• There is a need to focus on the key actors who cause deforestation/ degradation, as opposed to the villagers who often are often only undertaking the activities at the request of the key actors | **Mitigation**<br>• Improved enforcement would reduce deforestation and forest degradation |
| 9. Improve monitoring of implementation | **Opportunities**<br>• Increasing opportunities for improved monitoring of implementation, through use of remote imagery analysis, community monitoring, and improved forest law enforcement, through systems such as STEPP and SPIRIT | **Enhancement**<br>• Improved monitoring could be linked to improved enforcement and also payment-for-results, leading to increased forest conservation |
| | **Risks**<br>• Monitoring might not capture all the elements of implementation | **Mitigation**<br>• Improved monitoring could be linked to improved enforcement and also payment-for-results, leading to decreased deforestation and forest degradation |
| 10. Institutionalise FLM and enhance PLUP and tenure | **Opportunities**<br>• Existing efforts to develop FLM in Bokeo, Luang Namtha, Oudomxay, and Xayabory Provinces can be further supported, and scaled up to include Luang Prabang and Huaphan Provinces<br>• Further support to PLUP and land tenure will improve forest management | **Enhancement**<br>• Improving provincial forest landscape management can enhance the actual forest cover, through improved spatial planning, and efforts to link forest fragments and coordinate management. Village forests should be brought under sustainable management. |
| | **Risks**<br>• PLUP does present risks of excluding certain stakeholders from resource use, especially if they don't participate in PLUP exercise | **Mitigation**<br>• FLM can serve to mitigate against further deforestation and forest degradation and support green growth approaches to development. |
| 11. Enhance research and development (R&D) and extension services | **Opportunities**<br>• NAFRI initiatives on value chains, NTFP<br>• DAEC action on Lao extension approach<br>• Technical Service Centers (TSCs) piloted although not sustained<br>• DFUs in >70 districts assisted in extension work by several development partners | **Enhancement**<br>• Based on research results, government may encourage villager planting of trees (i.e. tamarind, teak, etc).<br>• Research on high-value indigenous tree species could facilitate their use in enrichment planting (very challenging)<br>• Supporting local people to develop tree and NTFP nurseries as small private enterprises |
| | **Risks**<br>• Private companies providing extension support may require villagers to purchase expensive inputs | **Mitigation**<br>• Increased awareness of forest values may decrease deforestation and forest degradation<br>• Research on improved methods of remote sensing of logging can contribute to improved forest law enforcement and decreased logging |
| 12. Implement Participatory | **Opportunities**<br>• District FMUs established in PFAs | **Enhancement** |

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| Sustainable Forest Management (PSFM) in state forest areas | • FMPs completed for PFAs<br>• PSFM system developed for PFAs and<br>• DFU capacity built for PSFM in PFAs<br>• Forest certification established at DoF | • Establish FMUs in CFAs and WPFAs<br>• Prepare FMPs for CFAs and WPFAs<br>• Introduce and develop PSFM for CFAs and WPFAs<br>• Expand capacity building in DFUs<br>• Expand forest certification |
| | **Risks**<br>• Degraded production forests in PFAs<br>• Timber and wildlife poaching persists<br>• Loss of forest certification | **Mitigation**<br>• Conduct forest stand improvement<br>• Implement interventions against poaching such as patrolling, guardstation, community surveillance, and awareness raising.<br>• Strengthen capacity for forest certification |
| 13. Demonstrate models of forest plantation development | **Opportunities**<br>• This may provide opportunities to improve rural livelihoods through regular employment while forest plantations are being developed. This will further develop the skills and capacities of local people<br>• Villagers may obtain additional benefits from plantation activities. For example, benefits form the land being cleared of unexploded ordinance (UXO), or through opportunities to grow crops between trees (taungya system) | **Enhancement**<br>• Plantations could decrease the need for harvesting timber and other forest products from natural forests |
| | **Risks**<br>• If plantations are poorly developed then this could lead to environmental problems (such as erosion, decreased water flow, or toxicity from pesticide use) or social problems (local people losing access to land and resources previously used)<br>• Outside labour could be brought in to work in plantations, thereby creating loss of jobs and other social problems for local communities | **Mitigation**<br>• Proper plantations management could decrease the need for harvesting timber and other forest products from natural forests |
| 14. Organise sustainable village forestry (also see #6 above) | **Opportunities**<br>• Enhance institutional capacity and legal power of existing village forestry organisations (VFOs) to manage forests sustainably and to protect the village forests against outside encroachment (with support from government and law enforcement)<br>• Ensure village forests are registered (or titled) to protect village forests<br>• Promote collaborative management of forests used by cluster of villages<br>• Improve villager livelihoods and promote collective production groups<br>• Improve capacity of local community members for management, and to provide diverse products to meet market requirements<br>• Encourage NpAs and private sector to support village forestry, processing and marketing of village forest products | **Enhancement**<br>• Increases the value of natural forests |
| | **Risks** | **Mitigation** |

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| | • Mismanagement of village forests, and possible over-harvesting of specific species<br>• Risks of elite capture (i.e. inequitable sharing of benefits) | • Increase villager incentives to help prevent outsider deforestation and degradation |
| 15. Develop clustered and advanced forest industries | **Opportunities**<br>• Improve value-chain, value addition, local livelihoods<br>• improved operation of enterprises<br>• improved collabouration among government, private sector, and local communities | **Enhancement**<br>• Investment in such forest clusters may increase the rationale for enhanced SFM of natural forests and forest rehabilitation |
| | **Risks**<br>• Possible risks of local loss of access to land or resources | **Mitigation**<br>• Increasing economic values of forests may aid in decreasing deforestation and forest degradation |
| 16. Raise standards for private and village forest management | **Opportunities**<br>• Participatory Village Forest Management plans can specify minimum standards for forest management and encourage the move towards higher standards<br>• Private investment in forest activities should meet minimum standards and be encouraged to gradually adopt higher standards<br>• Capacity building is required to understand and support standards | **Enhancement**<br>• Raised forest management standards should encourage more sustainable management of natural forests |
| | **Risks**<br>• If standards are too high, villagers and/or private investors may be discouraged from engaging in forest management activities (i.e. costs and trade barriers may be too high) | **Mitigation**<br>• Raised forest management standards should encourage decreases in deforestation and forest degradation |
| 17. Develop ecotourism to increase benefits from forests | **Opportunities**<br>• Lao PDR's natural beauty provides significant opportunities to expand eco-tourism, with benefits for local livelihoods<br>• Sectors can collaborate to develop eco-tourism plans, to benefit all stakeholders, and promote linkages from international to grassroots levels<br>• Management plans must adequately manage visitor levels and zoning of use so as not to negatively impact biodiversity, wildlife, etc. | **Enhancement**<br>• Ecotourism promotion can raise the economic and social values of natural forests, and thus increase support for their sustainable management |
| | **Risks**<br>• Mismanagement of resources and overuse of site/s<br>• Loss of access to land and resources for local people<br>• Employment of trained outsiders rather than developing local capacity<br>• Eco-tourism can create opportunities for illegal activities (i.e. illegal trade in wildlife parts, or hunting of wildlife to provide food for tourists, cutting trees for firewood and construction, etc.) | **Mitigation**<br>• If properly managed, ecotourism promotion can lead to increased awareness among both tourists and local communities of forest values, and thus encourage decreases in deforestation and forest degradation |
| 18. Raise public awareness on key forestry issues | **Opportunities**<br>• Currently, there is high public and political attention on forestry issues, which facilitates further raising public awareness | **Enhancement**<br>• Public support is vital to promoting enhancement of sustainable forest management and forest restoration and rehabilitation |

| Strategic intervention | Opportunities/Risks | Enhancement/Mitigation |
|---|---|---|
| | • Crosscutting issues may impact not only forestry sector, but also other sectors. Consequently, high-level decision-makers need increased awareness across sectors<br>• Opportunities for people to change their mind-sets about future possibilities for forest conservation (including environmental education and learning-by-doing)<br>• Opportunities for policy considerations by high decision-makers<br>• Increased public awareness of forestry issues due to increased information (social media, internet, etc.) about the global situation, disasters, climate change, and forest fires | |
| | **Risks**<br>• Despite increased awareness of specific risks, such as forest fires, the limitations of resources may mean that responses are inadequate<br>• Public awareness-raising efforts may be too ambitious or be based on unsound information, and not gain public trust | **Mitigation**<br>• Public awareness and political will among decisions makers is vital to continue efforts to decrease deforestation and forest degradation. |

## 5.2 Leakage Issues

Leakage/Displacement refers to changes in anthropogenic emission reductions or removals of GHGs outside the accounting system that result from activities that cause changes within the boundary of the accounting system. Leakage is raised as an issue that needs to be considered for REDD+ activities under the UNFCC.

Table 25 presents risk of leakage of domestic emissions as a result of the proposed ER Programme measures. The overall risk is assessed to be low with three drivers assessed as low, and one driver assessed as medium.

**Table 25 Leakage/Displacement risk assessment as a result of the ER-P interventions**

| Driver of deforestation or degradation | Risk of displacement | Justification of risk assessment as a result of the ER-P interventions |
|---|---|---|
| Key driver #1: Loss of forests to permanent agriculture (including agriculture & tree plantations) | Medium (domestic/ international) | If interventions under the ER Programme are successfully rolled out and sustainable zero deforestation investments 'crowd-in' to replace the unsustainable agricultural practices, there are risks that such unsustainable investments may be displaced to other parts of the country where ER Programme interventions are not implemented. Regional market demands from neighboring countries have a significant bearing on this driver. Therefore, displacement to other countries of the region is also possible. Risks of displacement of agricultural expansion into forests to areas outside the ER Programme is present at medium levels. |
| Key driver #2: Loss of forests/trees to shifting cultivation landscapes | Low (domestic) | Under the ER Programme, shifting cultivation practices will be controlled to discourage encroaching into 'intact forests', and increased periods of fallow will be promoted wherever possible. Theoretically, this may lead to decisions displace shifting cultivation practices to outside the Programme area. This may happen, particularly where shifting cultivation is practiced for the production of cash crops. However, shifting cultivation is closely |

| | | |
|---|---|---|
| | | associated with the village communities, and it is not likely that village communities would chose to relocate unless, economic and subsistence needs or opportunities are significantly compromised by the Programme interventions.<br><br>It is also noted that more than half of the ER Programme provincial boundaries are international borders involving large rivers such as the Mekong, making displacement across borders difficult.<br><br>Based on the above, risks of displacement of shifting cultivation to areas outside the ER Programme are low, and exist in limited scales along borders with provinces outside the ER Programme area. |
| Key driver #3: Loss of forests/trees to infrastructure and other developments | Low (domestic) | By and large, infrastructure development needs are by nature site-specific. As the ER Programme intervention is not intended to change the infrastructure development plan, but, rather to mitigate its negative impacts, the ER Programme interventions are not perceived to cause displacement.<br><br>However, with increased law enforcement and monitoring including of conversion timber, this could result in reduced 'conversion-timber', and suppress the timber supply for feeding market demands. This may potentially lead to increase of illegal logging outside the ER Programme area (i.e. this would be a displacement of key driver #4).<br><br>However, the Northern region is not a main source of high-value timber, and considering the Government's on-going control on illegal logging (including through the issuance of the Prime Minister's Order No. 15 of 2016), the risk level is assumed low. |
| Key driver #4: Legal and illegal wood harvesting and other drivers of forest degradation | Low (mainly domestic and international) | High value timber have largely been depleted in the Northern region, therefore, reduced timber supply from the ER Programme area resulting from the successful implementation of the ER Programme is not considered to present a significant gap for the timber market for high value timber, and particularly not for the regional market.<br><br>While it may present a gap in the market for low-grade timber, such markets (i.e. domestic and local) are less inclined to go far distances to fill gaps, as this has cost implications. Considering the above and Government's ongoing efforts to nationally curb illegal logging (including domestic measures such as the Prime Minister's Order No. 15 and its implementation, as well as international efforts including engagement with FLEGT VPA and bilateral cooperation with Viet Nam in forest protection and trade), the risk level is assumed low. |

### 5.3 Environmental and Social safeguards instruments

The ESMF, EGPF, PF, and RPF will serve as a basis for addressing and mitigating potential environment and social risks and impacts associated with REDD+ implementation. The EGPF is an integrated approach to addressing the World Bank's policies on ethnic groups (Indigenous Peoples), and PF and RPF address resettlement and loss of access to resources, and gender. As part of the development of the ESMF three sets of safeguards are reviewed: the country (Lao PDR) system of policies, laws, and measures; the UNFCCC "Cancun" REDD+ safeguards;

and the World Bank Operational Policies and Procedures that constitute environmental and social safeguards.

The ESMF will provide plans for safeguards and will outline the procedures and best practices to be followed for assessing and managing potential environmental and social risks, enhancing potential benefits, and mitigating potential negative impacts of specific policies, actions and projects during the implementation of the ER Programme.

Mainstreaming safeguard measures in development programs across all sectors is part of the Government's priorities. In acknowledging the value and importance of the support from the World Bank with regards to the ER-PD, and the ensuing obligation to meet relevant safeguards, the government also recognises that opportunities will arise for funding from other development partners. The budget presented in the ER-PD outlines several potential sources of funding: hence the ER Programme activities may take many forms, and may be implemented by a wide range of actors within the accounting area. However, the Government notes that the Carbon Fund Methodological Framework is more explicit in Criterion 24 requiring that "the ER Programme meets the World Bank social and environmental safeguards" and no distinction is made on the basis of funding sources and implementation actors. The Government notes that this ambiguity is likely to raise issues of responsibility and supervision of safeguard compliance.

The ESMF is an integrated approach to the social safeguards, outlining best practices for working with all different ethnic groups, customary rights, and gender issues. EGPF addresses the requirements for Ethnic Group Development Framework (Indigenous Peoples' Policy), and RPF addresses the requirements for resettlement and process frameworks (Resettlement Policy), and also the Gender Policy. It provides a process for thorough engagement of all ethnic groups at the community level, and women as well as men. Free, prior, and informed consultations process is built into this process as an ongoing, iterative mechanism.

The government recognises the importance of retaining ER Programme consistency irrespective of the source of funding and implementation actors. Hence being a signatory to the UNFCCC and having a national legal framework, in addition to potential donor specific safeguard measures, the government will have a broad oversight on safeguards compliance and will also undertake necessary due diligence such that proposed intervention activities meet safeguard requirements. This approach is consistent with the government's own laws on environmental protection and environmental assessment of projects.

## ANNEXURES

### Annexure 1: Summary of program interventions

The ER Programme will be the first step in Lao PDR's transition from REDD+ readiness to implementation and subsequent results-based payments. The program design sets the framework for implementing the NRS in a decentralised manner at sub-national level. While strategically defined at the provincial level and executed at the district/village level, the project contributes to improving the national institutional and regulatory systems in a manner that facilitates its replication and up scaling. The aim of the ER Programme is to support the transition to low-emissions, climate resilient and sustainable development pathways in the forestry, agriculture and crosscutting areas as outlined in the Theory of Change in Figure 11. The activities outlined under Components 1-3 will lead to improved land use management and the implementation of sustainable practices in both the agricultural and forestry sector contributing to emission reductions, strengthened institutional planning and adaptive capacity for low-emission and climate-resilient economic development.

The ER Programme Components are illustrative of how Lao PDR acknowledges that despite REDD+'s nascence in the country as a forestry sector initiative, REDD+ is firmly migrated into a cross-sectoral agenda involving multiple ministries and sectors at both central and local levels. The country's REDD+ institutions are currently in the process of transitioning from the original forestry sector focused set up, to an arrangement that is further amenable to the implementation and impacts into agriculture and other land-based investment sectors.
The interventions proposed for implementation are grouped under four main components as elaborated on below:

- Component 1: Strengthening enabling conditions for REDD+
- Component 2: Climate smart agriculture (CSA) and sustainable livelihoods for forest dependent people
- Component 3: Sustainable forests management (SFM)
- Component 4: Programme management and monitoring

The ER Programme will support a combination of interventions for creating enabling conditions within and across sectors, focusing on the forestry and agricultural sectors to achieve emission reductions and forest carbon stock enhancements within the proposed project lifetime. The design and operationalization of activities under the three main components (1-3) will be based on detailed background analysis. For Component 1 it will be critical to assess existing socio-economic conditions and perform a gap analysis of the legal framework and guidelines to support REDD+ implementation, as well as a capacity needs assessment. A capacity needs assessment is planned and will prepare a capacity development plan to support the implementation of the ER Programme using additional finance received from the FCPF for readiness activities. For Component 2 an in-depth analysis to clearly understand the market and value chain and opportunities for mobilizing private sector investment through public-private dialogue will be necessary. For Component 3 the government will carry out necessary feasibility studies to identify and zone landscapes according to FLR potential.

**Figure 11 Theory of change for the ER Programme**

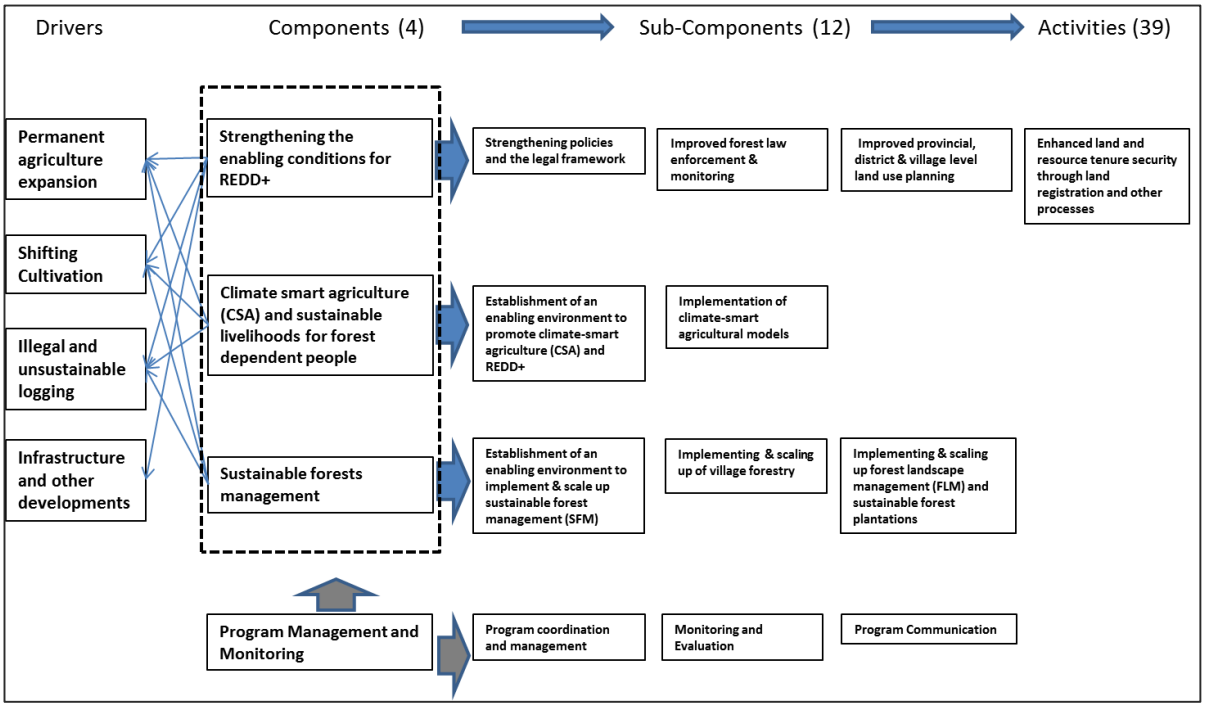
| | | |
|---|---|---|
| **Goal:** To support the transition to low-emission, climate-resilient & sustainable development pathways | | |
| ↓ | | |
| Impacts:<br>▪ Reduced emissions from land use, deforestation, forest degradation & through sustainable land use management & the conservation & enhancement of forest carbon stocks<br>▪ Increased ecosystem resilience & enhanced livelihoods of forest-dependent people | | |
| ↓ | | |
| **Outcomes:** Improved land use management & the implementation of sustainable practices contribution to emissions reductions, strengthened adaptive capacity & strengthened institutional systems for low-emission & climate-resilient planning & development | | |
| ↓ | | |
| ER Programme Components | | |
| Component 1:<br>Strengthening the enabling conditions for REDD+ | Component 2:<br>CSA and sustainable livelihoods for forest dependent people | Component 3:<br>Sustainable forest management |
| 1.1 Strengthening policies and the legal framework<br>1.2 Improved forest law enforcement & monitoring<br>1.3 Improved provincial, district & village level land use planning<br>1.4 Enhanced land and resource tenure security through land registration and other processes | 2.1 Establishment of an enabling environment to promote CSA and REDD+<br>2.2 Implementation of climate-smart agricultural models | 3.1 Establishment of an enabling environment to implement & scale up SFM<br>3.2 Implementing & scaling up of village forestry<br>3.3 Implementing & scaling up FLM and sustainable forest plantations |

Figure 12 provides an overall summary of the ER Programme design, where each of the four main components is divided into a total of twelve sub-components and subsequent activities and how they respond to the drivers of deforestation and forest degradation.

**Component 1: Strengthening the enabling conditions for REDD+**

Component 1 covers interventions that lay the foundation for the implementation of sustainable land use and develop the enabling conditions to address the drivers of deforestation and forest degradation in the key sectors, namely agriculture and forestry sector, as well as in other land use sectors such as infrastructure development. The underpinning strategy is to provide the necessary tools and capacity for institutional and cross-sectoral planning, coordination and policy and regulatory implementation. Activities under this target mainstream REDD+ into the national and provincial level socio-economic development planning and design of policies and regulations that address the key drivers of deforestation and forest degradation, and also build capacity for implementation.

**Figure 12 Overall ER Programme design**




Improved law enforcement and planning activities will be achieved through the establishment and institutionalization of national and province level monitoring systems. The strengthening of institutional capacities to monitor and sanction forest violations will strengthen the enforcement of existing laws by national, province and district level authorities. The REDD+ readiness work has laid the foundation for strengthening existing policies and regulations.

The government is in negotiations with the EU on Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA). The first VPA negotiations started in 2017 and should result in a VPA for legal timber trade between Laos and the EU, as well as reforming and strengthening Lao PDR's forest sector governance. The ER Programme builds on this opportunity and will focus on building necessary capacity for both national and sub-national level institutions, as part of creating the enabling environment.

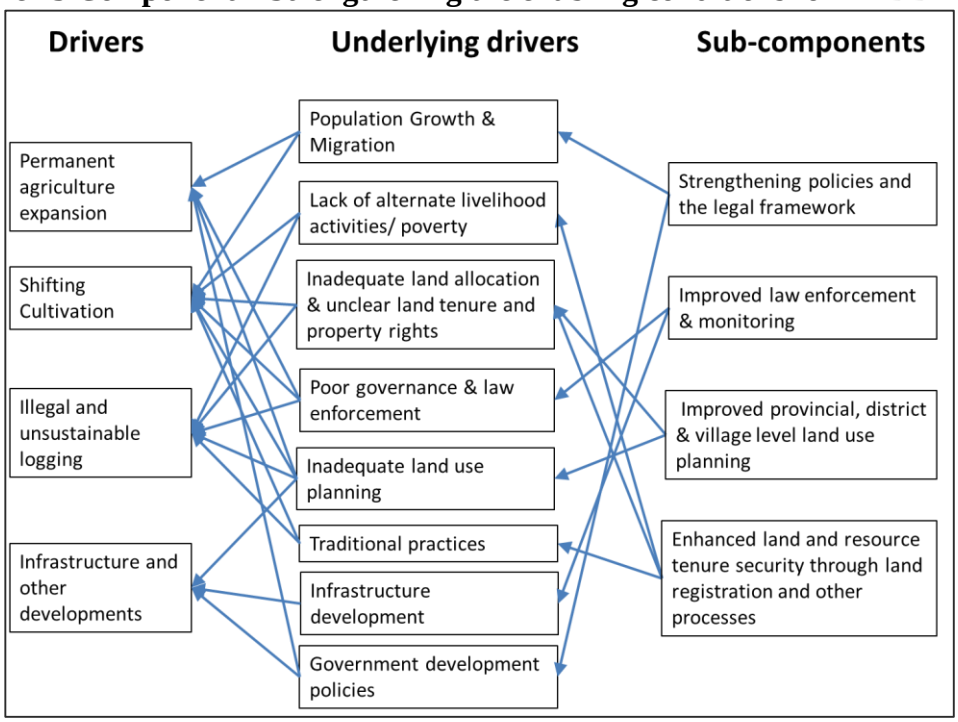
Enabling conditions will be further developed through consistent and aligned national, provincial, district and village level land use planning and the required capacity development of the governmental staff to implement and enforce the plans. This will be integrated into the existing governmental planning processes and linked to actions for securing land and resource tenure, including land registration. Land use planning and land registration will take into consideration the existing forest landscape and its protection and sustainable use. Forests and forestland, which for the most part are legally considered as State land and not subject to titling, are often managed as communal (or collective) and customary lands. Strengthening the legal basis for tenure security will be pursued through developing a due registration process and system of Land Use Plans and Village Forest Management Agreements.

Under the objective of mainstreaming REDD+ into national and provincial level socio-economic development planning, a key area of work will be to design policies and government programs that can promote economic development in the land use sector, while incentivizing practices upholding principles of sustainable land use and responsible investment. While such policy level interventions may take time for maturation and impact to unfold, in terms of reduced emissions or enhanced removals, such incentive mechanisms that effectively engage

industry and private sector investors are considered a critical part of the country's strategy in addressing its drivers. In this regard, the ER Programme will engage with the ongoing work in promotion of Responsible Agricultural Investments (RAI) with multiple agencies related to agriculture, land management and investments.

Interventions under Component 1 include those which are relevant to address the REDD+ barriers in the entire land use sector, and have been organised into four sub-components (Figure 13): 1) strengthening and streamlining policies and the legal framework; 2) improved forest law enforcement and monitoring; 3) improved provincial, district and village level land use planning; 4) enhanced land and resource tenure security through land registration and other processes. The activities under this component are important precursors for the success of further land-based interventions. This being the case, interventions that require significant earlier progress are planned for earlier implementation, while capacity building related activities will be continuous. It is important to note that for many areas of work related groundwork is already underway, particularly at the central government level, and the ER Programme interventions will build on these developments.

**Figure 13 Component 1 Strengthening the enabling conditions for REDD+**




*Sub-component 1.1: Strengthening policies and the legal framework*

Strengthening policies for REDD+ at the national and provincial levels will be an important sub-component to ensure the sustainability of the interventions and results. A gap analysis, supporting reviews and consultations will take place to support drafting, where necessary, of legal documents and guidelines to support and mainstream REDD+ implementation. These will include standards for compliance of deforestation related safeguards for land concessions, legal provisions for villages' rights to use, protect and benefit from village forests, provisions on the role of commercial harvesting in village forests (based on consultations). Related activities (including the revisions of the Land and Forestry Laws) are already on going and expected to lay solid foundation for the above analysis to be conducted by the early stages of the ER Programme lifetime.

*Sub-component 1.2: Improved forest law enforcement and monitoring*
Lao PDR is in the process of negotiating a VPA with the EU under the FLEGT initiative. The ER Programme will support ongoing efforts to advance the FLEGT process including piloting in the provinces. Efforts to improve forest law enforcement and governance will focus on strengthening the capacities of related provincial and district-level government officials, by disseminating legal guidelines and regulations at the district and kum ban-levels, strengthening capacities of community members, local governments and private sector actors and improving information management and transparency.

*Sub-component 1.3: Improved provincial, district and village level land use planning*
Improved land use planning is a priority clearly reflected in national and provincial SEDPs and sector strategies. The ER Programme will support land use planning, monitoring and enforcement efforts by supporting the government to have a clear idea of the scale of current and planned activities, and institutionalizing a clear system to strengthen enforcement of un-permitted forest clearing. This will help limit unplanned deforestation across sectors including agricultural clearance, illegal logging with infrastructure and development projects (e.g. roads, hydropower dams, electricity transmission lines), among others. It will ensure that land use planning is realistic, implemented, monitored and enforced to stabilise the landscape in the ER Programme area. Investments will focus on providing support to mainstream and implement integrated spatial planning and participatory land use planning. Land use planning is already being implemented through various government and non-government projects in certain areas in the ER Programme area. Therefore, progress is anticipated earlier on in the ER Programme timeframe, to lay ground for subsequent land based interventions.

*Sub-component 1.4: Enhanced land and resource tenure security through land registration and other processes*
Security of land and resource tenure significantly impact decision making on land use, and sustainability of investments in land and natural resources management. To ensure land and resource tenure security further steps will be taken to register land allocation and resource rights and to formalise these rights as appropriate through land titling and forest management agreements. The activities will support on-going efforts of the government, increase capacities and provide resources to continue with these processes.

**Component 2: Climate smart agriculture and sustainable livelihoods**

Component 2 is closely linked to the major drivers of deforestation and forest degradation, with particular focus on agricultural expansion. Agriculture (including value added) contributes approximately 24 per cent to the GDP of Lao PDR. Despite the declining share of agriculture in GDP from 35 per cent a decade ago and low productivity compared to regional peers, the sector remains important as it provides work for 64 per cent of the labour force (despite a fall from 73 per cent in 2002/03) and accounted for 44 per cent of the poverty reduction between 2003 and 2013. The analysis of drivers of deforestation shows the cumulative negative impact of unsustainable agricultural practices. Unless there is sector transformation to high productivity with low impact on the environment, the potential for the sector to be more productive without further encroachment into natural forest will not be realised.

A range of technical options have been successfully tested in the northern uplands of Lao PDR over recent decades, in order to support the transition from mainly subsistence to commercial agriculture. Component 2 activities will focus on the promotion of CSA investments and implementation by the agents of deforestation and forest degradation (e.g. soil conservation practices, crop diversification, agroforestry techniques such as terracing, intercropping, among others). The concept of CSA will also be integrated with the principles of Responsible Agricultural Investment (RAI), as previously introduced under Component 1 to embed broader

social, environmental and economic safeguards and perspectives together with the climate related concerns central to CSA. This is designed to significantly curb expansion into forested landscapes and increase household incomes and resilience to climate risks (drought, floods, soil erosion etc.). Development practitioners, as well as village communities, are often aware of solutions for sustainable intensification of upland agriculture. However, practices are rarely adopted due to external causes such as disruptions from free grazing livestock or because of limited knowledge of market outlets, or simply because farmers find it less labour-intensive to use chemical products instead of organic practices.

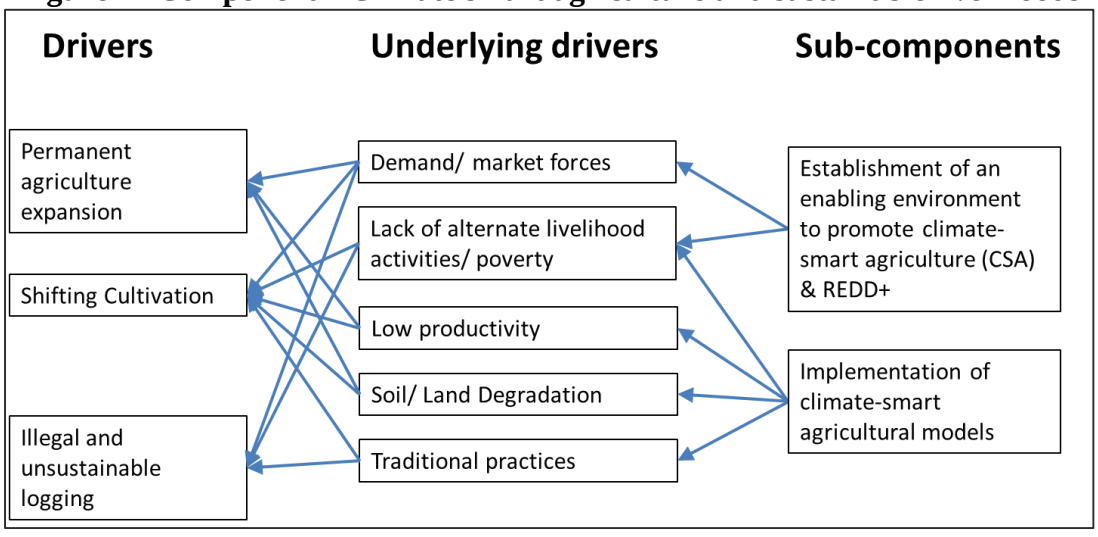
The investment will be supported through more effective extension services to the target groups, strengthening their value chain integration through promotion of processing, provision of marketing support and market information and stronger engagement with the private sector. The activities will also focus on building cooperative structures to improve negotiation power of these groups and improve access to rural finance. Women, ethnic groups and other vulnerable groups will receive special attention.

Activities under Component 2 (Figure 14) will focus on: i) establishment of an enabling environment to promote responsible, sustainable, deforestation-free and climate-smart agriculture; and, ii) implementation of CSA models to address market demand, low productivity, lack of alternatives as well as land and soil degradation as underlying drivers as identified through stakeholder consultations at all levels.

*Sub-component 2.1: Establishment of an enabling environment to promote climate-smart agriculture and REDD+*

Activities included within this sub-component aim to overcome the barriers to the success of REDD+, ensuring that villagers have clear incentives and adequate support to adopt deforestation free and sustainable agricultural practices. One of the major barriers to REDD+ is the lack of alternative livelihood opportunities in remote mountainous regions in the accounting area. As a consequence, villagers rely on clearing forests to meet their subsistence needs.

**Figure 14 Component 2 Climate smart agriculture and sustainable livelihoods**




*Sub-component 2.2: Implementation of climate-smart agricultural models*

**Direct investments into irrigation systems**: The decline in agricultural incomes during the dry season leads to increased pressure on forest resources to support local livelihoods. This decline can be cumulative from season to season. Investments in irrigated agriculture could help overcome this problem.

**Direct investments into improved upland rice cultivation systems**: Investments in improved upland rice cultivation will lead to reduced deforestation, due to the promotion and implementation of soil conservation practices and more sustainable production systems (e.g. rotations with select crops known to restore soil nutrients), to reduce soil degradation and increase rotation periods.

**Direct investments into alternative cash crop production systems**: The ER Programme will engage with the private sector and local famers to promote alternative cash crop cultivation systems and support extension and technical services for developing diversified agricultural systems, which promote responsible, climate-smart deforestation-free practices.

**Direct investments into livestock raising and fodder production**: Investments in sustainable livestock raising and sustainable fodder production have been identified by numerous pilot projects and studies as an important activity to improve rural livelihoods and break the poverty cycle in northern Lao PDR. The ER Programme will promote climate-smart production systems, as well as providing up-front finance to help households invest in livestock and fodder production.

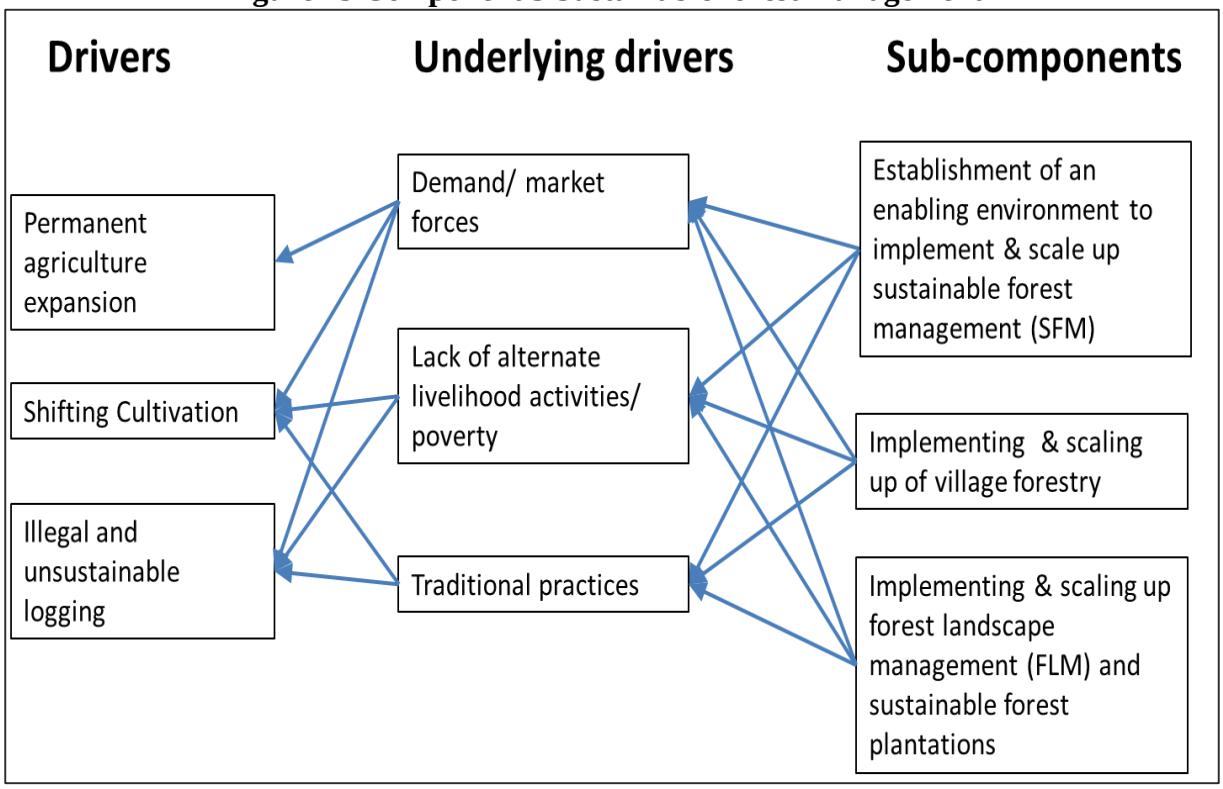
**Component 3: Sustainable forest management**

Under Component 3 (Figure 15) the ER Programme will provide investments into management planning and the implementation of village forest management and sustainable management of production forests (260,000 ha). The ER Programme will target the implementing and scaling up of FLR and Management on at least 70,000 ha. This will be achieved through assisted natural forest regeneration, plantation development and agroforestry systems to enhance forest carbon stocks. This will be conducted based on the results of high-level land use planning processes (Component 1). All these activities will be supported by capacity development and training of government staff and villagers, with a strong focus on ethnic groups, women and the most vulnerable groups. Through preparation and implementation of village forest management planning and agreements (VFMP and VFMA) the underlying rationale is to strengthen tenure security of land and forest resources, particularly those land and resources that are regarded as communal/collective and customary assets.

These activities will be complemented by the value-chain integration of the rural population, identification and mobilization and creation of incentive mechanisms to attract private sector investments into sustainable forest development and forest landscape management. The government views this as one of the key parts to support evidence-based policy and investment decisions. Part of the REDD+ readiness additional funding from the FCPF is earmarked for undertaking an extensive strategic and economic analysis of NRS interventions and development of a cross-sector spatial analysis framework for land suitability analysis, to support land use and forestry planning.

In summary, the ER Programme interventions under Component 2 and 3 will directly target at least 42,350 rural households and ethnic groups (total beneficiaries 254,097 people). At least 40 per cent of project beneficiaries will be women and ethnic minorities. These estimates are based on the estimated scale of the PRAPs.

**Figure 15 Component 3 Sustainable forest management**




Forestry sector interventions will focus on: 1) establishing an enabling environment to implement and scale up SFM and FLR; 2) implementation and scaling up of Village Forestry; and 3) implementation and scaling up of FLR and sustainable forest plantations. Interventions under the forestry sector will target results of emissions reductions from reduced deforestation and degradation as well as results of enhancement of removals from restoration and reforestation activities. Village forestry will be one of the key components for the implementation of forestry sector activities, as village communities are one of the main forest management agents on the ground. The private sector will also be a part of the engagement strategy for sustainable investments. Consultations with local village communities will underpin the implementation and identification of these specific interventions.

The FLR approach aims to promote both reduced emissions from deforestation and degradation, as well as enhanced removals from enhancement of forest carbon stock. Under the FLR approach, interventions will identify and zone landscapes within the ER Programme area according to their ecological potential and contributions, and reflecting their economic social, and institutional contexts. The FLR work will be conducted through an assessment of potential options for restoration, along with the integrated spatial planning and zoning exercises (linked to activities under Component 1). This process will identify broad landscapes and corresponding options for restoration activities. Restoration activities interventions will be context specific, but may include assisted natural regeneration, forest replanting, agro-forestry practices, or protection activities.

The ER Programme area has a great deal of potential for activities to enhance forest carbon stock, by applying different methods under FLR, including the two strategic target areas for enhancement of forest carbon stocks interventions, of 1) restoring degraded forests (i.e. targeting the Regenerating Vegetation class) and 2) selecting more productive uses of degraded forests such as sustainable forest plantations.

*Sub-component 3.1: Establish an enabling environment to implement and scale up Sustainable Forest Management (SFM)*

This set of interventions will establish an enabling environment to incentivise SFM management and FLR, in order to facilitate a transition to land use activities that reduce emissions from deforestation and forest degradation. PRAPs for each province provide the basis for creating an enabling environment for FLR and SFM. The design of the interventions will ensure that effective conditions are in place to support the implementation and scaling up of the activities. This will include developing a private-public-CSO coordination mechanism to engage the civil society, and the public and private sectors on key topics such as REDD+, timber legality, forest governance, FLR and SFM. This will build the capacities of the aforementioned actors, while supporting efforts to mainstream such activities.

*Sub-component 3.2: Implementing and scaling up Village Forestry*

Village forestry is one of the core elements of the forest strategy, as villages are one of the main agents of forest management on the ground. Forests and forestlands are for the most part legally considered as State land, for which certain use rights may be acquired, but not titled. Considerable parts of the forests and forestlands are in practice managed by communities as collective or communal and customary land. For reasons of accessibility, as well as social complexity, such areas have been by-passed in the majority of past land registration and titling efforts, which have tended to prioritise urban and peri-urban areas. In this regard, sub-component 3.2 is designed to improve tenure security in rural landscapes, as this is considered to be a core part of the package of solutions to stabilise land use (particularly shifting cultivation), and to encourage SFM with the participation of the village communities.

*Sub-component 3.3: Implementing and scaling up FLR and sustainable forest plantations for forest carbon enhancement*

FLR activities will support the restoration of degraded lands, promoting a holistic approach to land use planning and practices and sustainable livelihood activities. Given the nature of deforestation and forest degradation in the ER Programme area, FLR activities will specifically focus on restoration opportunities in fallow areas and degraded lands.

**Component 4: Programme management and monitoring**

Component 4 deals with the overall ER Programme management and monitoring. The Programme Management Unit (PMU) to be established by the government to oversee the ER Programme implementation will receive guidance from the REDD+ Division and will ultimately be responsible for management and overall monitoring. This PMU will be represented by the key sectors implementing the four Components and will closely coordinate with the different national, province and district level entities and actors. Programme objectives and progress will be monitored, and the key lessons learned will be shared and disseminated to support national wide REDD+ strategy implementation.

The final Component focuses on the implementation of the ER Programme, dedicating resources for program management, monitoring and evaluation. Resources dedicated to the management and coordination of program implementation will ensure that institutional arrangements are in place and are operational and that appropriate cross-sectoral coordination mechanisms are effective. This also includes a clear definition of the tasks and responsibilities by each implementing agency to ensure effective implementation of the interventions.

Monitoring and evaluation (M&E) of the ER Programme and PRAPs will be important to ensure effective implementation and will require a system to operational and effectively integrate into existing sectoral M&E frameworks. This anticipates an active role of the core sectors relevant to the implementation of the three Components (namely, agriculture, forestry, land and planning and investment.) This will ensure that the impacts of the ER Programme and

its progress towards key indicators can be effectively monitored. This will also ensure that action can be quickly taken in regards to any potentially unforeseen challenges. Finally, this component will further communicate and disseminate information related to program implementation, encouraging knowledge sharing among provinces, districts and sectors. Province-level meetings and workshops will be conducted to share lessons learned, while public information campaigns will be conducted to inform the public about the PRAPs and its progress.

**Annexure 2: Stakeholder-identified environmental and social issues**

**Issue 1: Lack of understanding and inadequacy of forest landscape level planning**

- Integrated spatial planning and forest landscape planning are new developments and not yet well understood
- High level planning results do not match with local requirements
- Population growth and rural poverty are inadequately considered
- Inadequacy of participatory land-use planning and unclear land tenure

**Issue 2: Lack of common PLUP method and collabouration between implementing parties**

- PLUP not conducted in all villages
- PLUP participation not fully inclusive of actual farmers and PLUP process often is not sensitive to opinions and issues raised by local stakeholders
- Poor understanding of PLUP goals and objectives, and tools and processes

ES Issue 1 Inadequate demarcation of village boundaries and the boundaries of state forest areas

ES Issue 2 Unclear legal status of village forest

ES Issue 3 Shifting cultivation areas not well reflected in maps based on satellite images

ES Issue 4 Population resettlement not carefully planned

ES Issue 5 Development activities not complying with the needs of the local population

ES Issue 6 Investors and technicians do not respect existing land-use plan and concession decisions do not refer to the existing land-use plan

ES Issue 7 Insufficient land provided for increasing the area for cultivation and meeting needs of increasing population; also not yet significant out-migration from forest areas

ES Issue 8 Inadequate consideration to the lack of alternative livelihoods

**Issue 3: Inadequate knowledge and confidence for changing poor farming practices**

- Reliance on traditional farming methods and products

ES Issue 1 Standard or classical livelihood style, no development

ES Issue 2 Lack of knowledge and technology on intensive farming

ES Issue 3.1 Use of inappropriate seeds for different type of soils due to lack of knowledge on agricultural techniques

ES Issue 3.2 Lack of the promotion related to climate change

**Issue 4: Improper and excessive use of pesticides and herbicides**

**Issue 5: Inadequate economic infrastructure**

- Lack of access road

ES Issue 1 Lack of access to community, downstream, and export markets

ES Issue 2 Lack of good market information

ES Issue 3 Lack of the promotion of agriculture processing to add more value

ES Issue 4 Lack of experience and lessons on financial management to build confidence for making investment or business decisions

**Issue 6: Lack of production group, association, or cooperative**

**Issue 7: Inadequate capacity for sustainable management of forests**

- Inadequate identification of management units in state forests
- Low capacity of staff for forest conservation and management
- Lack of forest management plans for protected areas and protection forests
- Limited capacity for scaling up village forestry
- Lack of models and pilots to test Public-Private-People Partnership in forest and forest industry development

**Issue 8: Lack of institutional experience and inadequate framework for forest landscape management, such as for transparent decision-making, implementation, and monitoring of development**

- Inadequate representation for forest landscape management
- Existing institutions not yet ready to implement forest landscape management
- Inadequate knowledge and experience in forest landscape management
- Boundary of production area of communities in the forest landscape not yet implemented effectively
- Agricultural land has not been clearly defined in the forest landscape
- Influential stakeholders taking advantage during updating and implementation of the law
- Concession decision by stakeholders do not refer to existing land-use map
- Approval of tree industrial plantation concession not yet fully considering the land-use rights of affected stakeholders

ES Issue 8.1 Intrusion into forests for commercial farming and industrial tree plantation still occurring

ES Issue 8.2 Encroachment by population displaced by concessions and development projects leads to increasing forest degradation

ES Issue 8.3 No clear policy on prosecution of encroachment of shifting cultivation in existing forest

ES Issue 8.4 Lack of forest restoration and conservation plan in biodiversity corridors

ES Issue 8.5 Lack of collabouration among stakeholders in forest protection

ES Issue 8.6 Mining exploration outside the defined boundary

ES Issue 8.7 Majority of mining exploration and operation located in conservation forest, protected area, and production forest

ES Issue 8.8 Flood pond or reservoir required forest clearance, which is not yet well implemented

ES Issue 8.9 Lax monitoring of salvage logging

**Issue 9: Inadequacy of laws and regulations and weak control in implementing development projects**

- Lack of compiled law and legislations
- Lack of dissemination of laws and regulations
- Lack of procedures and poor capacity to control salvage logging in infrastructure and concession areas
- Lack of corporate responsibility and technology to reclaim mined over areas
- Lack or unclear regulations related to forest conservation; inventory survey, awarding of quota, harvesting, transport, chain of custody, and monitoring of timber and NTFP; minimizing tree harvesting in mining areas; and others
- Laws, regulations, and concession agreements are not always respected

- Lack of transparency
- Village authority and government officer lax in monitoring and enforcing the laws and regulations
  - Need for legal action against shifting cultivation not clear
  - Illegal logging outside the salvage logging area
  - Mining exploration and survey do not respect or follow the right direction of law and regulation
  - Extent of tree felling excessive in comparison to the actual needs in conducting mining exploration and operation
  - Survey and post-mining operation without the participation of stakeholders
  - Post-mining operation not done or insufficient to reclaim the mined-over areas back to forest
  - Village livelihoods being deprived from mining operations while livelihoods created are insufficient
  - Mining revenues not equitably shared; the share for the national and local communities could still be raised to increase benefits
  - Performance, environmental, and social standards for mining not available or not fully developed
  - Third-party monitoring and assessment system lacking, but could be more cost-effective than, or could supplement, usual regulatory methods

**Issue 10: Inadequacy of implementing institutions and programs**

- Lack of effective participation of stakeholders, e.g. shifting cultivators; free, prior, and informed consultations not always done
- Dissemination method is not yet effective and not yet taking into consideration the feedback from communities
- Lack of environmental protection measures for agricultural activities
- Lack of technology on products management and storage
- Lack of extension and communication on risk and danger of chemical products
- Lack of market information
- Lack of product promotion policy
- Regulations on best practices not monitored or enforced

**Issue 11: Inadequacy of capable human resources and capacity building**

- Lack of capable human resources
- Lack of the capacity building for local authority in decision making
- Lack of work ethics

**Issue 12: Inadequacy of facilities and financial resources**

- Lack of budget for dissemination and extension
- Insufficient budget for forest restoration and techniques do not fit the objectives
- Lack of financing for livelihoods
- Community members cannot access loans or they do not want the risk from loans and debt.

**Annexure 3: Strategic linkages with program implementation**

| ER Components | | Component 1 | | | | | Component 2 | | | Component 3 | | | | Comp. 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Strengthening enabling conditions for REDD+ | | | | | CSA and sustainable livelihoods for forest dependent people | | | Sustainable forest management | | | | Manage-ment and monitoring |
| | | 1 | 1.1 | 1.2 | 1.3 | 1.4 | 2 | 2.1 | 2.2 | 3 | 3.1 | 3.2 | 3.3 | |
| **Strategic Interventions** | | General | Strengthening policies and the legal framework | Improved forest law enforcement & monitoring | Improved provincial, district & village level land use planning | Enhanced land and resource tenure security through land registration and other processes | General | Establishment of an enabling environment to promote CSA and REDD+ | Implementation of climate-smart agricultural models | General | Establishment of an enabling environment to implement & scale up SFM | Implementing & scaling up of village forestry | Implementing & scaling up FLM and sustainable forest plantations | General |
| 1 | Address gaps in policies, laws, and regulations | X | X | X | | | | | | | | | | |
| 2 | Revise the Land Law and Forest Law | X | | X | | | | | | | | | | |
| 3 | Revise laws on concessions and investments | X | X | | X | | | | | | | | | |
| 4 | Revise the decree on the Forestry Fund | X | X | X | | | | | | | | | | |
| 5 | Re-delineate the three categories of state forests | X | | | X | | | | | | X | | | |
| 6 | Revise laws to allow commercial village forestry | X | | | | X | | | | | | X | | |
| 7 | Pass legislation governing REDD+ and for PES | X | X | | | | | X | | | | | | X |

| ER Components | | Component 1 | | | | | Component 2 | | | Component 3 | | | | Comp. 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Strengthening enabling conditions for REDD+ | | | | | CSA and sustainable livelihoods for forest dependent people | | | Sustainable forest management | | | | Manage-ment and monitoring |
| | | 1 | 1.1 | 1.2 | 1.3 | 1.4 | 2 | 2.1 | 2.2 | 3 | 3.1 | 3.2 | 3.3 | |
| 8 | Strengthen enforcement of policies, laws, and regulations | X | X | X | | | | | | | | | | |
| 9 | Improve monitoring of implementation | | X | | | | | | X | | | | | X |
| 10 | Institutionalise FLM and enhance PLUP and tenure | | | | X | X | | | | | | | | |
| 11 | Enhance R&D and extension services | | | | | | | X | X | | | | | |
| 12 | Implement PSFM of state forest areas | | | | | | | | | | X | | | |
| 13 | Demonstrate models of forest plantation development | | | | | | | | | | X | | | |
| 14 | Organise sustainable village forestry | | | | | | | | | | | X | | |
| 15 | Develop clustered and re-tooled forest industries | | | | | | | | | | X | | | |
| 16 | Raise standards for private and village forest management | | X | | | | | | | | X | | X | |
| 17 | Develop ecotourism to increase benefits from forests | | | | | | | | | | X | X | | |
| 18 | Raise public awareness on key forestry issues | | X | | | | | | | X | X | | | X |

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