Readiness Preparation Proposal (R-PP)

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Forest Carbon Partnership Facility (FCPF)

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD)

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LIST OF ABBREVIATIONS

AD	Activity data
ADB	Asian Development Bank
ALRO	Agricultural Land Reform Office
ASFN	ASEAN Social Forestry Network
BAAC	Bank of Agriculture and Agricultural Cooperatives
BAU	Business as Usual
BB	Bureau of the Budget
BEDO	Biodiversity Economic Development Office (Public Organization)
BSIS	Biodiversity Survey and Information System
CBCM	Community Base Carbon Monitoring
CBD	Convention on Biological Diversity
CC	Climate Change
CCCO	Climate Change Convention Officer
CCMP	National Climate Change Master Plan
CCNS	Climate Change Negotiation Sub-Committee
CCTS	Climate Change Technical Sub-Committee
CDM	Clean Development Mechanism
CERD	Convention on the Elimination of All Forms of Racial Discrimination
CODI	Community Organization Development Institute (Public Organization)
COP	Conference of the Parties
CSO	Civil Society Organization
DBH	Diameter at breast height
DDG	Deputy Director General
DEQP	Department of Environment Quality Promotion
DG	Director General
DIO	Department of International Organizations
DLA	Department of Local Administration
DMC	Digital Mapping Camera
DMCR	Department of Marine and Coastal Resources
DNA	Designated National Authority
DNP	Department of National Parks, Wildlife and Plant Conservation
DOAE	Department of Agricultural Extension
DOL	Department of Land
DOPA	Department of Provincial Administration
DPIM	Department of Primary Industries and Mines
EF	Emission Factor
EGAT	Electricity Generating Authority of Thailand
EIA	Environmental Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FIO	Forest Industry Organization
FPIC	Free Prior Informed Consent
FSMP	Forest Sector Master Plan
GSEI	Good Governance for Social Development and the Environment Institute
GHG	Greenhouse Gases
GISTDA	Geo-Informatics and Space Technology Development Agency (Public Organization)
GNP	Gross National Product

GOT	Government of Thailand
GPP	Gross Provincial Product
GRP	Gross Regional Product
HCV	High Conservation Value
IC	Information Center
IMPECT	Inter Mountain Peoples Education and Culture in Thailand Association
IPCC	Intergovernmental Panel on Climate Change
IPFEE	Indigenous Peoples Foundation for Education and Environment
ITTO	International Tropical Timber Organization
IWD	Inland Waterways Department
KMUTT	King Mongkut's University of Technology Thonburi
KP	Kyoto Protocol
KUFF	Kasetsart University Faculty of Forestry
LEAF	Lowering Emissions in Asia's Forests Program
LDD	Land Development Department
LIDAR	Light Detection and Ranging
LULUCF	Land use, land use change and forestry
MOAC	Ministry of Agriculture and Cooperatives
MOC	Ministry of Commerce
MOD	Ministry of Defense
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MOI	Ministry of Interior
MONRE	Ministry of Natural Resources and Environment
MRV	Monitoring, Reporting and Verification
NCCC	National Climate Change Committee
NEB	National Environment Board
NEQA	The Enhancement and Conservation of National Environmental Quality Act
NESDB	National Economic and Social Development Board
NESDP	National Economic and Social Development Plan
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NGO	Non Government Organization
NLAC	National Land Allocation Committee
NRCT	National Research Council of Thailand
NRDD	National Rural Development Database
NSCCM	National Strategy on Climate Change Management
NTFP	Non-timber Forest Product
OAE	Office of Agricultural Economics
ONEP	Office of Natural Resources and Environmental Policy and Planning
ORRAF	Office of the Rubber Replanting Aid Fund
PAC	Protected Area Committee
PCD	Pollution Control Department
PES	Payment for Ecosystem Services
PPP	Policies, Plans and Programs
PS	Permanent Secretary
PTT	Petroleum Authority of Thailand
QA	Quality assurance
PSP	Permanent Sample Plots
RECOFTC	The Center for People and Forests
REDD+	Reduced Emissions from Deforestation and Forest Degradation in Developing Countries, the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks
REL	Reference Emission Level
RFD	Royal Forest Department
RID	Royal Irrigation Department
R-PP	Readiness Preparation Proposal
RTSD	Royal Thai Survey Department

SC	Steering Committee
SEIA	Social and Environment Impact Assessment
SESA	Strategic Environment and Social Assessment
TAO	Tambon Administration Organization
TBCA	Trans-boundary Biodiversity Conservation Area
TEI	Thailand Environment Institute
TF	Task Force
TFS	Task Force Secretariat
TFSMP	Thai Forestry Sector Master Plan
TGO	Thailand Greenhouse Gas Management Organization (Public Organization)
THAIFORM	Thailand National Forest Monitoring System
THEOS	Thailand Earth Observation System
TOR	Terms of Reference
TRF	The Thailand Research Fund
TSP	Temporary Sample Plot
TWG	Technical Working Group
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNFCCC	United Nations Framework Convention on Climate Change
WSC	Watershed Classification
WWF	World Wildlife Fund (Thailand)

GENERAL INFORMATION

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Summary of the R-PP

Date of R-PP preparation (beginning to submission):	March – December
Expected duration of R-PP implementation:	2014 –2017
Total budget estimate:	US$ 21,714,000
Anticipated sources of funding:	From FCPF : US$ 3,600,000 National government contribution : US$ 411,000 Other Development Partners: : US$ 17,703,000
Expected government signer of R-PP grant request:	Permanent Secretary of Ministry of Natural Resources and Environment
Expected key results from the R-PP implementation process:	1) Development of the National REDD+ Strategy and Implementation Framework 2) Design of Thailand's Reference Level for REDD+ 3) Design of monitoring system for REDD+ 4) Capacity building

EXECUTIVE SUMMARY

Thailand's landscape and forest resources reflect its topographic, agro-ecological zones and cultural diversity which results in a complex mosaic of agriculture and forests. Similar to other developing countries in the region, the forest areas in Thailand have been under serious threat. The forest area has declined from 53.3 % in 1961 to 25.3 % in 1998. The assessment of forest cover during the early period used the interpretation of Landsat-MSS at the scale of 1:250,000. In 2000, the imageries at the scale of 1:50,000 were introduced. Due to the change of scale and method of calculation, a new benchmark of forest area of 33.1% was then established. With population growth and increased demand for forest products and land, deforestation and degradation of the forest could be aggravated in the years to come, affecting the livelihoods of a large number of forest-dependent people and Thailand's environmental sustainability. Reducing deforestation and forest degradation while addressing livelihoods concerns at the same time is challenge for Thailand.

The need for a multi-sectoral approach to REDD+ is recognized by Thailand's Government. The government has put in place an institutional arrangement/management structures that reflects the relevant sectors engaged in land use as well as other stakeholders with an interest and stake in REDD+. The REDD+ institutional/implementation framework is to provide the scheme for the design and implementation of the appropriate institutional, financial, legal and governance arrangements to successfully implement REDD+ in Thailand in accordance with international guidance for future REDD+ efforts. This institutional arrangement consists of a two-tiered institutional mechanism for implementing REDD+. At the national level, a National REDD+ task force was established to facilitate, coordinate and spearhead the REDD+ activities and it will be supported by a REDD+ Office to be established early in the readiness phase. At sub-national level, REDD+ Offices will also be established throughout the regions to coordinate and facilitate REDD+ pilot activities at sub-national level and establish capacity building and stakeholder consultation for local communities. Local NGOs, and local forest-dependent communities that are playing an important role in forest conservation and provision of extension services would be part of REDD+ implementation at local levels.

The principles behind this two tiered approach is for REDD+ to ensure credability and to provide for transparent, efficient and effective decision making, implementation and monitoring of REDD+ efforts. Since implementation of REDD+ is a multi-sector and multi-stakeholder endeavor and comprises actions at the national and sub-national levels, Thailand will use the three main instruments for REDD+ implementation: institutions, financial measures and regulatory framework. This will enable Thailand to operationalize and implement its provisional REDD+ strategy options to minimize the conversion of forest land into other uses, hence reducing emissions, and equally to introduce actions that will enhance the sequestration capacity according to the national REDD+ strategies.

Key issues unique to REDD+ implementation that must be resolved during the readiness phase include institutional arrangements to plan, implement and monitor REDD+ activities; financing mechanisms for REDD+ activities and transactions; benefit sharing arrangements; carbon ownership to be addressed to three key beneficiaries for their efforts in the context of implementing REDD+ strategies; carbon registry to serve as national carbon tracking system; capacity building to improve technical background knowledge and skills and the regulatory framework to ensure clarity concerning key issues unique to REDD+

implementation. In addition, a Stakeholder Forum will be established to engage wide range of stakeholders, especially forest-dependent local communities in the entire REDD+ process. During readiness, the institutional/implementation arrangements will be adjusted for the effective and inclusive delivery of readiness.

The consultation process for the formulation of the R-PP began with early national and regional information sharing and dialogue with relevant stakeholders based on the mapping exercise conducted. A total of 1,252 individuals from 263 stakeholder groups were consulted through workshops and meetings. Two multi-stakeholders workshops were held at national level and six multi-stakeholder workshops were held at regional level targeting: relevant government sectors engaged in land use, military personnel, Foreign Affairs, media, universities, international organizations, and the private sector. In addition another four regional dialogues were held exclusively targeting forest-dependent local communities including local communities living and depending on the forest and its resources, women and youth groups and, civil society organizations. As a result of the early information sharing and dialogue and initial level assessments conducted, this R-PP was then formulated. This document includes a comprehensive consultation and participation plan to be implemented during the readiness phase between 2014 and 2017.

The preliminary analysis indicated that the drivers of deforestation and forest degradation are complex but are not so different in the various agro-ecological regions. Analysis revealed that deforestation is mainly caused by conversion of natural forest to agriculture and other uses (encroachment - being unauthorized or illegal land occupation), infrastructure development, and mining. The deforestation rate due to these factors is approximately 100,000 hectares per year during 2000-2006. Forest degradation, where the land remains as forest but the density and quality of the forest is decreased, is caused mainly by illegal logging and harvesting of non-timber forest product for commercial purpose, and uncontrolled forest fires. Some of the underlying factors of deforestation and forest degradation include: unclear forest area and other land use boundaries; increasing population and poverty resulting in use of forest area for livelihood. It is recognized that information and data for the analysis were not always readily available. Such further information and analysis is crucial for the identification of REDD+ strategic options. Supplemental analysis will therefore be conducted during the Readiness phase to better define and quantify the causes of deforestation and forest degradation and to cover various ecological zones/regions in more detail.

A number of potential strategic options to address the direct causes of deforestation and forest degradations were identified through analysis of existing policies, legal framework and plans, as well as stakeholder consultations. The proposed strategic options include clear forest area boundaries and zoning, updating and harmonizing forest and forest-related policies, improving efficiency of forest law enforcement, building awareness of forest conservation, development of alternative livelihoods, developing forest certification and chain of custody standards, enforcing environmental and social impact assessments of any infrastructure projects, and improving fire detection and control capability. These potential REDD+ Strategies Options will be evaluated further through the REDD+ Readiness phase. Several studies will be undertaken, including: risk analysis (summarize major types of risks, and their significance for the major REDD+ strategy activities); and feasibility assessment (socioeconomic, political and institutional) of the options. A forest governance assessment framework will be undertaken in the Readiness Phase.

REDD+ activities have the potential to deliver significant social and environmental co-benefits, however, many participants during the early information sharing and dialogues have also highlighted the potential risks, particularly for forest-dependent communities.

Strategic environmental and social issues which must be considered at the REDD+ readiness stage includes biodiversity and ecosystem services; micro-climate; water services and quality; soil condition; food security, placement of people and fauna, cultural and social problems resulting from migration and immigration, land ownership, land tenure , land accessibility, energy supply and gender equity and other benefits to improve education and health of the people while pursuing growth with low emissions from land use change.

SESA will be carried out during the Readiness phase which will include stakeholder analysis, description of the initial social and environmental situation of the forestry sector in Thailand, analysis of the possible impacts of different REDD+ strategy option scenarios, analysis of impacts of different REDD+ alternatives, and development of an Environmental and Social Management Plan (ESMP). Tasks to be conducted during the Readiness phase will include 1) scope of assessments and baseline analysis; 2) measures for impact mitigation and efficiency improvement. The results from SESA analysis will be used to suggest measures for negative impact mitigation and efficiency improvement for positive impacts in REDD+ strategy options; the suggestions will include the revision of REDD+ strategic options; the revision of rules and regulations together with institutional management; terms/conditions of REDD+ project implementation and stakeholder participation, 3) monitoring framework: SEIA will suggest the monitoring system, reporting pattern and indicators for monitoring of social and environmental impacts from REDD+ strategy implementation and 4) reporting: the results and conclusions from SESA will be summarized in the draft report. The draft report disseminated publically to relevant stakeholders. Besides, a safeguard information system should be designed. This system will be initiated to test, as appropriate subject to available financial support.

The Development of Environmental and Social Management Framework: the ESMF is an output of the SESA process. It aims to ensure that REDD+ policy/REDD+ scheme 'do no harm' and, instead, should 'do good' to all environmental and social aspects. The integration of the social and environmental considerations will be handled using the ESMF tool. This tool will be used to guide the process of incorporating the safeguards for identified negative impacts. The tool provides the guidance to identify salient environmental and social issues early on, prepare, as needed, remedies and plans to address these issues, and monitor implementation.

The need for a reference emission baseline: A reference emission level provides national stakeholders with a measure of the current level of emissions from forests and land-use change and gives a measure of the magnitude of the task to reduce emissions It also gives potential future funding sources for REDD+ activities a measure of the relative importance of different strategic options and provides the baseline against which future reductions in emissions are measured and credited. Forest carbon stocks in Thailand were estimated in 1989, 1994 and 2006. The results indicated that annual loss of carbon from natural forests during the period 1994-2006 averaged 33 million tonnes, which is partly offset by net sequestration in plantations of approximately 17 million tonnes. Based on and average carbon density in natural forests the loss of carbon from deforestation of approximately 180,000 hectares annually accounts for about 16 million tonnes, suggesting that forest degradation accounts for approximately 17 million tonnes. All these figures need to be verified by more detailed analysis, which will require good coordination between the many departments holding the relevant data. This analysis will be undertaken during the first two years of the Readiness phase to develop a credible national baseline.

In Thailand, each sector has established systems for monitoring relevant sector indicators, and the aim is to build a national REDD+ monitoring system that will integrate forestry sector information with that of other relevant sectors. For forestry related data the

existing national forest information systems will be harmonized and integrated into an NFMS , and for the other sector data, discussions will be arranged with all the relevant agencies to share data and submit needed information to a REDD+ Co-benefit monitoring system that will be the second component of the National REDD+ monitoring system.

National forest land use change monitoring is conducted by several agencies. However, these agencies use different forest area estimation techniques, classification systems, and imagery. For example, the Department of National Parks, Wildlife and Plant Conservation (DNP) uses Landsat-5 imagery with automated and visual interpretation, while the Royal Thai Survey Department (RTSD) uses aerial photographs taken with digital mapping camera (DMC). National carbon stock change monitoring data do not currently exist, although there exist tree volume data from THAIFORM that could be converted to carbon using existing allometric equations or other conversion factors. Other existing volume data have several limitations: inconsistent data across the country; several data custodians; lack of data on some forest resources; lack of tools to accurately estimate carbon in standing trees; and lack of mechanisms for information dissemination sharing, networking. There is also no comprehensive national forest information system in place. The various government departments under Ministry of Natural Resources and Environment (MONRE) have their own databases and systems. An International Tropical Timber Organization (ITTO) supported pre-project is currently under preparation with the Royal Forest Department (RFD), to strengthen the existing national forest information systems.

Most of the forest resources assessment work is currently conducted by the DNP, which has the largest pool of forest inventory experts and personnel. Within the DNP, there currently exist inventory and monitoring systems infrastructure, which could be built upon, strengthened and integrated, to implement a national forest information system (re-measure and analyze the permanent sample plots), for the purposes of REDD+ monitoring. This implementation will be coordinated by the REDD+ TF. Capacity building, in the form of training, is needed in the DNP and collaborating agencies. Furthermore, during the Readiness phase, regional cooperation in REDD+ monitoring would take place, since some of the pertinent REDD+ drivers (*e.g.* illegal logging) are of trans-boundary nature and to also help address the issue of leakage and the current displacement of emissions among countries through illegal logging. Studies will be implemented to: i) examine the potential scope of multi-country monitoring, harmonization requirements and possible implementation arrangements; ii) devise mechanisms to link the NFMS with community-level and project-type monitoring systems; iii) prescribe the necessary guidelines (systems, design, methodologies and parameters) for implementing carbon monitoring at the community-level; and iv) identify capacity building needs for community-level monitoring support.

Verification standards for REDD+ are lacking in Thailand. Thus, during the Readiness phase, it is proposed to develop national standards and guidelines for independent and transparent verification. These standards would outline who the verification bodies are, what the verification process should be, how verification results will be reported, and how to make adjustments in reports of reducing emissions from deforestation and degradation. Capacity building measures, specifically training, for government staff, private sector and NGOs on the verification requirements will be undertaken.

A process is proposed for the development of the component to the national REDD+ MRV system for monitoring benefits from REDD+ interventions other than reductions in net greenhouse gas emissions, that includes biodiversity, soil and water conservation and social and environmental impacts and the effectiveness of the planned safeguards and governance. A large number of agencies are currently monitoring most of the indicators that are required to assess co-benefits from REDD+ interventions other than changes in carbon stocks and emissions of CO_2. These include indicators for changes in household and community

livelihoods, biodiversity, soil and water land-use rights and ownership and governance. This will build on the wide ranging monitoring systems already in place in various agencies and will be tested in the pilot sites, which will enable gaps in monitoring capacity to be identified.

It is expected that the REDD+ readiness program would require a large number of activities to be implemented by many different stakeholders during 2014-2017. The progress of implementation of these activities will need to be closely monitored to ensure all are completed in time using Milestones and Indicators established in the monitoring framework, to enable the program manager check progress. The outcomes of many of the activities are based on assumptions that need to be reviewed, and also carry risks that may impede or prevent implementation and these will need to be mitigated. Many activities are interlinked and need to be coordinated. Periodic and progress reports form an important part of monitoring and need to be delivered on time in accordance with the framework

During the Readiness phase, the REDD+ Office will develop a detailed work-plan and revise the milestones and indicators accordingly during the first six months. A Gant chart will be developed to lay out the schedule and linkages between all the activities to aid monitoring. The REDD+ Office will ensure that all reports and documents required for monitoring are prepared and delivered in accordance with the work-plan.

COMPONENT 1: ORGANIZE AND CONSULT

1a. National Readiness Management Arrangements

Standard 1a the R-PP text needs to meet for this component:
National Readiness Management Arrangements:

The cross-cutting nature of the design and workings of the national readiness management arrangements on REDD+, in terms of including relevant stakeholders and key government agencies in addition to the forestry department, commitment of other sectors in planning and implementation of REDD+ readiness. Capacity building activities are included in the work plan for each component where significant external technical expertise has been used in the R-PP development process.

National Framework for Environmentally Sustainable Growth

Thailand's economy relies primarily on its natural resources. The Ninth National Economic and Social Development Plan (NESDP) (2002-2006) adopted the principles and Philosophy of Sufficiency Economy[1] to guide the development and administration of the country, at the same time as continuing the holistic approach to people-centered development from the Eighth NESDP. However, the Eleventh NESDP (2012-2016), articulated the importance of environmental friendly inclusive growth and development by:

- generating resilience in all dimensions including social, economic and natural resources;
- empowering communities to serve as the foundation for developing the economy and quality of life;
- conserving, rehabilitating, and utilizing the environment and natural resources in a sustainable manner to achieve sufficiency and reduce poverty;
- preserving natural resources and biodiversity, along with safeguarding the quality of the environment to provide a secure foundation for national development and livelihoods for both current and future generations, and
- creating mechanisms to safeguard national benefits in a fair and sustainable manner.

To support the Eleventh NESDP (2012-2016), the government has recently unveiled country strategy called "The New Growth Model" to be integrated into the overall country development strategy, as a framework for budget allocation. This model was approved by the Cabinet in October 13, 2012 (framework for budgetary allocation has already been provided for fiscal year 2014) to be implemented from 2014 onwards. It integrates strategy and policy, outlining four major pillars to be addressed for growth and development. One of the strategic pillars is the Green Growth model, which consists of five key priority areas:

- ecologically based urban and industrial development

[1] The philosophy of the Sufficiency Economy was initiated by His Majesty the King in order to lead his people to a balanced way of living, to maintain stability to persist on self-reliance. The Sufficiency Economy is believed to adapt well within existing social and cultural structures in a given community under subsistence production with equitable linkage between production and consumption and the community has the potential to manage its own resources. Under this philosophy, the country's natural resources need to be used efficiently and carefully to create sustainable benefits.

- reduction of green house gas emissions
- financial policy for environment
- natural resources restoration and water resource management
- climate change mitigation and adaptation

To give credence to the important role environment plays in sustainable development, the Constitution of Thailand enacted in 1975 the Environmental Law, which calls for the Enhancement and Conservation of National Environmental Quality Act (NEQA), B.E. 2518 (1975). The National Environment Board (NEB) was subsequently established under this Act and chaired by the Prime Minister. The NEB is an inter-ministerial body that handles all natural resources and environmental policies and measures. In 2002, the Ministry of Natural Resources and Environment (MONRE) was established to be responsible for managing the nation's natural resources and for the protection and restoration of the environment. Since then, several Acts, Laws and other Legislation have been issued to create an appropriate legal and regulatory framework to address natural resource and environmental (Component 2a). To address land use in Thailand the Government has established the National Land Allocation Committee chaired by Minister of the Ministry of Natural Resources and Environment (MONRE) with representation from relevant Departments. This high level Committee is responsible for land allocation policy and manages land allocation according to the Land Law and related Cabinet Resolutions.

Under the NEQA B.E. 2535 (1992), Thailand has established three Environmental Quality Management Plans (1999-2006, 2007-2011 and 2012-2016) with the multi-sectoral participation process. The objectives of the plans are to manage the natural resources and environment in a sustainable way. Its strategies are to i) improve the production and consumption base to be environmental friendly, ii) conserve and rehabilitate natural resources, iii) promote good governance in natural resource utilization, iv) create good environmental quality for people at all levels, v) prepare for climate change risk and disaster management, vi) and create awareness about environmental issues amongst Thai people and society.

Under the New Growth Model, MONRE is charged with the responsibility for implementing two of the strategic pillars-the climate change mitigation and adaptation as well as the natural resource restoration and water resources management. Therefore the National REDD+ program the government plans to implement would contribute significantly towards climate change mitigation in Thailand, as well as contribute toward the sustainable environmental and natural resources management of the country.

Community Forestry Program: Forest resources have been an integral part of Thailand's rural life, involving all aspects of local people's activities, thereby contributing to their social, economic, cultural, environmental and political objectives. At present, some 1.2 to 2 million people are reported to be living in and around protected areas (national parks and wildlife sanctuaries) and rely on forests for livelihoods. In addition, another 20 to 25 million people are reported to live near national forest reserves and use them for forest products both for household consumption and to sell them in markets for cash income (Wichawutipong 2005; Pragtong, pers. comm.). As early as the 1970s, the Royal Forest Department (RFD) recognized community (or village) forestry as a strategy for sustainable management of the nation's forest resources (FAO 1978; Pragtong 1991). In 1991 a Community Forestry Division, now renamed as the Community Forest Management Bureau, was created with a mandate to plan and promote community forestry, and to involve local communities, local organizations, NGOs and other civil society organizations and various other institutions in local forest management. The Thai Forestry Sector Master Plan of 1992 recognized community forestry as one of the main strategies (TFSMP, 1993). Under the National

Reserved Forest Act, B.E. 2507 (1964), there are more than 10,000 villages involved in managing community forest, of which 8,500 communities are reported to have formally registered with the RFD, covered the area of 500,000 hectares. Under the RFD, the institutional management for community forestry has been long established, with a very robust monitoring and evaluation unit. This unit will play a key role during the Implementation phase of REDD+ and would inform the co-benefit monitoring process for REDD+ (see Component 4b). Community forest organizations have built up their networks in each region and formed their network at national level that includes ethnic groups. The national community forest network is an important stakeholder for participation in the national REDD+ mechanism.

Local Forest-Dependent Community: In Thailand there are about 57 ethnic groups but only 10 majority groups are well known including Akha, Karen, Lisu, , Mien, Lua, Lahu, Hhmong, Khamu, Mlabri and Thin. They are commonly referred to as "hill tribes" or "highlanders". These hill tribes are concentrated around 20 provinces in the Upper and Lower North and the Western regions of Thailand. They are heterogeneous with distinct cultures, languages, customs, modes of dress and belief. According to the Department of Social Development and Welfare (2002), the total of the officially recognized "hill-tribe" population was 923,257. These ethnic groups are recognized as Thai citizens. They are able to receive all the fundamental rights, and are protected by the laws of the Kingdom. The term "**local forest-dependent communities**" is used throughout the R-PP which includes all ethnic groups, forest dwelling, forest dependent, hill tribes, fisher communities (the Chao Ley) and local communities in Thailand. They are all considered and recognized to be important stakeholders for participation in the REDD+ activities. The Constitution of Thailand does not use the term "Indigenous Peoples". However, the government recognized the existence of ethnic groups as described above., include fisher communities (the Chao Ley). During the Readiness phase of REDD+, the World Bank's safeguards policies in line with the Cancun agreement will be implemented in response to the outcomes of the Strategic Environment and Social Assessment (SESA) process. In addition, their rights should be recognized and respected under the international human rights covenants and conventions as appropriate, subject to national circumstance.

National Climate Change and REDD+ Framework

Thailand has participated in several international environmental conservation instruments and human rights such as Convention on Biological Diversity (CBD), the International Convention on the Elimination of All Forms of Racial Discrimination (CERD). To respond to climate change and the preservation of environmental integrity, Thailand has therefore actively participated in the global climate change debate and forums. The Government of Thailand (GOT) ratified the UNFCCC in December 1994 and the Kyoto Protocol in August 2002. Subsequently, in 2004, Thailand has designated the Office of Natural Resources and Environmental Policy and Planning (ONEP) under MONRE as the national climate change focal point. In 2007, Thailand Greenhouse Gas Management Organization (TGO), a public organization, was established as the Designated National Authority (DNA) for Clean Development Mechanism (CDM) projects, and the National Climate Change Committee (NCCC) was established as the policy making body on climate change issues. This Committee is chaired by the Prime Minister and consists of representatives from line ministries.

In 2008, the Cabinet approved the National Strategy on Climate Change Management (NSCCM) (2008-2012) to support Thailand's action on climate change and to provide a comprehensive guideline of national responses to climate change. The key elements in the Strategy include (1) building capacity to adapt and reduce vulnerabilities to climate impact;

(2) promote greenhouse gas mitigation activities based on sustainable development; (3) support research and development for the better understanding on climate change; (4) raising awareness and participation in solving climate change problems; (5) building capacity to relevant organizations to work on climate change; and (6) support international cooperation to achieve common goal of climate change mitigation and sustainable development. Linkages between policies on climate change operation in Thailand are shown in Box 1.

The ten-year National Climate Change Master Plan (CCMP) (2010-2019) has been adopted and is now in the process of being extended to a 40-year period (2011-2050) to provide long-term development directions to all sectors in order to manage climate change. The goal of the CCMP is to reduce greenhouse gas emissions and to become a low carbon society in the next 40 years, by 2050. The tools and key elements for the achievement of the CCMP are a self-sufficient economy, appropriate financial mechanisms, research and development, agriculture and food security, local wisdom and appropriate technology, education, international cooperation, and forest and ecosystem protection. Peoples' participation in climate change mitigation especially youth and woman groups has been raised.

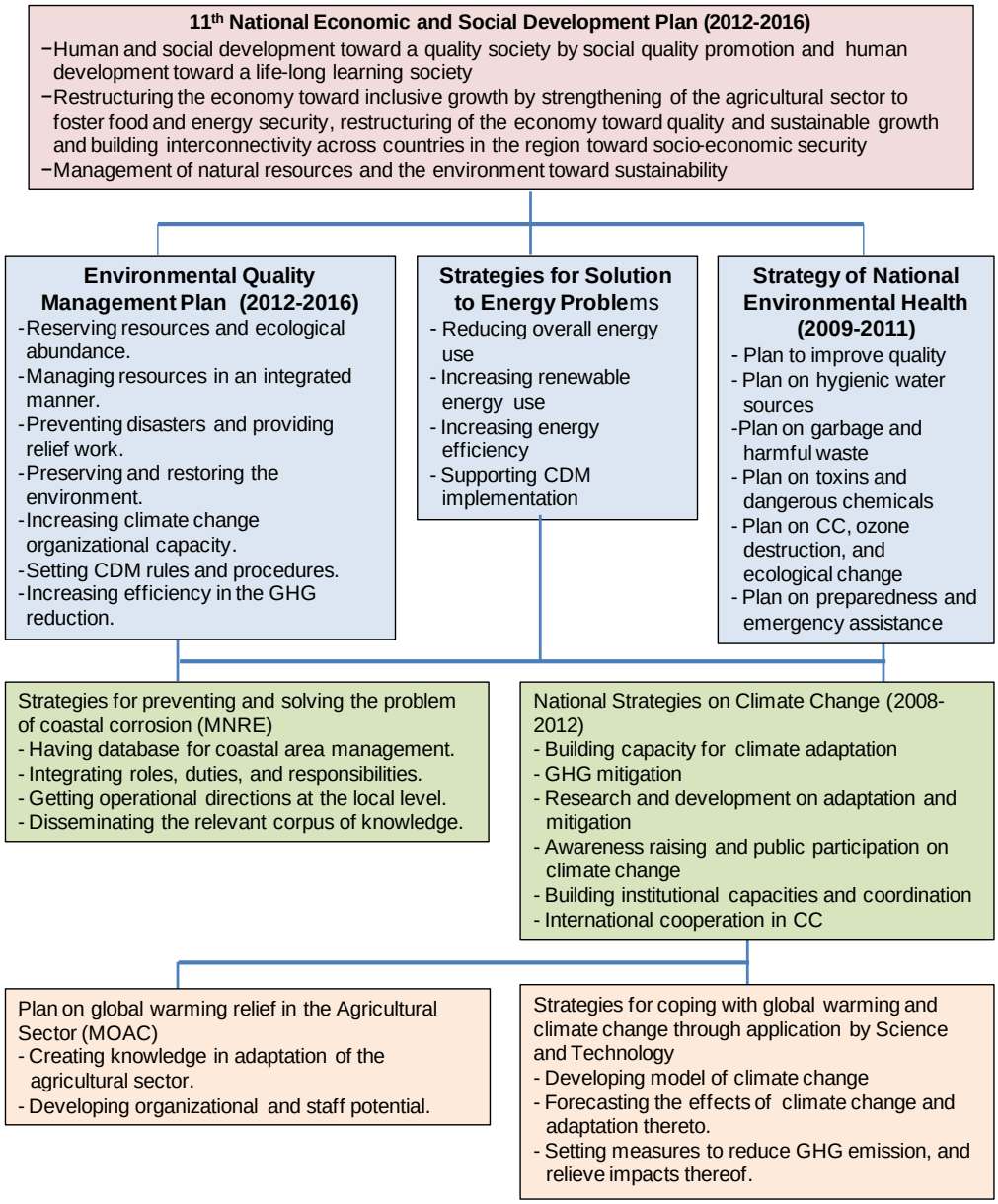
The Plan emphasizes the importance of an effective reforestation program over the next ten years through community participation processes. Several government policies stated to the Parliament of August 23, 2011 also supported the CCMP such as promoting local community participation and gender inclusion; establishing equitable land and natural resources use; raising awareness of natural resources and environment; and supporting the implementation of existing international commitments which would effectively add value to natural resources and environment management. Recently, GOT has promoted women role in country development by establishing the Thai Women Empowerment Fund. The Fund was recently established to raise the potential of women in every domain. The fund also serves as a funding source for women who want to have better access to education, employment, and healthcare services. As a result, women would benefit from better living standard (in terms of education, wealth and stability). The Fund of US$ 3.33 million (100 million Baht) per province is open to all women coming from any background, whether rich or poor, urban or rural.

In response to challenges posed by climate change, in 2007, Thailand established the National Climate Change Committee (NCCC) chaired by the Prime Minister and vice-chaired by the Minister of MONRE and the members which are Permanent Secretaries (PS) of relevant ministries (Finance, Foreign Affairs, Agriculture and Cooperatives, Transport, Information and Communication Technology, Energy, Science and Technology, Public Health and Industry), NESDB Secretary General and 5-9 experts related to climate change (e.g. laws, economics, environment, science and technology, energy). NCCC performs their duties to formulate and oversee major climate change policies on mitigation of greenhouse gases, adaptation to impacts and vulnerabilities of climate change and research and development, and provide advice on the national positions when contributing to the international efforts to the UNFCCC and international forums[2]. The Climate Change Coordinating Office was also established under the Office of Natural Resources and Environmental Policy and Planning (ONEP) to serve as a secretariat of the NCCC. Under the NCCC, two sub-committees in charge of the technical, negotiation and coordination on issues related to climate change were established, namely Climate Change Technical Sub-Committee (CCTS) and Climate Change Negotiation Sub-Committee (CCNS). CCTS is chaired by the PS of the MONRE and the committee members comprised of representatives from relevant ministries to provide technical supports for NCCC to formulate climate change

[2] The Office of the Prime Minister Order on the Implementation of Climate Change 2007, revised in 2009

related policies. This body could serve as the policy coordination body for REDD+ during the preparation process. CCNS is co-chaired by the Director General (DG) of the Department of International Organizations (DIO) together with the Secretary of the ONEP and the committee members comprised of representatives from relevant ministries to provide advice on the national positions in contributing to international texts and forums. Moreover, Climate Change Convention Officer (CCCO) was set up in all 19 Ministries and other 11 relevant agencies under the NCCC (Figure 1a-1). The NCCC is considered to be the national body on CC. All the National Policies have to be approved by NCCC and implemented by related institutions. On the other hand, the related institutions can also proposed related policies to be approved by NCCC. It is envisaged that this policy decision-making structure will contribute to the effective implementation of REDD+ readiness.

Box 1: Linkages between Policies on Climate Change Operations in Thailand



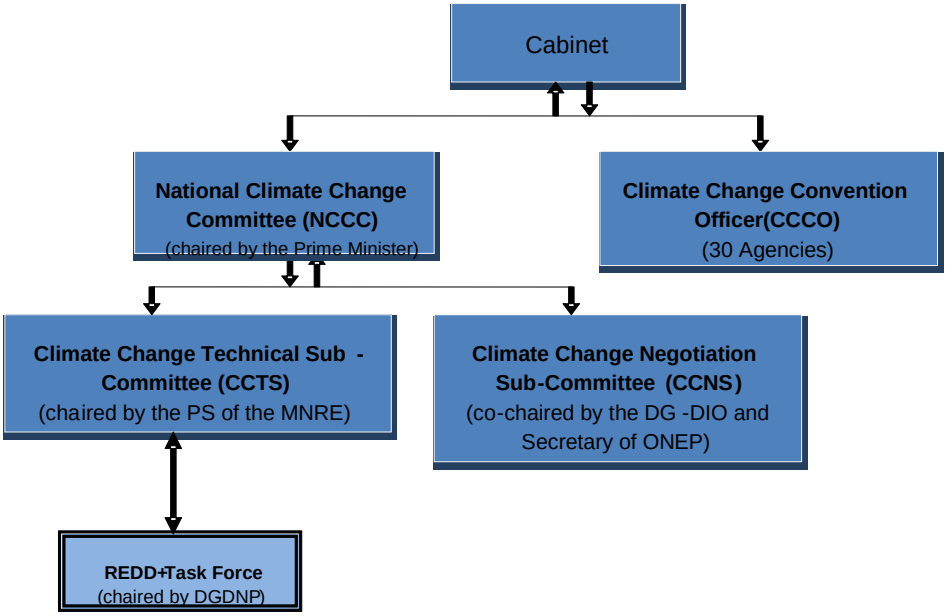


Figure 1a-1: Organization charts of policy decision-making body related to climate change in Thailand.

REDD+ Institutional Arrangements in Thailand

In 2010, GOT decided to participate in the REDD+ partnership and followed by the establishment of REDD+ Taskforce (TF) in 2011 as an inter-ministerial and multi-sectoral committee. The REDD+ TF in Thailand is currently chaired by DG of the Department of National Parks, Wildlife and Plant Conservation (DNP) and includes representatives from key government agencies contributed to the drivers for deforestation and forest degradation. The REDD+ TF is under the supervision of CCTS (Figure 1a-1).

Recently in 2013, the REDD+ TF has been strengthened for the REDD+ readiness in Thailand by revising the composition of committee member and include more stakeholders both government and non-government agencies, such as NGOs, local forest-dependent communities, private sector organizations, academia and research institutions. Each representative has been nominated by the respective institution through self selection process. The composition of the REDD+ TF is summarized in Table 1a-1. The need for a multi-sectoral approach to REDD+ implementation is critical as the drivers of deforestation and forest degradation often lie outside the forestry sector is recognized by the GOT. Therefore for REDD+ to be implemented in an inclusive and participatory manners, it requires an institutional arrangement/management structure that reflects the relevant sectors engaged in land use and other stakeholders with an interest and stake in REDD+.

Table 1a-1: Composition of the REDD+ TF Committee

Organization	List of stakeholder
Government	Department of National Parks, Wildlife and Plant Conservation (DNP) Royal Forest Department (RFD) Department of Marine and Coastal Resources (DMCR) Office of Natural Resources and Environmental Policy and Planning (ONEP) Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) Bureau of the Budget (BB) Office of the National Economic and Social Development Board (NESDB) Geo-Informatics and Space Technology Development Agency (Public Organization) (GISTDA) Forest Industry Organization (FIO) Department of Agricultural Extension (DOAE) Department of Land (DOL) Land Development Department (LDD) Department of Provincial Administration (DOPA) The Treasury Department (TTD) Agricultural Land Reform Office (ALRO)
Academia	Kasetsart University Faculty of Forestry (KUFF) King Mongkut's University of Technology Thonburi (KMUTT)
Private sector	Suan Kitt Group
Non-government Organization	Sueb Nakhasathien Foundation Good Governance for Social Development and the Environment Institute (GSEI) Thailand Environment Institute (TEI) Indigenous Peoples Foundation for Education and Environment (IPFEE) Raks Thai Foundation Sustainable Development Foundation Inter Mountain Peoples Education and Culture in Thailand Association (IMPECT)
Local forest-dependent community	Northern Forest Community Networks North-eastern Forest Community Networks Southern Forest Community Networks Central and Western Forest Community Network
International organization	RECOFTC The Center for People and Forests

The main tasks of REDD+ TF include: (i) develop guidelines for REDD+ readiness activities, (ii) develop action plans according to REDD+ policy and strategy, (iii) appoint Technical Working Groups (TWGs) for REDD+ readiness as required, (iv) review REDD+ related plans/project/proposals, (v) provide technical support to CCTS, (vi) coordinate relevant stakeholders to provide information needed for REDD+ activities, (vii) organize workshops and seminars supporting to REDD+ activities, and (viii) any operations related to REDD+ activities as appointed by the CCTS.

During the formulation of the R-PP, DNP set up the Steering Committee (SC) consisting of DNP Officials and key relevant stakeholders to oversee the formulation of the R-PP in collaboration with National/International Consultants and the National REDD+ TF. Between May 2012 and October, 2012, three meetings were held between the SC and the National REDD+ TF to discuss progress made on the formulation of the document, and solicit technical inputs from various stakeholders. In addition, two multi-stakeholder national workshops, six regional workshops and four local community dialogues were held (see Component 1b) during formulation to create awareness and solicit inputs from the relevant stakeholders pertaining to the various components of the R-PP. Once the R-PP was revised based on this extensive collaboration of relevant stakeholders, DNP in early December 2012, posted the revised draft on their website for further public consultations. The final revised draft of the R-PP was submitted to TF for consideration and subsequent approval by the PS of MONRE as Chair of CCTS who is the Secretary of NCCC.

During the Readiness phase, the REDD+ TF will be empowered to establish a number of Technical Working Groups (TWGs) and working bodies, such as the REDD+ Office and the REDD+ Information Center; which will assist in the development of the national REDD+ strategy. The REDD+ TF will report the operations to the CCTS and make recommendations on policy and regulatory issues for endorsement by the CCTS (Figure 1a-2). To provide strong multi-sectoral coordination for all REDD+ related activities within Thailand, individual members of the REDD+ TF will be responsible for both providing sector related inputs to REDD+ policy development and ensuring that their respective departments are fully appraised of all decisions and activities relating to REDD+ and provide all necessary support to the REDD+ Office.

The TWGs will have multi-disciplinary experts and would support the development of the various components of the R-PP. The TWGs will report to the REDD+ TF and work in line with the REDD+ Task Force Secretariat (TFS) which will coordinate with implementing agencies within the TF and TWGs. As part of the institutional arrangements for REDD+, TWGs will be formed (the composition of these groups will consist of expert representatives from: local forest-dependent communities, NGOs, CSOs, national government and private sector, etc.). Detailed TOR of each TWG will be developed in the Readiness phase with the following guidelines.

- TWG on Land-use Policy and Planning, which covers issues on land use analysis, demarcation, policy and planning. At present, the National Land Allocation Committee under supervision of the ONEP has the mandate to implement the Land Code Promulgating Act in Thailand. The committee will include, but not be limited to, representatives from MONRE, DNP, RFD, DOL, LDD, GISTDA, Academia, NGOs, local community networks, and specialists related to land allocation. The REDD+ TF will be responsible for this TWG to ensure a multi-sectoral coordination of institutes involved in land-use policy and planning in accordance with related land codes and laws.

- TWG on REDD+ Strategy will address issues related to governance, forest policy framework, rules and regulations, linkages with other government agencies, and national and sub-national REDD+ strategy. This TWG shall coordinate and gather inputs for REDD+ policy development from representatives of various REDD+ stakeholder groups to prepare national and sub-national REDD+ strategy and draft regulations relating to the implementation of REDD+ activities in Thailand. The committee will include, but not be limited to, representatives from MONRE, ONEP, DNP, RFD, DMCR, DOPA, private sectors, industrial sectors, academia, NGOs, local community networks, and specialists related to forest governance.

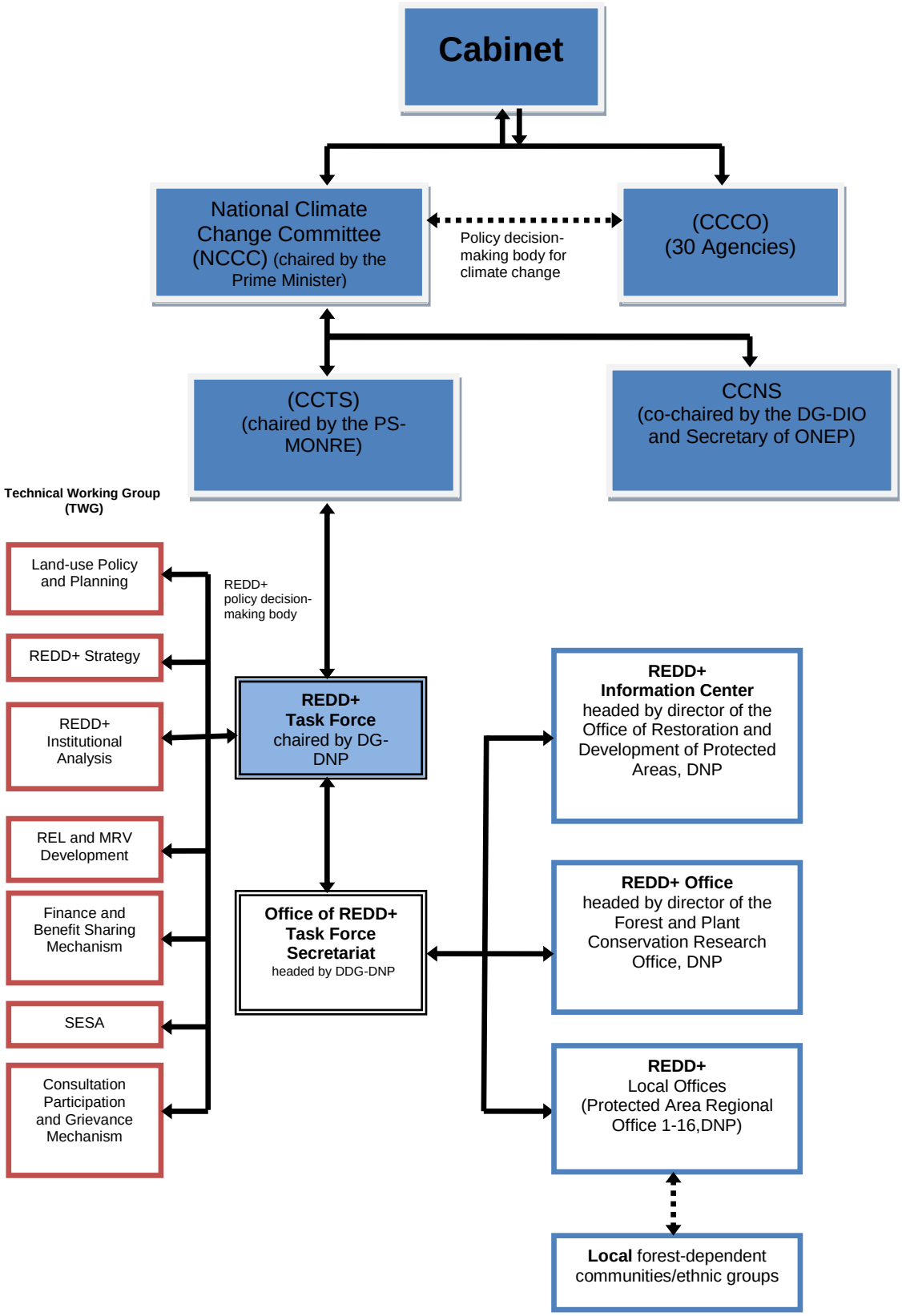


Figure 1a-2: Institutional arrangements for REDD+ readiness.

- TWG on REDD+ Institutional Analysis will be responsible for developing the REDD+ institutional arrangement and framework needed for the REDD+ implementation. An institutional restructuring will be arranged subject to national circumstances to fulfill key functions essential for the Implementation phase. Recognition of inputs from stakeholders participating in consultation process is of great importance to ensure that the institutional structure is not state-centered arrangement. The committee will include, but not be limited to, MONRE, MOAC, ONEP, DNP, DOPA, Academia, NGOs and local community networks.

- TWG on Reference Emission Level (REL) and Monitoring, Reporting and Verification (MRV) Development would cover issues related to forest data, forest inventory, data management, and MRV. The TWG will coordinate land use planning and assessment of carbon stocks as well as formulation of reference RLs/RELs and designing the MRV system. It shall develop guidelines, criteria, indicators and technical specifications necessary to follow in the REL and MRV system. The committee will include, but not be limited to, DNP, RFD, DMCR, LDD, GISTDA, TGO, RTSD, Academia, NGOs, local community networks and specialists related to geo-information and monitoring system.

- TWG on Finance and Benefit Sharing Mechanism will cover issues related to finance mechanisms and arrangements for the REDD+ readiness, and develop and implement a benefit sharing system. This TWG will assess existing relevant legal framework for finance mechanism and benefit sharing system and enable legal framework or draft new legal instruments. These processes will be further developed and discussed with extensive stakeholders during the readiness phase. The committee will include, but not be limited to, MOF, DOPA, DNP, RFD, DMCR, TGO, Academia, NGOs, and local community networks.

- TWG on Strategic Environment and Social Assessment (SESA) and Safeguards will be formed to ensure that social and environmental considerations are incorporated through REDD+ readiness. Thailand is cognizant of the potential risks REDD+ may have on livelihoods, security to land tenure, forest governance, culture, and biodiversity. SESA would be the main instrument used to identify, reduce and mitigate these risks. Relevant stakeholders would be involved through the different formulation stages. The SESA and Safeguards TWG would ensure the integration of gender analysis as women play an important role in natural resource management. The committee will include, but not be limited to, DNP, RFD, DMCR, Academia, NGOs, local community networks, and specialists related to social and environment, public participation, and policy.

- TWG on Consultation Participation and Grievance Mechanism related to stakeholder engagement, especially those of forest dependent ethnic groups and local communities which are a critical aspect of ensuring social inclusion, participation and the effective and efficient delivery of REDD+ readiness in a socially and environmental sustainable way. The committee would consists of expert representatives from: local forest-dependent community, NGOs, academia, and national government. to enhance stakeholder engagement process and to facilitate assessments of existing mechanisms at national regional and local levels. Consultation and participation are cross cutting issues, so during readiness, the TWG group will support consultation and participation processes for the various components of the R-PP, as well as support capacity building to ensure that the R-PP effectively addresses social inclusion during the readiness process. The importance of building on and/or setting up an effective grievance and feedback redress mechanism is acknowledged as important to address any potential conflicts that may occur during Readiness (see Component 1c).

Office of REDD+ Task Force Secretariat (TFS) will be established to serve as secretariat for the REDD+ TF and located at the DNP to coordinate with implementing agencies within the TF and TWGs. The Deputy Director General (DDG) of DNP will lead the TFS and draw the membership from the DNP, RFD, DMCR and FIO. The REDD+ TFS will also serve as a secretary of the REDD+ TF to strengthen the coordination between these two instrument bodies. An additional full-time staff will be recruited as required.

The REDD+ Office, a standing office, will be established to serve as the national implementing agency and located at the DNP to coordinate, facilitate and promote all REDD+ activities. The DNP's Director of the Forest and Plant Conservation Research Office will lead the REDD+ Office and draw the membership from DNP, RFD, DMCR and FIO. An additional full-time staff will also be recruited as required. The main tasks of the REDD+ Office will include:

(a) Managing implementation of readiness activities

(b) Planning and implementation of the national REDD+ strategy

(c) Coordinating and participation in the international REDD+ dialogue and negotiation and providing material support delegations from Thailand

(d) Capacity building through workshop and seminars for REDD+ readiness

(e) Preparing technical and progress reports for the REDD+ TFS, TF and the CCTS, and providing support to the TWGs for the preparation of working plans and regulations for submission to the REDD+ TF for endorsement to the CCTS.

The REDD+ Information Center (IC) will be established to serve the requirements of the carbon registry in REDD+ activities and transactions in two functional elements-protocols and registrations. The director of the DNP's Office of Restoration and Development of Protected Areas responsible for forest resources survey and analysis will head the IC. The IC will have participation from government agencies involved in collecting forestry-related data, including DNP, RFD, DMCR, FIO, LDD, GISTDA, RTSD and TGO.

In additional to the national institutional framework, appropriate sub-national arrangements in line with Thailand's decentralization process will be established. The sub-national institutions will coordinate and facilitate REDD+ pilot activities and establish capacity building and stakeholder consultation mechanisms for local communities. During the readiness phase, 16 existing Protected Area Regional Offices will also be appointed to serve as the REDD+ implementing agency at sub-national/local levels. NGOs, local forest-dependent communities and ethnic groups that are playing an important role in forest conservation would be part of REDD+ implementation.

It is expected that REDD+ implementation activities would involve multiple sources of funding (projects, compliance and voluntary market), multiple activities throughout the country (pilot activities, capacity building, and consultation at different levels), and multiple stakeholders (government, private sector, donors and NGOs). The REDD+ TF has been revised to include sectors engaged in land use and land use change, relevant academic institutions, NGOs, CSO and local community networks in order to ensure coordination amongst sectors and relevant stakeholders and enhance the development of inclusive and pro-poor REDD+ strategy options.

Nevertheless, to effectively implement the REDD+ national strategy, major institutional rearrangements have been widely reviewed and discussed among key stakeholders during the early information sharing and dialogue (see Component 1b). These discussions include mechanisms to enhance coordination among all stakeholders during the

full implementation of REDD+ that will expand and diversify over the country. Consequently, there were recommendations for the REDD+ TF to be chaired by the PS of MONRE and supervised directly under the NCCC as illustrated in the organization chart (Figure 1a-3). Furthermore, Table 1a-2 provides a comparative framework of institutional arrangements during the Readiness and Implementation phase.

Table 1a-2: Development of REDD+ institutional arrangements: Existing, Readiness and Implementation phase

Existing Institution	Readiness phase	Implementation phase
Chair DG-DNP **Vice Chair** DDG-DNP **Committee members** RFD, DMCR, ONEP TGO, RECOFTC, GISTDA ORRAF, TPW, DOAE, DOL LDD, DLA **Secretary** DNP **Institutional structure** • Under CCTS supervision • No standing office and other institutions either at national or local level	**Chair** DG-DNP **Vice Chair** DDG-DNP **Committee members** RFD, DMCR, ONEP TGO, BB, NESDB, GISTDA, FIO, DOAE, DOL, LDD, DOPA, TTD, ALRO, KUFF, KMUTT, Suan Kitt Group, Sueb Nakhasathien Foundation, GSEI, TEI, IPFEE, Raks Thai Foundation, Sustainable Development Foundation, IMPRCT, Regional Forest Community Networks (North, North-east, South and Central and West) **Secretary** DNP **Institutional structure** • Under CCTS supervision • Appoint TWGs for REDD+ readiness • Establish standing office secretariat for REDD+ TF • Set up REDD+ Office • Set up REDD+ Information Center • Appoint DNP Regional Offices to serve as REDD+ Local Offices	**Chair** PS-MONRE **Vice Chair** DG-DNP, RFD and DMCR **Committee members** RFD, DMCR, ONEP TGO, BB, NESDB, GISTDA, FIO, DOAE, DOL, LDD, DOPA, TTD, ALRO, Academia, Private Sectors, NGOs, Community Networks **Secretary** Director of the Office of REDD+ TF Secretariat **Institutional structure** • Under NCCC supervision • Appoint additional TWGs for REDD+ implementation • Maintain the REDD+ TFS, the REDD+ Office and REDD+ IC • Appoint MONRE Provincial Offices to serve as REDD+ Local Offices • Appoint Provincial REDD+ Consultation Committee or Provincial REDD+ TF

Although few activities related to REDD+ have been carried out in Thailand (Annex 1a-1), however, the CCMP expects that the REDD+ mechanism would be the potential mechanism for the country to promote forest conservation and enhancement of carbon stock in forest sector which is one of the major strategies in climate change mitigation. Capacity building on REDD+ including development of REL, forest inventory, study on land use change, measuring of carbon stock by local community and dissemination of information are suggested as the activities in CCMP. Several good practices on the ground (Annex 1b-3) can be modified to REDD+ initiation.

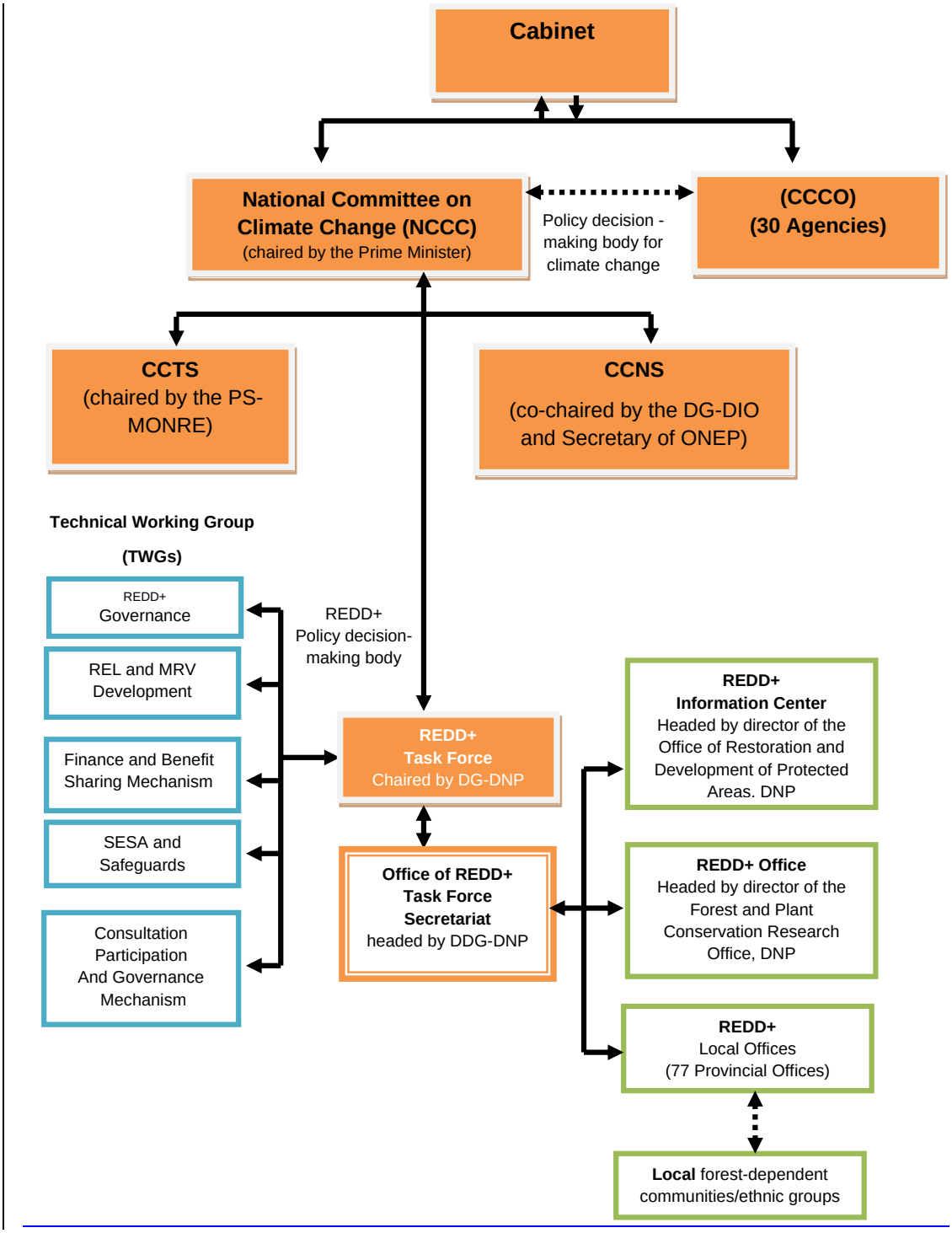


Figure 1a-3: Institutional arrangements for REDD+ implementation.

Institutions in Natural Resources and Forest Management

Several other existing management structures working on forest management and forest governance will contribute to the successful management and implementation of REDD+. Although these structures work outside of the REDD+ arrangement frameworks, their activities support current and future REDD+ management. It will be critical to ensure that these structures communicate with each other and the REDD+ TF by organizing regular meetings and workshops to address all aspects of REDD+ implementation.

The RFD of Thailand was founded in 1896 to consolidate the exploitation of forests. As a result, the ownership and control of all forests were transferred from the feudal chiefs to the Government. The RFD was divided into three Departments in 2002: the RFD, DNP and DMCR. All the departments are under the supervision of the MONRE. The RFD is responsible for forests outside protected areas that are the DNP's responsibility. The DMCR performs resource management of coastal flora and fauna, including mangrove forests outside protected areas, through conservation and rehabilitation.

The MONRE was established in 2002 with a wide variety of responsibilities, include the protection of the nation's natural resources: water, oceans, minerals and forest, as well as responsible for the restoration of the environment. The departments which are closely related to natural resource and forest management are:

1) ONEP develops natural resources and environmental enhancement and conservation management plans and policies
2) DEQP carries out research, training, public awareness, development of environment technology, natural resources and environment.
3) PCD regulates, supervises, directs, coordinates, monitors and evaluates rehabilitation, protection and conservation of environmental quality

The Ministry of Agriculture and Cooperatives (MOAC) has an important role in coordination across the forest, agriculture, and rural development sectors as outlined below:

1) LDD is responsible for land-use planning including several categories of forestry land uses.
2) DOAE is the core agency to promote and develop farmers to be self-reliant, to produce high quality agricultural products, and to promote sustainable agriculture practices e.g. community enterprise.
3) OAE collects statistics and conducts economic studies concerning agricultural crops, including forestry information
4) ORRAF is responsible for the development of rubber plantations.
5) Agricultural Land Reform Office (ALRO) is responsible for state forest land declassified as degraded forest for distribution to farmers.
6) The Office of Marketing Organization for Farmers is a possible alternative to developing markets for forest products.

Other Ministries/Agencies

(i) The Ministry of Interior (MOI) is of great importance in forest administration at local levels. The day-to-day operations of MONRE Provincial Officers are supervised by the office of the Governor of the different provinces and other relevant officers under supervision of the Department of Provincial Administration (DOPA) and DLA. DOL is responsible for administration of land information and mapping, while the Natural Resources and Environmental Crime Suppression Division of the Royal Thai Police assists in forest protection and control of illegal activities.

(ii) The Ministry of Industry and Ministry of Commerce (MOC) are responsible for promoting forest-based industries and internal and overseas trade.

(iii) The National Economic and Social Development Board (NESDB) prepares and promotes the NESDP on a five-year cycle, formulates the policies to implement the plans and assesses the progress of forest development programs to ensure their consistency with the plan.

Institutional Arrangements for REDD+ Implementation

Some TWGs established will function throughout the Readiness phase namely TWGs on REL and MRV Development, Finance and Benefit Sharing Mechanism, SESA and Stakeholder Engagement. Additional TWGs required will be proposed. For instance, TWG on REDD+ Governance will be established to cover issues of government structures, strategic implementation, capacity building and external linkages with other government agencies.

REDD+ offices established to serve as the REDD+ implementing agency at sub-national/local levels will be extended from Protected Area Regional Offices to local forest administration at the provincial level and will work in coordination with the MOI's DOPA and DLA. The Local Office may appoint Provincial REDD+ Consultation Committee to advise and examine REDD+ activities in the area.

Criteria and Indicators to Monitor Progress Made During Readiness Phase

Assessing the success of implementation of REDD+ readiness in a manner that corresponds to the FCPF standards, criteria and indicators for the R-Package Assessment Framework that has currently been developed to submit to the Participant Committee (PC 14) for comments and adoption, will be considered. As a head start, Thailand will consider incorporation of indicators from the R- package in all the components of the R-PP to be used as benchmark for monitoring both process and progress made during readiness. It is understood that the assessment process would be multi stakeholder and conducted in a participatory way, therefore the government will endeavor to build from and integrate with existing structures, platforms, created for REDD+ such as the TWG on: SESA, Consultation, Participation and Grievance or existing national procedures for program monitoring and evaluation.

Criteria to be considered as a checklist during implementation for adjustment as appropriate .

1. *Accountability and transparency:* Check to see how national REDD+ institutions and management arrangements are demonstrating that they are operating in an open, accountable and transparent manner?
2. *Operating mandate and budget*: How is it shown that national REDD+ institutions operate under clear mutually supportive mandates with adequate, predictable and sustainable budgets?

3. *Coordination with national or sector policy frameworks*: How are national REDD+ institutions and management arrangements ensuring readiness activities are consistent with, coordinated, and integrated into the broader national or sector policy frameworks?
4. *Technical supervision capacity:* How effectively and efficiently are national REDD+ institutions and management arrangements leading and supervising multi-sector readiness activities, including the regular supervision of technical preparations?
5. *Funds management capacity:* How are institutions and arrangements demonstrating effective, efficient and transparent financial management?
6. *Feedback and grievance redress mechanism:* What evidence is there to demonstrate the mechanism is operating transparently and impartially, has a clearly defined mandate, and adequate expertise and resources?

Summary of national readiness management arrangements activities and budget is shown in Table 1a-3.

Table 1a-3: Summary of national readiness management arrangements activities and budget

Main Activity	Sub-Activity	Estimated Cost (in Thousands US$)				
		2014	2015	2016	2017	Total
Support REDD+ readiness process	TWG on REDD+ Institutional Analysis	22	22	22	17	83
	Consultation Workshops	22	22	11	11	66
	Technical support	11	11	11	11	44
	Capacity building	22	22	22	22	88
	Attend international meetings, workshops, including lesson learned experience	22	28	28	28	106
Establishment of REDD+ Office	National office operating cost	55	55	55	55	220
	Regional office operating cost	110	110	137	137	494
	Capacity building	33	44	55	55	187
Establishment of REDD+ Information Center	Hardware for database management	17	5	5	5	32
	Operating cost (hire information specialist, etc.)	10	10	5	0	25
Total		**324**	**329**	**351**	**341**	**1,345**
Government		29	29	31	31	120
FCPF		**295**	**300**	**320**	**310**	**1,225**

Other Donors						
Main Activity	**Sub-Activity**	**Estimated Cost (in Thousands US$)**				
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Support REDD+ readiness process	Technical support	65	65	65	65	260
	Capacity building	20	30	30	30	110
Establishment of REDD+ Office	Vehicles and Equipment	450	0	0	0	450
	Capacity building	130	130	130	130	520
Establishment of REDD+ Information Center	Hardware for database management	60	0	0	0	60
Total		**725**	**225**	**225**	**225**	**1,400**

1b. Information Sharing and Early Dialogue with Key Stakeholder Groups

Standard 1b the R-PP text needs to meet for this component:
Information Sharing and Early Dialogue with Key Stakeholder Groups:

The R-PP presents evidence of the government having undertaken an exercise to identify key stakeholders for REDD-plus, and commenced a credible national-scale information sharing and awareness raising campaign for key relevant stakeholders. The campaign's major objective is to establish an early dialogue on the REDD-plus concept and R-PP development process that sets the stage for the later consultation process during the implementation of the R-PP work plan. This effort needs to reach out, to the extent feasible at this stage, to networks and representatives of forest-dependent indigenous peoples and other forest dwellers and forest-dependent communities, both at the national and sub-national level. The R-PP contains evidence that a reasonably broad range of key stakeholders has been identified, voices of vulnerable groups are beginning to be heard, and that a reasonable amount of time and effort has been invested to raise general awareness of the basic concepts and process of REDD-plus including the SESA.

Note: This section contains information on stakeholders and the consultation and participation process around the development of the R-PP. The information-sharing strategy is included in Component 1c.

Introduction

Thailand has a favorable legal and regulatory framework that supports community participation in preservation of the environment and forest resource management. The National Environmental Quality Promotion and Preservation Act, B.E. 2535 (1992) is the first law to empower communities to effectively participate and contribute towards the preservation of the environment. Strategies in forest resource management in Thailand have been modified by The Constitution of the Kingdom of Thailand B.E. 2540 (1997): Section 46 on decentralization policy. This law provides traditional communities the right to conserve or restore their customs, local knowledge, arts and culture of their community and of the nation. Furthermore it promotes participation of local communities in the management, maintenance, preservation and exploitation of natural resources and the environment in accordance with the law. The Decentralization Act of 1998 provided guidelines for the election of community representatives to the Tambon Administration Organization (TAO), and strengthens the Council by devolving funds. TAOs are encouraged and assisted to develop forest management plans and activities for TAO forests or community forests/village groups.

In accordance with the constitution of Thailand, MONRE has set in place a policy to support participatory management of natural resources and DNP as part of MONRE is charged with the establishment of multi-sectoral Protected Areas Committees (PAC) with representatives from local communities, civil society, DNP and other government sectors. These are functional committees mainly responsible for provision of advice and participation in the planning, implementing, and monitoring of protected area management. In addition, under the Provincial Administration Act, B.E 2551 (2008), the Ministry of Interior has established elected village committee throughout the country. These committees are responsible for advising the village leaders, as well as integrating all the development plans from the different groups, which include women and youth groups within the village into one consolidated plan that is then implemented based on budget allocation from the ministry. Furthermore the village committee serves as a conduit for information dissemination at village levels.

The GOT has acknowledged the important role relevant stakeholders play in ensuring the effective delivery of REDD+ readiness in an inclusive and participatory manner. The country is committed to utilizing the laws and regulations above in order to enhance stakeholder engagement, public consultations and to build on the existing structures and platform for moving the consultation process for REDD+ forward. It is understood that REDD+ has the potential to deliver significant benefits to local forest-dependent communities, including the sustainable management of biodiversity, the provision of alternative livelihoods, equitable benefit sharing of revenues generated from emission reductions, etc. However, Thailand recognizes the potential serious risks to livelihoods, security to land tenure, forest governance, culture, and biodiversity. For REDD+ programs to succeed in the long term, these risks have to be identified, reduced and mitigated, and stakeholders have to be involved in the formulation and implementation stages. It is therefore acknowledged that REDD+ requires extensive information sharing with and consultation among relevant stakeholders including multi-sectoral government agencies, civil society, private sector, and local forest-dependent communities to create transparent and inclusive institutions that would respond to the needs and reality of local communities and relevant stakeholders.

With the introduction of REDD in Thailand after COP 13 in 2007, several government agencies, i.e. academic institutions, NGOs, and the Indigenous Peoples Foundation for Education and Environment (IPFEE) have conducted various sensitization and awareness programs on REDD+ targeting forest-dependent local communities, ethnic groups and other stakeholders. The following key information sharing activities have been undertaken by government and non-government agencies:

- Thailand Research Fund (TRF) published two books on REDD in 2009 and 2011, titled "Follow up negotiations on REDD in global forums and significant impact to Thailand" and "Development of reference emission level under REDD mechanism for Thailand"
- DNP with the support of the Asian Development Bank (ADB) organized a one-day seminar on "Moving Ahead with REDD+" for all relevant stakeholders in July 2011. This can be considered as the first national forum on REDD+. The seminar aimed at raising awareness of stakeholders in REDD+ and provided a forum for an open discussion. The seminar was attended by government agencies and civil society.
- RFD and DNP with the cooperation of the ASEAN Social Forestry Network (ASFN) and RECOFTC organized a three-day workshop on "Climate change and the REDD mechanism" and "The FPIC Process for Safeguards under the REDD+ Mechanism" for staff of RFD, DNP and DMCR in May and August 2012. The workshop aimed to raise awareness and understanding of climate change issues and the REDD+ concept to government staff so that they are able to communicate these issues effectively with local communities.
- DNP organized three one-day training courses for staff throughout the country in May-July 2012. These courses aimed to raise awareness and understanding of the REDD+ concept and its contribution to sustainable development. There were approximately 200 staff per course. Additionally, a training course on REDD+ awareness was conducted in 19 villages with a total of 950 people attending in 2012, and will be conducted again in another 19 villages with a further 950 people in 2013.
- REDD+ awareness campaigns with the local communities have been actively carried out mostly by NGOs such as RECOFTC and IPFEE.

- DNP organized several meetings to update knowledge and information on REDD+ issues from the UNFCCC meetings to relevant stakeholders since 2009.
- DNP developed a Master Plan on Climate Change (2008-2012) to direct forest resource management and biodiversity conservation and support climate change mitigation.
- DNP developed a manual on climate change and REDD+ in Thai for staff

R-PP Early Information Sharing and Dialogue Activities

During the formulation phase, Thailand has built on these awareness processes and has conducted extensive information sharing and sensitization forums on REDD+ and the R-PP based on the mapping exercise below. Furthermore participatory structures, communication plans, conflict resolution and management mechanisms were discussed and identified.

Process to Enhance R-PP Consultation and Participation Activities

Prior to the implementation of the various multi-stakeholder workshops at national levels and regional levels dialogues with local communities (see below), the SC together with the National Consultants conducted a strategic planning exercise with the aim of identifying who the relevant stakeholders for REDD+ are Based on the stakeholder mapping exercise (see below) DNP then sent out invitation letters to all the relevant stakeholders at national and local government levels, including NGOs, local community groups and ethnic groups to attend all workshops held to date. The R-PP document was translated in Thai and circulated prior to meetings

Stakeholder identification

Stakeholder analysis exercise: Before the commencement of the information sharing process, a partial stakeholder analysis exercise was conducted (for details see Annex 1b-1). The aim was to determine and identify key stakeholders from sectors that contribute directly or indirectly to drivers of deforestation and forest degradation, as well as those whose support will be needed; to implement actions that are needed to address the problems. Stakeholders are defined as those individuals or groups affected negatively or positively by the proposed interventions include public and private sectors (Annex 1b-2), as well as civil society and local forest independent communities. The early information sharing and dialogue process was designed to ensure that appropriate representatives of each of the groups were invited (Table 1b-1). All the stakeholders identified were invited to participate in national, regional or local consultation processes. The invited stakeholders did their self-selection among the group to get representatives. This process ensured that the representatives were from the entire stakeholder base.

Table 1b-1: Results of main stakeholder mapping

Category	Stakeholders
National Governments	**Ministry of:** Agriculture and Cooperatives, Defence, Energy, Foreign Affairs, Finance, Industry, Interior, Natural Resources and Environment, Science and Technology, Social Development and Human Security, Transport, **Department of:** ALRO, DNP, DMCR, FIO, LDD, DOAE, DOL, DEQP, DIO, DOPA, DPA, DPIM, GISTDA, NRCT, OAE, ONEP, ORRAF, RFD, RI, RTSD, TGO **Regional/provincial levels:** Forest Resource Management Regional Office (1-13), Marine and Coastal Resources Conservation Center (1-6) Protected Area Regional Office (1-16), Provincial Agricultural Extension Office (1-77) Provincial Agricultural Land Reform Office (1-77) Provincial Electricity Authority Provincial Land Development Offices (1-77) Provincial Natural Resources and Environmental Office (77 Provinces)
Forest-dependent Local Communities/Civil Society	Central and Western Community Forest Network, Conservation Network of Tanaosri Mountains Ethnic Groups Network, Indigenous Peoples Ffoundation for Education and Environment Karen Education and Culture Restoration Group, Northern Community Forest Network, North-eastern Community Forest Network, Participatory Natural Resources Management Network, Southern Community Forest Network, Sustainable Natural Resources and Agriculture Network,
Private/Industrial Sector	Mining: Rock, lime, coal, cement, zinc Industry: Furniture and wood processing, pulp and paper, rubber, sugar, maize, salt, shrimp farm, oil palm
NGOs	Good Governance for Social Development and the Environment Institute (GSEI), Ecoalert Thailand Foundation, Foundation for Ecological Recovery, Foundation of Western Forest Complex Conservation, Green World Foundation, Heifer International (Thailand),

Category	Stakeholders
	Inter Mountain Peoples Education and Culture in Thailand (IMPECT) Institute of Sufficiency Economy, Rabbit in the Moon Foundation, Raks Thai Foundation, Sueb Nakhasathien Foundation, Sustainable Agriculture Foundation (Thailand), Thailand Environment Institute, Thai Society of Environmental Journalists, The Chaipattana Foundation, The Elephant Conservation Network, The Rajapruek Institute Foundation Journalists
Research and Academia	Kasetsart, Mahasarakham, Mahidol, Suranaree, Khon Kaen, Ubon Ratchathani, Mae Jo, Mae Fah Luang, King Mongkut's University of Technology Thonburi, Asian Institute of Technology, Rajabhat Universities

Information sharing and stakeholder dialogue

DNP implemented a series of two national and six regional multi-stakeholder workshops, with the aim of sensitizing relevant stakeholders on REDD+ and the R-PP process. All stakeholders listed from stakeholder analysis were invited by DNP to participate in the relevant workshops. Unfortunately, some NGOs like Thai Climate Justice were invited to participate, but they did not attend any meetings held. However, they sent in written comments, raising concerns about the stakeholder selection process, the content for consultations not consistent with forestry and land problems, and issues of land rights. Their comments are attached in Annex 1b-3. However, it is worth noting that their written comments are already addressed in Comp. 1c. In contrast, numbers of local forest dependant communities expressed positive support on REDD+ R-PP which could help forest management in their communities sustainably. They also asked for support and implement on ground not only for technical meetings and seminars. Their written comments are attached in Annex 1b-4(1)-(7).

Stakeholders were provided with an opportunity for meaningful discussions on REDD+. To ensure that local community group's concerns, suggestions and recommendations were fully captured; DNP organized four regional dialogues (North: Chiang Mai; Central/West-Kanchanaburi, North-east: UdonTani; South: Krabi,), explicitly targeting forest-dependent local communities and had focus group discussions at each regional workshop. Details of information sharing and regional dialogue are presented in Table 1b-2. The dialogue processes were undertaken from May to October, 2012. In addition, the last dialogue was held in the South (Krabi) in January 2013. The inputs from the dialogues were used to formulate the various components of the R-PP. After the final draft of R-PP was formulated in November 2012, the document was then translated to Thai and distributed to all relevant agencies for comments. The document was also posted on DNP website for public consultations.

In addition, DNP in collaboration with the World Bank and the USAID funded LEAF program will deliver a two day workshop-March 7-8, 2013, (see concept note in Annex 1b-5). This workshop would target explicitly CSOs, local communities and ethnic groups (both

Bangkok based CSOs and as well as those in the Regions) who may not had the opportunity to participate in prior meetings in the past. The aim of the workshop is to sensitize participants on REDD+, but more importantly to solicit their views on REDD+ relating to R-PP. it is expected that CSOs, like Thai Climate Justice, Northern Farmers Networks, and Land Reform Networks etc. would be invited to participate.

Table 1b-2: Details of information sharing and dialogue to date

Workshops	Target audience	Month date	No. of participants	No. of stakeholder	Regions
Two national level multi-stakeholder workshop	National level sectors involved in land use, non-governmental organizations, private sector, research academia	May 1 and October 19, 2012	411	50	Bangkok
Regional consultation workshops	Multi stakeholders from different government sectors at provincial levels, local communities, NGOs and private sectors	May 2 and October 19, 2012	186	42	East, West and South
Regional consultation workshops	Multi stakeholders from different government sectors at provincial levels, local communities, NGOs and private sector	May 4 and October 17, 2012	184	56	North-east
Regional consultation workshops	Multi stakeholders from different government sectors at provincial levels, local communities, NGOs and private sector	May 11 and October 15, 2012	213	50	North
Regional dialogue	Exclusively local communities including women and youth groups	October 11, 12 and 16, 2012 and January 24, 2013	258	65	North, North-east, Central and South
Total			**1252**	**263**	

Key discussion topics:

- Drivers of deforestation and forest degradation in Thailand
- Reducing emission from deforestation and forest degradation (REDD+)
- Stakeholders concerns and expectations about REDD+
- REDD+ readiness arrangement in Thailand
- Initial concerns on the environment and social implication of REDD+
- How can local communities engage in REDD+

Economic, social and environmental impacts of REDD and the mitigation of risks

- Land tenure and land use rights
- Ownership of carbon and trees
- Equitable distribution of revenues
- Issues of forest governance
- Institutional, policy and regulatory frameworks
- Opportunity costs of land use
- Interest of forest-dependent people and forest dwellers
- Existing and future monitoring systems for forests and forest emissions
- Inclusive participation in the design and implementation of REDD strategies

The information received from the discussion was used to formulate the R-PP especially on drivers of deforestation and forest degradation (Component 2a), proposed REDD+ strategies (Component 2b), benefit sharing and ownership (Component 2c), consultation for SESA (Component 2d), reference level (Component 3) and monitoring system (Component 4). Consultation and information sharing process will be continued efficiently during the Readiness phase.

The main questions and concerns that frequently emerged during the different information sharing and dialogues with local community and ethnic groups and that need to be taken into consideration during the design of Thailand's REDD+ strategy are:

- Local communities feel that positive impacts of REDD+ include: better health, improved economic alternative livelihoods, increase in biodiversity due to increase in forest cover, stronger networks in NRM
- Local communities feel that negative impacts of REDD+ include: food insecurity due to less agricultural lands, potential inter-community conflict due to land use such as agricultural expansion versus forest conservation; decrease of income from agriculture; risks of politicians using REDD+ as a tool for land negotiations; fear of resettlement from their lands due to REDD+; risks that forest biodiversity may lead to increase in certain wildlife populations and result in damage to agricultural farms
- The possibility of implementing pilot projects under REDD+ readiness that will enable local communities to benefit from REDD+
- The participation of stakeholders, and especially civil society and local communities in the REDD+ process. This specifically concerns the role of civil society in the different decision-making bodies including the REDD+ TF. This raises the question of setting up a truly "bottom up" process as well as the transfer of information from the grassroots to higher level decision-making bodies

- How local traditional knowledge of communities will be utilized in REDD+ decision-making process. The need to make sure that REDD+ implementation should not create conflicts with traditional lifestyles and cultural practices
- The issue of land tilting and demarcation was reiterated in all the local community dialogues
- The establishment of transparent and fair benefit-sharing mechanism. Local communities propose that REDD+ benefits related to forest conversation, PES and biodiversity conservation should be implemented as part of their local village development plans
- Capacity building and information sharing on climate change and REDD+ for all stakeholders at the national/local government levels, local communities, NGOs and others
- The issue of forest governance was raised in the light of corruption and inadequate forest enforcement
- Some government officials proposed that some pilot activities be conducted during readiness and to establish a fund where resources would be pooled from different sources to implement pilot activities at national, sub-national and local community levels
- Consensus amongst local communities and all dialogues raised the issue of land rights and user rights
- Ethnic groups requested for Free Prior Informed Consent to be used as a guiding principle for REDD+ readiness implementation
- The need to embed climate change and forest conservation into the national education curriculum
- National government stressed the importance of national coordination and for setting up appropriate institutional arrangements
- Definition of forest under the REDD+ mechanism was discussed to include ownership issues.

Concern, expectation and good practices on the ground which will be beneficial to REDD+ implementation is presented in Annex 1b-6.

Methods and tools used during the early information sharing and dialogue on REDD+ and R-PP

- Workshops
- Interviews
- Focus group meetings with local communities and ethnic groups
- Expert consultations
- DNP meetings with relevant agencies

Creation of effective information and communication strategy for REDD+: An effective communication and outreach plan would be critical for the success of REDD+ readiness. Due to the complexity of REDD+ and the many relevant stakeholders involved, it will be important to put in place an effective communication strategy on the country's vision for implementing REDD+. Diverse communication and information materials targeting different stakeholders during implementation will be needed to ensure that stakeholders have access to information in a timely and culturally appropriate manner to enhance not only their

inclusion and participation, but to ensure that their views are incorporated into national decision making and implementation processes. The following activities will be undertaken:

- Maintenance of an updated information base on all stakeholders involved in the process
- Mechanisms to ensure relevant information reach stakeholders prior to consultations so that they are well prepared. Prompt report back after consultations so that information can be verified
- Ensure all issues and concerns of stakeholders are captured and directed to relevant authorities
- Promotion of youth network in knowledge management on REDD+.

The response system will be in the form of a stakeholder database – a user-friendly information system designed to store all data from consultations in an accessible manner. The database system should allow for rapid and efficient recording and classification of comments so that they can be processed and transformed into usable information.

Communication and Information Materials to be Developed

Appropriate products will be developed for different stakeholders, such as

- establish the REDD+ website;
- print material such as brochures and guidebooks in local languages;
- news bulletins, press releases;
- audio visual material in local language;
- provincial and village radio and television broadcasts;
- technical workshops;
- mobile communication clinics;
- training of community facilitators;
- national/provincial/district workshops;
- training courses;
- use of community drama and folklore;
- use of traditional and local systems for disseminating information; and
- any locally and nationally appropriate information and communication systems.

All suggested communication and information materials will be developed in the Readiness phase as shown in activities and budget Table 1b-3.

Table 1b-3: Summary of information sharing and early dialogue with key stakeholder groups activities and budget

Activity	Estimated Cost (in Thousands US$)				
	2014	2015	2016	2017	Total
Design an information sharing and consultation strategy	11	11	0	0	22
Prepare local language media material	11	11	11	11	44
Conduct media campaign	11	11	0	0	22
Develop and manage website	11	0	0	0	11
Publication of documents	5	5	11	5	26
South East Asia regional info sharing	0	0	11	11	22
Information sharing on outcomes of pilot activities	0	0	16	16	32
National workshops	11	11	11	5	38
Provincial and local workshops	22	22	22	17	83
Capacity building	33	33	22	22	110
Technical assistance	11	17	17	11	56
Youth network (4 regions)	0	0	11	11	22
Total	**126**	**121**	**132**	**109**	**488**
Government	11	11	17	14	53
FCPF	**115**	**110**	**115**	**95**	**435**

Other Donors					
Activity	Estimated Cost (in Thousands US$)				
	Year 1	Year 2	Year 3	Year 4	Total
Prepare local language media material	54	0	0	0	54
Conduct media campaign	90	0	0	0	90
Development and manage website	16	0	0	0	16
Publication of documents	45	45	50	45	180
South East Asia regional info sharing	50	50	50	50	200
Information sharing on outcomes of pilot activities	0	18	20	18	54
National workshops	18	18	20	18	72
Provincial and local workshops	221	221	246	221	884
Capacity building	15	15	20	15	60
Technical assistance	18	18	20	18	72
Youth network (4 regions)	20	20	20	20	80
Total	**547**	**405**	**405**	**405**	**1,762**

1c. Consultation and Participation Process

Standard 1c the R-PP text needs to meet for this component:
Consultation and Participation Process:

Ownership, transparency, and dissemination of the R-PP by the government and relevant stakeholders, and inclusiveness of effective and informed consultation and participation by relevant stakeholders, will be assessed by whether proposals and/ or documentation on the following are included in the R-PP (i) the consultation and participation process for R-PP development thus far (ii) the extent of ownership within government and national stakeholder community; (iii) the Consultation and Participation Plan for the R-PP implementation phase (iv) concerns expressed and recommendations of relevant stakeholders, and a process for their consideration, and/or expressions of their support for the R-PP; (v) and mechanisms for addressing grievances regarding consultation and participation in the REDD-plus process, and for conflict resolution and redress of grievances.

Background

During the implementation of Readiness phase Thailand will undergo extensive consultations with relevant stakeholders on the various components of the R-PP by building on the early information and social mobilization campaign and dialogue conducted. The government aims to institutionalize inclusion, active participation and engagement of relevant stakeholders in REDD+ readiness. The utilization of participatory processes within the country will make it possible to ensure transparency in decision-making, improve the empowerment of stakeholders, involve them in making decisions, and implementation and monitoring and evaluation of REDD+ activities.

Consultation and Participation Process:

Stakeholder Engagement: The objectives of consultation and participation would be to:

- Raise awareness on REDD+ among a wide range of stakeholders engaged with the REDD+ process. The awareness raising is important before any key decisions are made. Gender and Youth Networks are among the target of awareness raising. The budget for establishing Youth Network is proposed in Component 1b.
- Conduct nation-wide consultation on issues of REDD+ with all stakeholders in government, civil society, private sector and local forest-dependent communities
- Establish a channel through which impacted local forest-dependent communities and the private sector can access information and participate in the design and implementation of REDD+ activities
- Improve the quality of decision-making about REDD+ processes by giving voice to and capturing the experiences of civil society organizations, local forest-dependent communities, private sector and other relevant stakeholders
- Encourage the development of regulatory frameworks across all sectors that impact land use change and are socially inclusive, transparent and measurable
- Strive towards equitable outcomes of REDD+ policies and activities, and increase the chances that local forest-dependent communities benefit from REDD+ revenues as well as improving forest governance.

Participatory mechanisms and structures identified in the initial stage of information sharing will also be used to enhance the active engagement and inclusion of stakeholders most especially the forest-dependent communities.

The early information sharing and dialogues undertaken so far has helped to inform the formulation of the R-PP. However the analysis of options to deliver REDD+, the issue of land tenure/user rights, role of private sector, institutional arrangement, capacity needs, benefit sharing arrangements, among others still need further discussion. Furthermore, consultations on the social and environmental impacts and risks associated with different options and design of the environmental management framework will be required. The incorporation of gender and youth issues into REDD+ readiness would be one of the strategic analysis needed to inform gender sensitive strategy options. It is recognized that differential gender and youth impacts from strategic options would need to be carefully analyzed, addressed and monitored, as women and youth play a significant role in natural resource management.

Goals of the Consultation and Participation Plan

- Increased awareness
- Participatory decision making
- Involvement in implementation
- Integration with safeguard measures (SESA)

Specific Objectives

- Establish a channel through which beneficiaries can access information and participate in the design and implementation of REDD+ activities
- Build awareness for cross-sector mainstreaming of activities and monitoring processes that can contribute to reduction of emissions from conversion or degradation of forests
- Improve the quality of decision-making processes
- Promote the development of regulatory frameworks that are socially inclusive and transparent
- Promote equitable outcomes of REDD+ policies
- Increase the chances that local forest-dependent community benefit from the revenues from REDD+
- Identify indicators for assessing REDD+ performance.
- Discuss potential and existing land user conflicts, lessons on conflict management and recommend a framework for inclusive and transparent resolution and management processes.
- Exercise Free Prior Inform Consent (FPIC) for participation in REDD+ pilot areas. **Key Stakeholders to Target for the Consultation and Participation**

During the implementation of Readiness phase, the stakeholder analysis will be built upon the exercise described in Component 1b. Lessons will be identified and appropriate steps taken to address concerns of stakeholders. This would include:

- Relevant national ministries engaged in land use
- Private sector, especially in forest and wood products, agro-industries, energy, mining and consultancy
- NGOs, especially those involved in community development and conservation.

- Local communities and ethnic groups
- Women and youth groups
- Research institutions and academia
- Law enforcement agencies
- Vulnerable and marginalized groups.

Key Issues to Address during Consultation and Participation

Fundamental REDD + Issues; Impacts and Risks

Based on the REDD+ strategy options and already identified issues affecting land use, benefit sharing and forestry, the following issues will be key discussion topics:

- Current status of national forests
- Previous and current policies to halt deforestation and forest degradation
- Main causes and drivers of deforestation and forest degradation
- Proposed REDD+ strategy options
- Economic, social and environmental impacts of REDD+ and mitigation of risks
- Land tenure and land use rights
- Equitable distribution of revenues
- Issues of forest governance
- Setting up effective grievance and feedback redress mechanisms
- Institutional, policy and regulatory frameworks
- Opportunity costs of land use
- Interest of forest-dependent people and forest dwellers
- Existing and future monitoring systems for forests and forest emissions
- Inclusive participation in the design and implementation of REDD+ strategies
- Potential REDD+ projects and activities
- MRV and RELs.

Ensuring Meaningful Participation

The importance of stakeholder engagement in REDD+ process is recognized. Meaningful participation and inclusion of relevant stakeholders, especially local forest-dependent communities in decision making processes are ensured. During Readiness phase, the consultation and participation of key stakeholders would build on early dialogues during the formulation of the R-PP, and the plan for consultation, participation, and outreach that has been developed for the R-PP. To ensure true participation, a Consultation, Participation and Grievance TWG will be created as part of the REDD+ institutional arrangements (see Component 1a). This TWG will liaise with the national body responsible for leading the REDD+ process to ensure regularly engagement with key stakeholders and facilitate their participation in both stages of R-PP preparation and implementation, including activities related to: national REDD+ strategy, reference levels, monitoring of carbon and co-benefit from REDD+, designing effective benefit sharing mechanisms and a grievance system. It is expected that the inclusion of stakeholders would result in a sustainable institutional structure that ensures meaningful participation in decision-making concerning REDD+ strategies and activities beyond the readiness phase. Building on existing participatory structures to further enhance the inclusion process will also be planned. It is recognized that meaningful

partnerships would need to be created with the NGOs and local forest-dependent community as discussed below.

Table 1c-1 shows the project activities and stakeholder involvement to ensure meaningful participation.

Table 1c-1: Participation of key stakeholders in REDD+ project activities

Key activities/decision	National Govt.	Local Govt.	CSO/ NGOs	Local Community	Private Sector
Establishing baselines (carbon inventory and socioeconomic)	X	X	X	X	X
Setting up MRV	X	X	X	X	X
Safeguards Environment/ Social impacts	X	X	X	X	X
Benefit sharing design	X	X	X	X	X
Land tenure arrangement	X	X	X	X	
Forest governance	X	X	X	X	X
Establishing grievance mechanism	X	X	X	X	X

Phases of Proposed Consultation and Participation Process

Experience in conducting the early information sharing and dialogue during the formulation phase, revealed the importance of creating inclusive and participatory processes. It is therefore necessary that all stakeholders have prior, well-informed and realistic understanding of REDD+. The need for strengthening the capacity of relevant stakeholders, particularly policy makers, implementation agencies and local communities/NGOs was identified for the success of REDD+. The consultation and participation process must therefore be developed in steps, so that there is adequate time for understanding to be developed, consolidated and shared. The Consultation, Participation and Grievance TWG under the REDD+ Office will undertake the following activities:

Step 1: Awareness Raising and Capacity Building

The role of CSOs and local forest-dependent communities: This step emphasizes raising awareness and building capacity of REDD+ among a wide range of stakeholders engaged with the REDD+ process. It is important that the Readiness process first builds awareness and capacity before key decisions are made. To ensure the active participation of local stakeholders, the consultation process would include supporting existing civil society and local community networks through the creation of a national REDD+ Civil Society Platform to engage in capacity building, knowledge sharing and learning and building the bridge between the community process and national planning and decision-making processes. This platform and other local networks will be linked through the REDD+ TF and will be empowered by provision of resources to enable them to strengthen the decentralized CSO/Local communities' networks as well as implement capacity building activities in related to REDD+ readiness. The government would also partner with the Platform for them to support and carry out some of the consultations that would target local forest-dependent communities during readiness.

Building effective grievance and feedback redress mechanisms for REDD+: The environmental and social risks associated with REDD+ could result in potential conflicts if not mitigated and managed well. Therefore it is important for Thailand to set up functional and effective grievance and feedback redress mechanisms to handle and resolve potential conflicts that may occur during REDD+ readiness. There is a realization that designed well, feedback and grievance mechanism should improve responsiveness to citizen concerns, help identify problems early, and foster greater trust and accountability with program stakeholders. The Readiness phase would conduct an assessment of what options already exist at the local and national levels and could be modified to put in place an accessible, transparent, fair, affordable and effective grievance feedback and redress mechanism for issues arising under REDD+. A grievance framework will be put in place to define the structure, functioning and governance of such mechanisms. This will take into account customary grievance approaches practiced in Thailand by local forest-dependent communities. Detailed consultations on setting up the mechanism will be carried out.

Step 2: Piloting and Testing

Thailand is proposing to implement demonstration pilot activities during readiness. The country acknowledges that FCPF resources will only be used for strategic planning, capacity building and analytic work. However, the implementing of selected pilots are planned based on lessons learned from ongoing community based forest conservation programs such as Core Environment Program and Biodiversity Conservation Corridor Initiatives, Integrated Community based Forest and Catchment Management to Eco-system Services, and Joint Management of Protected Areas Project.

The selection of pilots under REDD+ will take into consideration its different geographic regions and traditional practices. Generally, Thailand has been divided into four major regions - northern, northeastern, central and southern regions. The best practice in a region might not be applicable to all others, and pilot activities would provide better understanding to the REDD+ mechanism. The pilot activities are the only means to demonstrate and create lesson learned from REDD+ that can be fed into the development of REDD+ strategy. The designed monitoring mechanism will also be tested at the pilot sites. Before the pilot sites are selected, it is necessary to provide information on the process to all stakeholders. This is considered a major activity in the readiness preparation process and will continue for at least three years.

Step 3: Ready for REDD+

The final step of the consultation process is the evaluation of results from pilots prior to full engagement with a mechanism of REDD+. A process of in-depth stakeholder consultation that involves government, civil society, private sector and local forest-dependent community representatives will be used for evaluation.

Detailed work plan for the consultation and participation process will be formulated during the Readiness phase, however, a roadmap can be summarized as shown in Figure 1c-1, and summary of activities and budget is shown in Table 1c-2.

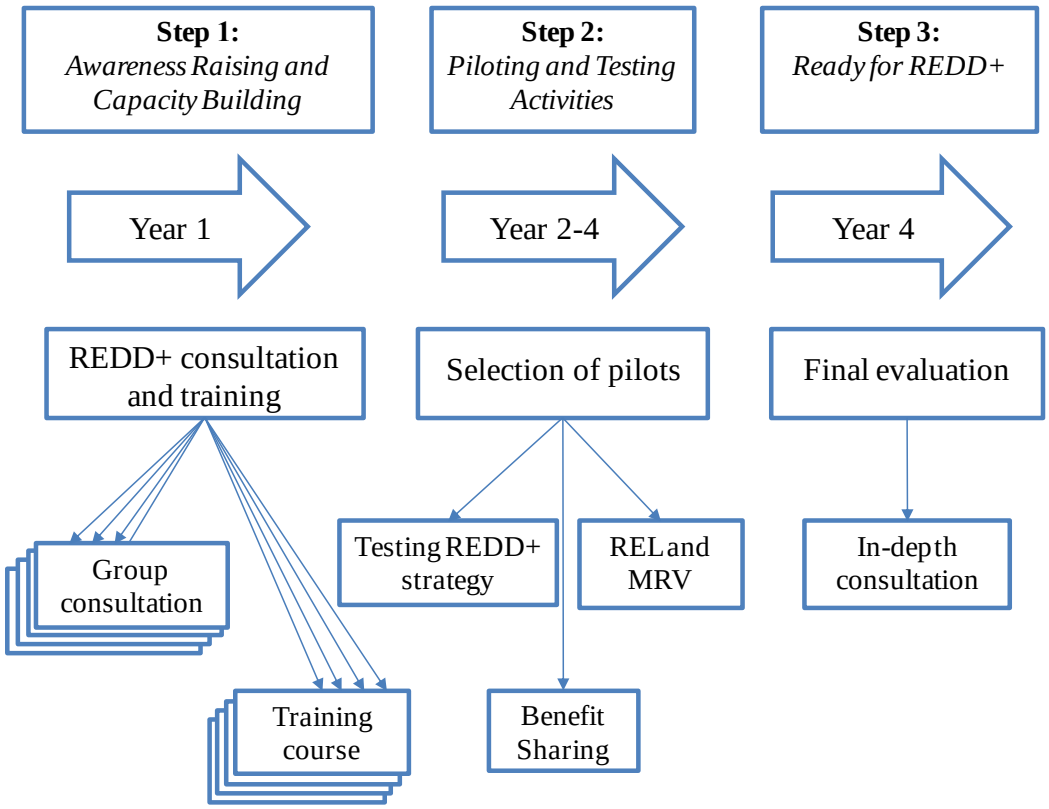


Figure 1c-1: Consultation and participation roadmap during the Readiness phase.

Criteria to be considered as Checklist during Implementation for adjustment as appropriate.

1. *Engagement of key stakeholders:* Check to see how full, effective and on-going participation of key stakeholders is demonstrated?
2. *Consultation processes:* Check to see what evidence demonstrates that consultation processes at the national and local levels are clear, inclusive, transparent, and facilitate timely access to information in a culturally appropriate form?
3. *Information sharing and accessibility of information:*
   - Check to see how national REDD+ institutions and management arrangements have demonstrated transparent, consistent and comprehensive sharing and disclosure of information (related to all readiness activities, including the development of REDD+ strategy, reference levels, and monitoring systems).
   - What evidence is there that information is accessible and is being received by stakeholders?
4. *Implementation of consultation outcomes:* How are the outcomes of consultations disseminated and taken into account in management arrangements, strategy development and technical activities related to reference level and monitoring systems development?

Table 1c-2: Summary of consultation and participation activities and budget

Activity	Estimated Cost (in Thousands US$)				
	2014	**2015**	**2016**	**2017**	**Total**
Regional level consultation and awareness raising	11	17	17	11	56
Local level consultation and awareness raising	28	28	28	28	112
TWG on stakeholder engagement	11	11	11	11	44
Training courses in determining the value of benefits	5	5	5	5	20
Establish and operate REDD+ CSO/LC platform	11	17	17	11	56
Environmental and social safeguards for REDD+	11	17	17	11	56
Establish benefit sharing mechanism	11	17	17	11	56
Develop grievance and feedback framework	28	28	28	28	112
Manage grievance mechanisms at different levels	11	33	33	33	110
Total	**127**	**173**	**173**	**149**	**622**
Government	12	18	18	14	62
FCPF	**115**	**155**	**155**	**135**	**560**

Other Donors					
Activity	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Regional level consultation	108	108	108	108	432
Local level consultation	20	20	20	20	80
Training courses in determining the value of benefits	90	90	90	90	360
Establish and operate REDD+ CSO/LC platform	18	18	18	18	72
Environmental and social safeguards for REDD+	45	45	45	45	180
Potential REDD+ projects and activities	20	20	20	20	80
Develop grievance and feedback framework	25	20	0	0	45
Manage grievance mechanisms at different levels	13	30	30	39	112
Disseminate grievance information	20	40	40	70	170
Total	**359**	**391**	**371**	**410**	**1,531**

COMPONENT 2: PREPARE THE REDD+ STRATEGY

2a. Assessment of Land Use, Land Use Change Drivers, Forest Law, Policy and Governance

Standard 2a the R-PP text needs to meet for this component:
Assessment of Land Use, Land Use Change Drivers, Forest Law, Policy and Governance:

A completed assessment is presented that: identifies major land use trends; assesses direct and indirect deforestation and degradation drivers in the most relevant sectors in the context of REDD-plus; recognizes major land tenure and natural resource rights and relevant governance issues and shortcomings; documents past successes and failures in implementing policies or measures for addressing drivers of deforestation and forest degradation; identifies significant gaps, challenges, and opportunities to address REDD-plus; and sets the stage for development of a national REDD-plus strategy to directly address key land use change drivers.

Introduction

This Sub-Component assesses land use, land use change drivers and forest law, policy and governance in Thailand. This assessment will help to identify 1) key drivers of deforestation and forest degradation, and activities related to conservation, sustainable management of forests, and enhancement of forest carbon stocks; and 2) shortcomings in current land use, forest law, policy and governance structures that contribute to drivers of deforestation and forest degradation.

Thailand is located in the south-eastern part of continental Asia, bordered by Myanmar, Lao PDR, Cambodia and Malaysia. It has a land area of approximately 51.3 million ha. Estimates of forest cover include 15.8 million hectares in 1997, with the main forest types being evergreen forest and mixed deciduous forest (Figure 2a-1).

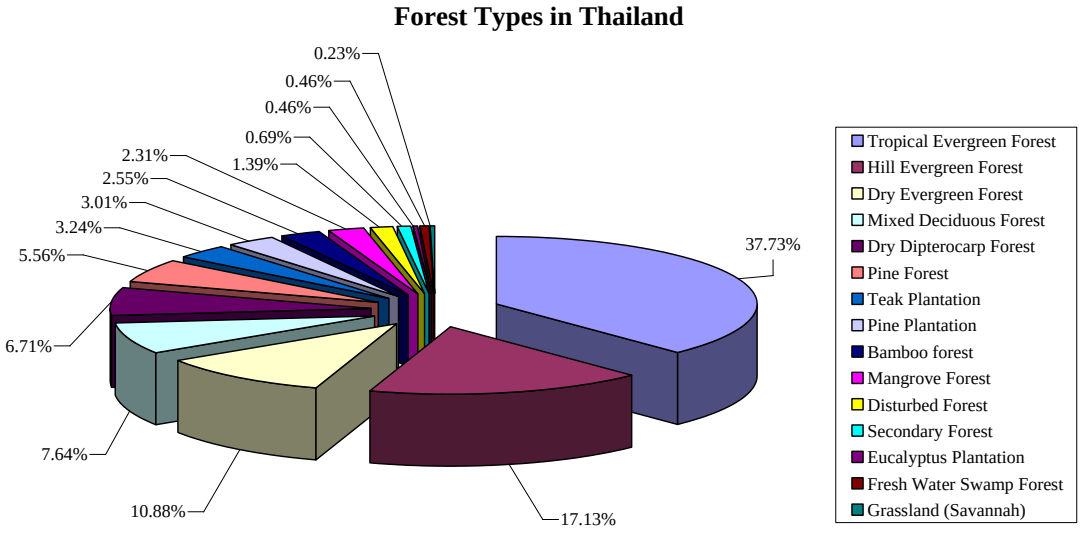


Figure 2a-1: Forest types in Thailand.
Sources: DNP (2007)

Forest Area Trends

Forest areas in Thailand show a steady declining trend as discussed in details in Component 3. Deforestation in Thailand in the past decade could be the result of several factors including accessibility to market based economics, improvement of infrastructure facilities (*e.g.* road, electricity and communication), and improvement of forest management. However, these factors are highly correlated to each other. Today people cook on natural gas rather than firewood and charcoal, and wood substitutes are increasingly replacing wood in house construction as it is more affordable than timber. Forest management has slightly improved due to both the direction of government policy and pressure from society. Government policies have emphasized conservation and sustainable use of forest resources since the national logging ban in 1989. The government has also recognized and supported people's participation and private investment. Nevertheless, without public outcry for stronger conservation and protection, the improvement in forest management would not have succeeded.

Legal Framework

The 2007 Constitution of Thailand recognizes the peoples' rights related to natural resources management, including forests, as indicated in the following main sections:

- **Section 66:** Participate in the balanced and sustainable management, maintenance and utilization of natural resources, the environment including the biological diversity.
- **Section 67:** Participate with the State and communities in the preservation and utilization of natural resources and biological diversity and in the protection, promotion and conservation of the quality of the environment for usual and consistent survival in the environment which is not hazardous to the sanitary health condition, welfare or quality of life, shall be appropriately protected.
- **Section 290:** A local government organization has authority and duty to promote and conserve the quality of the environment as provided by law.

The GOT has established stringent laws for the protection and conservation of forest areas including water and biodiversity. Presently, there are eight main forest-related Acts.

1. **Forest Act, B.E. 2484 (1941)** concerns logging operations and non-timber forest product (NTFP) collection, transport of timber and non-wood products and sawn wood production as well as forest clearing.
2. **National Park Act, B.E. 2504 (1961)** covers the determination of National Park Land, the National Park Committee, and protection and maintenance of National Parks.
3. **National Forest Reserve Act, B.E. 2507 (1964)** includes the determination of National Reserved Forest, control and maintenance of the National Reserved Forest
4. **Wildlife Preservation and Protection Act, B.E. 2535 (1992)** establishes provisions for national wildlife preservation, establishment of a Protection Committee and identification of 15 species of reserved wildlife.

5. **Forest Plantation Act, B.E. 2535 (1992)** covers the determination of reforestation and land registration of private reforestation rights, ownership and exemption from royalty on forest products from reforested areas.
6. **Chain Saw Act, B.E. 2545 (2002)** was enacted with appropriate guidelines for chain saw control, an important deforestation equipment.
7. **Plant Act, B.E. 2518 (1965)** Amended B.E. 2535 (1992) provides protection of local species
8. **Plant Protection Act, B.E. 2542 (1999)** regulates the protection and use of plant biodiversity.

The regulatory framework to support REDD+ comprises the existing laws dealing with forestry matters as set out above and in addition there are a number of important laws and regulations covering other sectors such as land, water and mining that will influence the effectiveness of REDD+ interventions in generating co-benefits. As outlined in Component 2c new regulations will need to be adopted specifically to support REDD+.

The regulatory framework covering the management, conservation and use of water resources is extremely complicated with over 30 laws and regulations administered by eight different ministries (ONWRC 2003), which are all represented on the National Water Resource Committee that has been established to improve coordination. The situation is being addressed through the development of a new Water Act that has been in process since 1992. The Draft Water Act may be expected, among other things to make provision for payment for water by users to suppliers as a form of PES, although some users are already making payments towards the management of watersheds. A system of water rationing is in place to ensure that all users get a fair share of the available supply in different seasons, though it is reported that many farmers extract more than they are officially allowed in order to grow two crops of rice annually.

As with water, the regulatory framework covering land-tenure rights is also complicated. The Land Code (1954) defines public and private land and makes provision for individuals to obtain certificates recording hereditable rights to land ownership. However, since the promulgation of the Land Code there have been numerous other regulations defining forest lands in various categories of protected areas and reserved forest as "public land" despite the fact that significant proportion of such land is and has been occupied. The consequences of this situation leads to uncertainties over ownership and use rights to land by farmers in forest areas that has in turn led to what is defined as "encroachment". The Agriculture Land Reform Office (ALRO) has the power to allocate land to landless farmers.

Infrastructure and mining development require EIAs and an important element of governance relates both to, the assessment and approval of EIAs and to the follow-up monitoring to ensure compliance.

Articles 66 and 67 of the Constitution of the Kingdom of Thailand of 2007 recognize the right of communities to "participate in the balanced and sustainable management, maintenance, preservation and sustainable utilization of natural

resources, environment, and biological diversity" [sic]. In practice, however, many communities have not been able to take advantage of this constitutional protection. None of forest related laws above directly regulate the use, benefit, management, etc. of forest resources by communities. On the contrary, some of the provisions in these laws have criminalized the status of traditional communities living on their traditional lands. Additionally, the Cabinet Resolution of January 17th, 1989 imposed a nationwide ban on logging. This resolution revoked all logging licenses in natural forests and banned all forms of logging.

In addition to these laws, there are many Cabinet Resolutions regarding forest and resource management. Examples of relevant Cabinet resolutions that show the evolution of decisions regarding forests and include:

(1) On 28 May 1985, 21 October 1986, 12 July 1988, 7 November 1989, 19 November 1991, and 21 February 1995, the Cabinet enacted resolutions on watershed classification and criteria for land use within each watershed class covered altogether 25 main watersheds in the country. The main purposes of watershed classification are to increase effectiveness in land use and to reduce conflict among stakeholders who need to utilize land on watershed areas. No settlement can exist in WSC 1A and 1B.

(2) The Cabinet Resolutions of 4 April 1975 legalized the use of "degraded" forest and 2 June 1987 amended on 9 May 1989: defined forest degradation as forest under poor condition that cannot be recovered naturally, consisted of trees with GBH > 50-100 cm less than 50 trees per ha or trees with GBH > 100 cm less than 13 trees per ha, except in WSC 1A, 1B and 2 which any forests are not classified as degradation.

(3) The Cabinet Resolutions in 1991 and of 10 and 17 March 1992: Forest reserves are classified into three categories including the conserved forest zone (Zone C), the commercial forest zone (Zone E), and the zone suitable for agriculture (Zone A).

(4) The Cabinet Resolutions of 30 June 1998 on Resolving Land Issues in Forest Areas and 24 April 2007 giving MONRE 2 years to complete the task:

a) There will be no issuance of agricultural land titles inside protected areas.

b) DNP is charged with identifying and registering all occupants in protected areas and establishing their date of origin inside the area. DNP will define an occupation boundary for households/community. There will be no expansion of settlements outside this boundary. In case it is proven that a household or community was settled in the area after the area was gazetted, DNP will either:

- relocate the households to a new area and provide initial subsidies to enhance alternative income generation; or
- if no land is available for resettlement, forbid all further expansion and seek to support existing livelihoods.

In upland areas, government development agencies seeking to promote upland development should take notice of protected area restrictions and initiate only low-impact activities.

(5) The Cabinet Resolutions of 25 January 1975 recognised the possibility of other land-uses within reserved forest land, 29 April 1975 approved MOAC's plan for land allocation, 12 June 1984 withdrew forest status from forest reserve land already occupied, 16 January 1995 re-allocated degraded forest land between zones and 1 September 1995: Provides criteria to accept communities living or utilizing land in WSC 1A.

(6) The Cabinet Resolution of 10 August 2004: Initiated a "New Plan of Forest Villages Project", aimed to lessen the incidence of trespass on forests by building collaborative management practices to protect, conserve and sustainable use resources, with communities living in the Project areas. This Resolution is considered to be positive in the recognition of the possibility of people and forest coexisting. DNP and DMCR are responsible for implementation of this Resolution.

Eventhough, there is a numbers of relevant laws and acts in place, the design of REDD+ project should be carefully designed though the consultation of REDD task force members and relevant technical working groups.

Institutions

Government Organizations

The RFD was founded in 1896 in Thailand to consolidate the exploitation of forests. As a result, the ownership and control of all forests were transferred from the feudal chiefs to the Government. The RFD was divided into three Departments in 2002: the RFD, DNP and DMCR. All these departments are under the supervision of MONRE. The DNP is responsible for Protected Areas. The RFD is responsible for forests outside protected areas. The DMCR is responsible for resource management (conservation and rehabilitation) of coastal flora and fauna, including mangrove forests.

State Enterprises

The Forest Industry Organization (FIO) is the state enterprise in the forestry sector in Thailand, which is involved in reforestation, teak plantation, sawmilling, and development of forest villages.

Non-government Organizations

There are many types of organization within the NGO community whose activities have a bearing on the forestry sector. Some NGOs concern themselves with environmental matters, some with local development, and others with both.

Universities

There are several universities in the country that offer Bachelor's and Master's degree courses related to forest and natural resources management but with different emphasis on technical subjects. Kasetsart University is the only one with a comprehensive forestry faculty in the country. It offers BS, MS, and PhD programmes in forestry and related subjects. The four-year BS programme presently includes three specific degree programmes. These are Forestry, Wood Sciences and Technology, and Pulp and Paper Technology. The Forestry courses include: forest resource management, forest conservation, forest engineering, silviculture, social forestry and forest biological sciences.

Private Forest-based Companies and Organizations

Organizations concerned with the forest-based industry are typically companies concerned with forest plantations and wood industry operators that include those for furniture making, sawmilling, panel manufacturing, pulp and paper manufacturing, rubber wood product manufacturing, and commercial plantation. Most companies are members of trade Associations which keep a registry of their members; maintain data on product types, capacity, and production; and, conduct periodic assessments of the state and problems of their industry.

Major Causes of Deforestation and Forest Degradation

Deforestation refers to a situation where forest is cleared and the land-use changed more or less permanently to some other use. Deforestation is caused mainly by conversion of natural forest to agricultural (encroachment), infrastructure development and mining. Degradation refers to a situation where the land remains as forest but the density and quality of the forest is decreased. Forest degradation is caused mainly by illegal logging and uncontrolled forest fires. Estimates of forest cover losses due to infrastructure development are provided below; data were not available to estimate historical deforestation rates from other drivers, in particular over the period 2000-2010. However, an activity has been proposed in the Readiness phase to update the driver analysis (see Table 2a-3).

Direct Causes of Deforestation

Encroachment

Encroachment implies unauthorized and/or illegal occupation of forest land which mainly is the conversion of natural forest area to agriculture and other uses, *e.g.*, food and energy crops, forest plantations and tourism resorts. The conversion of forest to agriculture is considered to be the major cause of deforestation in Thailand. Data from OAE indicates that the area of land used for agriculture increased by an average of about 45,000 ha between 2005 and 2010. Forestland cleared for other uses other than agriculture especially tourist resorts reported by DNP ranged from 7,386 ha in 2004 to about 2,841 ha in 2007 (Figure 2a-2).

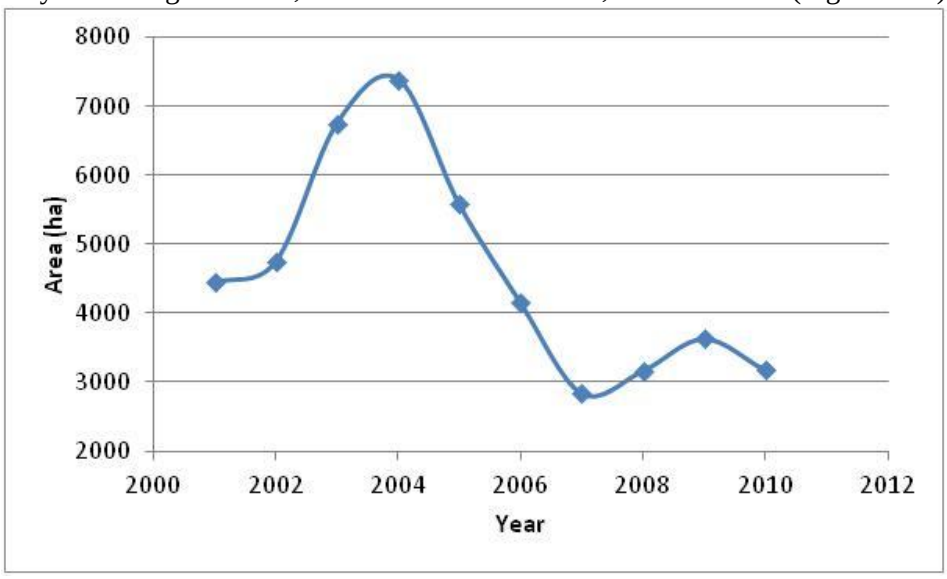


Figure 2a-2: Forestland cleared for tourist resorts 2002-2010.

Sources: DNP (2004, 2005, 2010)

Infrastructure Development and Mining

Infrastructure development, which includes roads, water reservoir for agriculture, and power lines right-of-way, is required for Thailand to be able to keep developing. Of all the potential infrastructural developments, water reservoir for irrigation and power lines right-of-way were the most destructive in terms of forest loss. In 2011, about 13,972, 10,306 ha and 5,843 ha were lost to irrigation, power lines right-of-way and mining respectively (RFD, 2011). Panayotou and Sungsuwan (1994) noted that irrigation infrastructure development related to decrease of forest area in northeast Thailand. Although infrastructure development and mining have been pointed out as main drivers for deforestation in several past studies as well as during the consultation process. .

Direct Causes of Degradation

Illegal Logging

Illegal logging includes timber harvesting mainly by organized criminal gangs, as well as timber harvesting by rural households for domestic consumption. Illegal logging and the timber trade are extremely profitable due to strong timber demand in East and Southeast Asia, high prices and the existence of high value species, such as *Dalbergia cochinchinensis* (price about US$ 5,000 per m^3)..The DNP reported an increase in the value of confiscated *D. cochinchinensis* between 2009 -2012 (Figure 2a-3).

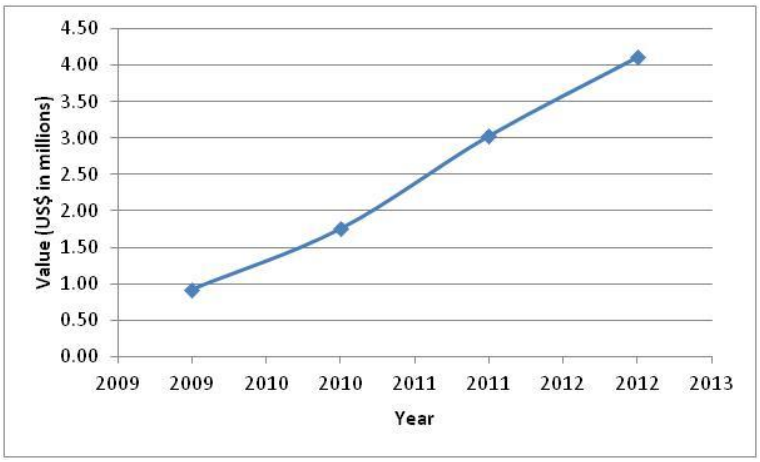


Figure 2a-3: Value of confiscated *Dalbergia cochinchinensis* between 2009 and 2012 (data to August).

Source: RFD staff (pers. comm., 2012).

The scale of illegal logging is difficult to estimate but it is generally regarded as an important driver of the loss of forests in Thailand, and appears to be continuing since the national logging ban in 1989. According to recent statistics, the reported volume of confiscated logs ranged from about 8,937 m^3 to about 22,620 m^3 in 2005 (DNP, 2004; 2005; 2010) (Figure 2a-4).

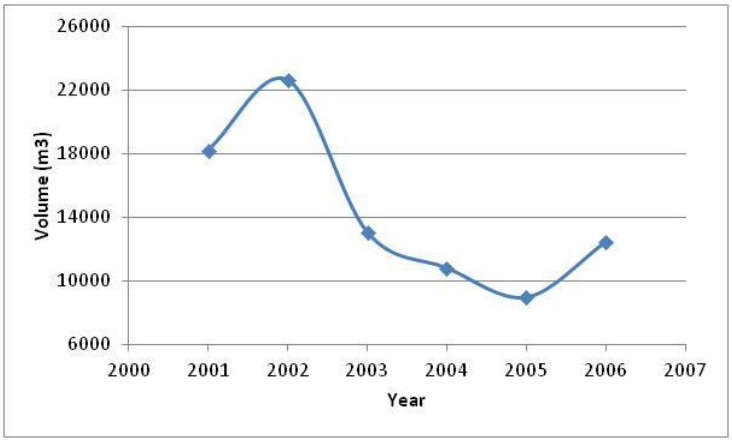


Figure 2a-4: Volume of confiscated logs 2001 to 2006.
Source: DNP (2004; 2005; 2010)

Harvesting of NTFP is mainly for household consumption and sale in local market. The number of reported cases of illegal NTFP harvesting is relatively low. For example, the DNP reported that there were only about 5 to 18 cases per year over the period 2001 to 2010. However, this figure appears an underestimation.

Uncontrolled forest fires

Forest fires are an important cause of forest degradation. Forest fires in Thailand are mainly surface fires, and burn seedlings, saplings, some trees and some NTFPs. They originate mainly from burning of forest to produce NTPFs such as mushrooms, and grass for cattle grazing, and hunting. The areas burnt are quite significant (Figure 2a-5).

Note that two methods were used to determine areas shown in Figure 2a-5: GIS and Landsat imagery (1999-2002), and after 2002 the data were provided by field officers. The post-2002 data is probably more reliable. Over this latter period the average area burnt was about 16,024 ha per year (standard error: ± 3,208 ha per year).

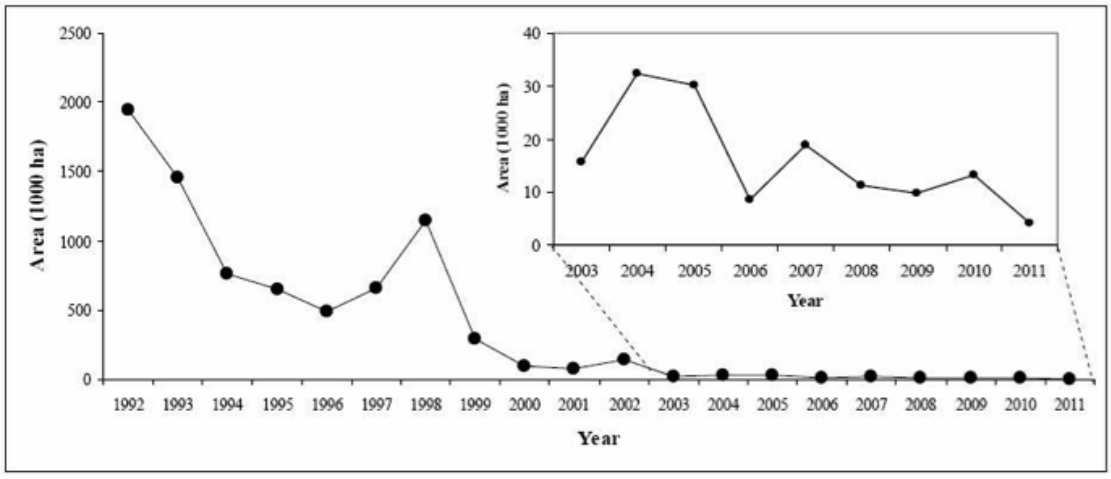


Figure 2a-5: Areas burnt by uncontrolled forest fires. Burnt areas were estimated using aerial photos (1992-1998), GIS and satellite imagery (1999-2002) and data provided by field officers form forest fire control stations (2003+).

Source: RFD (2010; 2011)

Deforestation Rates by Key Drivers

The change in forest area between 2000-2006 according to RFD Forestry Statistics was 1.146 million ha giving an average annual loss of about 191,000 ha. Many drivers contributed to this loss, but detailed breakdown is not available. Data for 2011 showed that infrastructure development accounted for 24,280 ha and mining for 5,843 ha.

Indirect (underlying) Causes

The indirect (underlying) causes of deforestation and forest degradation listed in Table 2a-1 are multiple and highly complex; and requires further analysis. They include for deforestation (encroachment, infrastructure development, and mining) and for degradation (illegal logging and uncontrolled forest fires). Many of these causes are discussed in the Eleventh NESDP (2012-2016) and are in process of follow-up action.

Table 2a-1: Major causes of deforestation and forest degradation

REDD+ indicator	Direct cause	Indirect (underlying) cause
Deforestation	1. Encroachment (conversions of natural forest area to agriculture and other uses, *e.g.*, food and energy crops, forest plantations and tourism resorts)	1. Unclear forest area and other land use boundaries 2. Insufficient public knowledge and awareness of forest conservation 3. Inadequate integration among responsible agencies in natural resources and environmental management 4. Poverty resulting in use of forest area for livelihoods 5. Conflict between conservation and implementation of development strategies, e.g., (a) government and company promote production of food and energy crops by guaranteeing product price, which then would be an incentive for increased forest encroachment; (b) government promotes tourism in natural forest national parks, but insufficient impact and carrying capacity control
	2. Infrastructure development	6. Increasing population
	3. Mining	7. Unclear forest area and other land use boundaries
Forest Degradation	4. Illegal logging	8. Insufficient law enforcement 9. High economic-value tree species, which is an incentive for illegal logging 10. Insufficient public knowledge and awareness of forest conservation 11. Increasing population 12. Poverty resulting in use of forest area for livelihoods
	5. Uncontrolled forest fire	13. Insufficient public knowledge and awareness of forest conservation 14. Demand of NTFP for subsidy

During the 2000s, causes for forest loss can be attributed to national policy and legislative oversights and fundamental and inter-related socio-economic factors, such as population growth; inequitable distribution of income resulting in continued rural poverty; and the demand for agricultural land and fuel wood. These consequences of population growth factors have yet to be integrated into natural resource management policies and strategies.

Population growth puts pressure on forest resources. The official record of the Thai population increase does not reflect the real pressure on forest resources because these records do not include unregistered persons (*e.g.*, refugees, unregistered persons and illegal immigrants). These groups create more pressure on resource consumption, in particular in the border provinces. The main consequence of population growth and settlement of both registered and unregistered populations is urbanization, which results in the permanent replacement of forest area.

A study of deforestation in several Northeastern provinces cited population density, wood price, poverty in terms of real provincial GDP, road density, rice yield, and distance from the market as central factors contributing to deforestation (Panayotou and Sungsuwan, 1994). A similar study in the same region cited poverty in terms of real GDP per capita, population growth, and the real price of cassava as the main causes (Tongpan *et al.*, 1990). Yet another study showed that the demand for agricultural land, which helps to explain the conversion of forest to agriculture, is positively related to the price of main crops and the numbers of the farm population, and negatively related to agricultural productivity and degree of industrialization (Panayotou and Parasuk, 1990).

The Ministry of Agriculture and Cooperatives (1993) developed a model to predict forest cover loss using various variables. This study concluded that nationally:

- Population density was the most important underlying cause of deforestation in the country. Population density shifts the demand for agricultural land and construction wood.
- Wood prices were the second most important factor affecting changes in forest cover.
- Agricultural productivity was found to be the third most important factor affecting changes in forest cover, although the results are not fully conclusive for all regions. An increase in agricultural productivity would result in reduced forest cover, since demand for land would increase. Thus, it appears that, comparing the effects of subsistence and profit-oriented farming, the latter has a greater effect on changes in forest cover.

These studies also showed three aggregate factors that can be seen to be linked to deforestation. These are: state policies, private commercial interests, and population growth (Figure 2a-6). However, the impact of these factors is likely to have changed over the past 20 years and therefore needs further investigation in order to revise the drivers.

Amano, *et al.* (1996) studied historical changes of forested area in Thailand and related forest area change to land use variables. They found that some agricultural activities were significantly related to forest land use; these were cassava, cotton, sorghum, and soybean. Also, increasing population did not directly affect change of forest land use. The methodology in this study can be used for further analysis, however, most of the land use variables were changed and need to be updated during the Readiness phase.

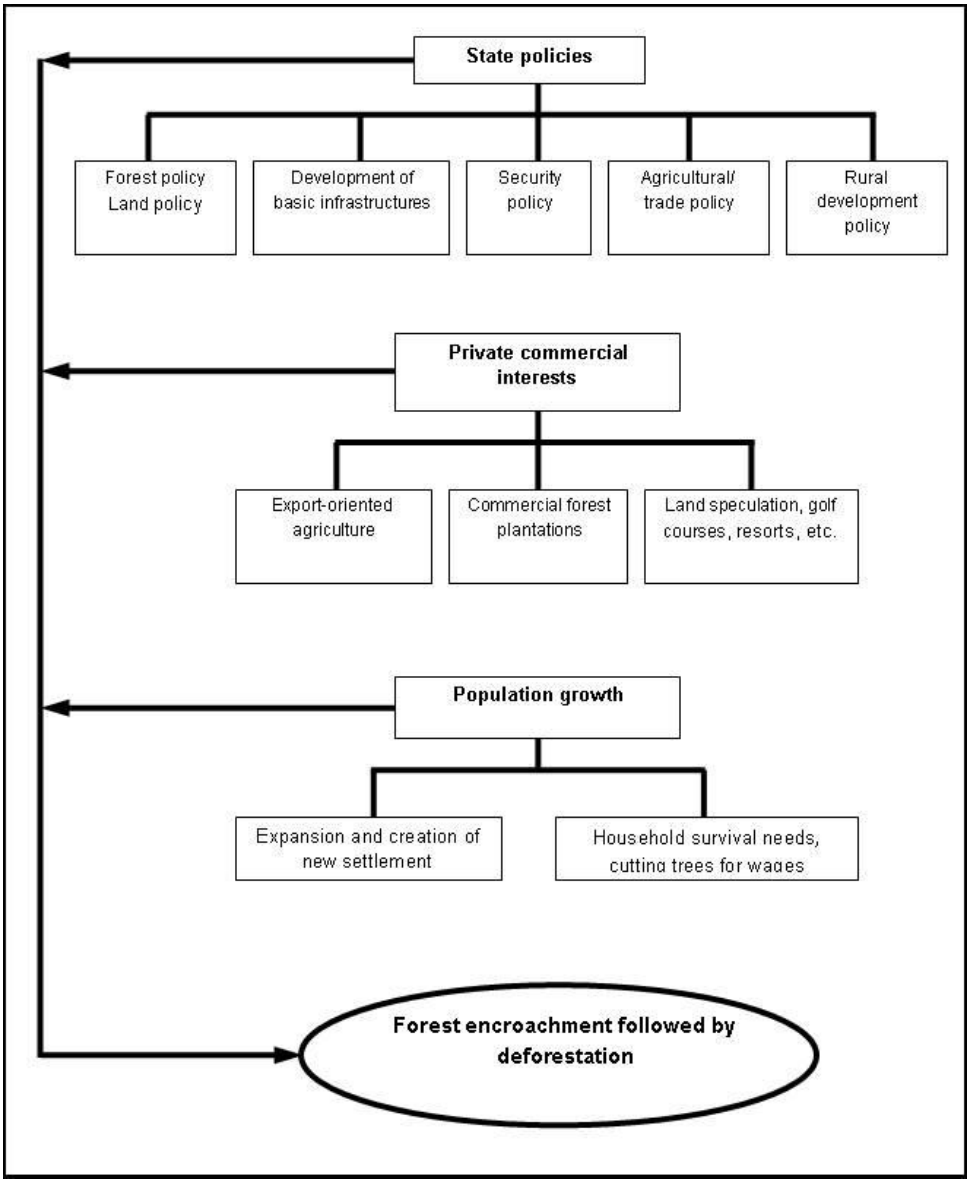


Figure 2a-6: Three aggregate factors that control the rate of deforestation.

Source: Ministry of Agriculture and Cooperatives (1993).

In conclusion, although there is lack of consensus over which are the most destructive underlying causes of deforestation and forest degradation, it is generally considered that:

- The causes are highly interrelated and complex and one cannot understand the nature of forest destruction until the forestry sector is seen as an entity. Its different aspects cannot be dealt with in isolation. They call for realism rather than idealism, and a regard for the interests of the majority in society as opposed to the economic self-interest of the rich.
- Past policies and legislation are inconsistent with social and economic realities of today and they have not been effective by any assessment.

- Past studies quoted above to predict forest cover based on several socio-economic and environmental variables are old. Thus, new studies shall be commissioned in the Readiness phase, as part of updating driver analysis, that will build upon these past studies, as well as analysis of the interactions between agriculture, mining and forestry.

The major direct and indirect (underlying) causes of deforestation and forest degradation in Thailand are summarized in Table 2a-1. This information was obtained from the stakeholder consultation and review of existing documents and data.

Analysis of Past Efforts to Combat Deforestation and Forest Degradation

National Government

Thailand has introduced several government policies in an attempt to combat deforestation and forest degradation. As discussed earlier, these include the Cabinet adopted National Forest Policy on 3 December 1985, the First to Eleventh NESDPs, and Thai Forestry Sector Master Plan (TFSMP) 1993 (Ministry of Agriculture and Cooperatives, 1993). The TFSMP emphasized: policy, legal and institutional reform; participation of rural people in managing forests; conservation and multiple use of remaining natural forests; and a ban on logging concessions; among others. Cabinet Resolution 10 and 17 March 1992 classified three categories of reserve forest: conservation forest zone (C), commercial forest zone (E), and agriculture zone (A). This was another attempt to stop deforestation and degradation in the high conservation value (HCV) areas (Zone C) and other areas. Cabinet Resolution 30 June 1998 on resolving land issues in forest areas was intended to stop the expansion of agricultural land into protected forest areas.

A ministerial regulation in 1989 imposed a national logging ban in the country. It was introduced to attempt to protect and rehabilitate natural forest, improve degraded forestland, and conserve soil, water and biodiversity by expanding conservation forest area. The national logging ban has helped to slow down the rate of forest destruction, but it has not stopped it.

The government also recognizes that traditional practices and local wisdom on natural resources and forest management are potential means to combat deforestation and forest degradation.

These public policies on combating deforestation have been focused on measures to maintain forest cover through rehabilitation of degraded areas and reintroducing trees in deforested marginal lands. However, this approach has not been fully successful in halting deforestation. Policies have not adequately addressed rural poverty as a root cause of deforestation; and the impacts on forests of the policies of agriculture and other related sectors have not been duly recognized resulting in inconsistencies and policy conflicts which make the effort to curb deforestation ineffective (ITTO, 2006).

In regards to tenure and use rights of forest and forest products, all the natural forests within protected areas or national forest reserves are owned by the state and managed by three government agencies, DNP, RFD and DMCR. In protected areas, local communities have no formal use rights (although they are allowed to collect free of charge some basic forest products, such as dry fuelwood and some NTFPs for household consumption). All decisions related to the use and management of protected areas are made by the DNP authorities. In the national forest reserves, local communities are reported to have use

rights to forest resources (but not to the forest land). RFD attempts to control the forests and local communities are engaged in protecting and patrolling the resource. Villagers are allowed to collect free of charge dry and dead wood for household use as fuelwood and construction timber, but felling of any living tree species in natural forests is prohibited. In plantation forests, felling of reserved tree species, such as teak, for household use or for village development activities may be allowed but requires a permit from RFD. Villagers are also allowed to collect free of charge various NTFPs for household consumption.

Past attempts by the Royal Forest Department (RFD) to rehabilitate degraded forests have had limited success due to overwhelming constraints posed by "illegal encroachers" residing in the forests. However a number of projects have been implemented that provide useful guidance and experience. These include:

- The Biodiversity Conservation Initiative (BCI): A pilot stage of this project was funded by ADB between 2006 and 2009 in the western forestry complex. The main focus of the project was on improving livelihoods of communities living in or near important protected forest areas in order to reduce pressure for further encroachment into forest and to build community capacity to protect the forest.
- The Community Based Forest Conservation Project
- Analysis of PES in northern Thailand undertaken together with the LEAF Project
- Assessment of carbon stocks in 35 communities by the Community Forest Division of RFD.

It is considered that "illegal encroachers" have been encouraged by incoherent and uncoordinated government policies regarding natural resources and agricultural, mining, infrastructure, and tourism expansion. Some of them have also been encouraged by commercial land speculators who encourage small farmers to clear forest and claim title and then sell the land to them. When the First to Sixth NESDP were initiated, export of agricultural products was given priority. To reach this goal, Thai farmers were encouraged to expand their farmland. Later, during the Seventh and Eight NESDP, the government recognized that economic development without proper sustainability planning; consideration for the environment, and involvement of the local population would have a detrimental impact on the environment. Meanwhile, the Ninth and tenth NESDP promoted the balance between the environment, social and economic development. The Eleventh NESDP promotes the balance between the environment, social and economic development. It also sets out the goals of conservation of natural resources and biodiversity by maintaining forests at no less than 40% of total land area, with protected forest no less than 19% of total land area.

Industry and Private Sectors

Many business firms in Thailand are involved in the enhancement of forest ecosystem services and the improvement of local livelihoods through their corporate social responsibility (CSR) programs. Examples of the business firms and their initiatives, which may be built upon to develop private sector involvement in REDD+, are as follows:

- **Electricity Generating Authority of Thailand** (EGAT) participated in the national reforestation campaign to celebrate the Fiftieth Anniversary of His Majesty's Accession to the Throne in 1994. EGAT's Reforestation Project has planted about 53 million trees in more than 61,500 ha of degraded forest area in 49 provinces of Thailand. EGAT also engages in a public awareness campaign on sustainable forest conservation (http://community.egat.co.th/new).

- **The Coca-Cola Company**'**s** Community Watershed Partnership (CWP) program, provides support for activities related to watershed protection, and education and awareness building.
- **Electricity Generating Public Company Limited (EGCO)** launched the project, "A Watershed Forest: A Source of Energy for Life" in 2010. The project aims to implement the vision of His Majesty the King and Her Majesty the Queen on the Preservation of Watershed Forests and support government's efforts in developing alternative energy sources.
- **Tree Bank an initiative of the Bank of Agriculture and Agricultural Cooperatives (BAAC)** with the Phato Watershed Management Unit of the RFD, in Chumphon province to encourage indebted landowners to plant trees in their land which the bank recognizes collateral for their bank loans. At present, there are two tree bank programs operational in Thailand. Currently, some 7,600 members and clients have deposited a total of about 0.9 million trees into the Tree Bank Program of BAAC. Another tree bank program is run by a people's organization which encourages people to plant trees for products and/or for soil conservation, and the planted trees will qualify participants for loans from the Tree Bank Organization. The Tree Bank Organization has a total of 1,015 branches with 100,350 members from 53 provinces. At least 10 million standing trees throughout Thailand have been deposited/registered with the organization. A research conducted by RECOFTC at the Klong Rua community, site of a Tree Bank branch in Chumphon province, has shown the potential of agro-forestry under Tree Bank program in supporting the implement REDD+ in the country (Sunthornwong and Thaworn, 2011).
- **PTT Public Company Limited (PTT)** launched "Reforestation by heart and plant a heart of forest lover" to support the reforestation of 160,000 hectares of deteriorated areas in the national forest reserves. This target has already been achieved and the program continues. The company also supports the PTT Developing Village including a variety of training programs such as the PTT Youth to Conserve Forest, the Forest Wildfire Volunteer, and the People Volunteer for Forest Protection. It has also launched the Green Globe Award, built the Sirinath Rajini Center for Mangrove Forest Studies, and initiated the project, "84 Tambons on A Sufficient Path", to honor the King on his 80th birthday (http://www.pttplc.com/en/social-activities-environmentreforestation.aspx#).

Civil Society Organisaions

Inpaeng Community Carbon Offset Project in Sakon Nakhon province, northeastern Thailand. The forest area surrounding the community was once rich in biodiversity and natural resources, providing an abundant source of natural raw materials for rural livelihoods. Forestland conversion to cash crop production such as cassava and paper mulberry was recognised by the villagers as a serious problem leading to the collective rehabilitation of degraded forest around the village. This caught the attention of government agencies and academic institutions and the Thailand Environment Fund was used to support the replication of the initiative in other villages around the area leading eventually to the formation of the Inpaeng Community Network covering almost 1,000 villages in 80 sub-districts of five northeastern provinces of Thailand. The Inpaeng Community is now known for hosting the Inpaeng Life University-learning institute for everyone. The project ―Developing Smallholder Agro- Forestry Carbon Offset Protocols for Carbon Financial Markets is part of the Carbon2Markets Program initiated by the Michigan State University.

The Carbon2Markets Program has been establishing protocols and systems to support the Measurement, Reporting and Verification (MRV) of both REDD+ (Reduced Emissions from Deforestation and Degradation) and carbon sequestration projects that focus on Reforestation and Agro-Forestry (http://www.carbon2markets.org). It has pilot sites in a number of developing countries, including Cambodia, Guatemala, Lao PDR, Viet Nam, and Thailand. Under the project, started in 2007, the Carbon2Markets cooperated with the Inpaeng Community Network, National Research Council of Thailand (NRCT), and Mahasarakham University to develop and field test carbon sequestration measurement and monitoring technologies. The project targeted the teak plantation of the Inpaeng Community Network during the first phase (2007-2010). The total area of teak plantation registered initially with the project was 289.79 ha with 94 smallholders. On 19 February 2011, the Inpaeng Community Network sold 75,000 tons of CO_2e for 2010-2011. At a price of US$ 4.25 per tonnes, income from the project totaled US$ 37,000 for two years (2010-2011). Individual farmers received income shares, ranging from US$ 21.47 to US$ 1,151.90 per household. A total of 4,340 farmers benefited from the project. They are anticipated to deliver and receive payments from carbon sequestration services for 15 years.

Forest Governance in REDD+

It has been widely acknowledged that REDD+ will be more sustainability implemented by putting in place effective, transparent, and accountable governance systems that would contribute to yield positive results, impacts and outcomes. For Thailand, the key governance issues related to REDD+ that will be reviewed during the readiness phase includes but not limited to: Forest Land Tenure and Ownership- looking at the issues of customary rights, user access rights and land tenure in general (Who owns forest lands? What is the nature of ownership - statutory or customary; individual or communal? What is the extent to which customary claims are recognized in law? Do the rights include access as well as commercial utilization of forest resources? What are the implications of REDD for local tenure arrangements?); role of local level institutions in dealing with effective forest governance; participation of local stakeholders in decision making process; benefits sharing mechanism that are equitable and transparent; inclusion of community based forest associations in managing and policing forest and its resources (see Comp.2c on institutional arrangement/managements for land tenure, benefit sharing, grievance mechanisms and participation).

Thailand has been productive in terms of producing legal instruments within the forestry and other Sectors that are both socially progressive and environmentally sound. However, the government has been facing enormous challenges to fully implement these policies and legislation. A forest governance assessment framework for REDD+ implementation has not been undertaken. It is proposed that it will be conducted in the Readiness Phase using existing tools, such as the World Bank (2009), framework consisting of principles and criteria for good governance of the forest and other important and relevant sectors, to include agriculture, land, water, mining and energy and tourism. Of particular importance will be the implementation of the laws and regulations, the identification of shortcomings in implementation and identification of measures to resolve issues and improve governance. This process will involve the following steps: 1) analysis, involving relevant multi-stakeholders, of existing governance systems looking at the issues identified above; 2) formulate an effective transparent, inclusive governance systems to be put in place during REDD+ implementation , based on the analysis; and 3) selection of indicators relevant to

stakeholders through a qualitative and participatory approach. This assessment will involve examining key governance issues, including transparency, accountability and participation; issues of carbon ownership and land tenure, benefit sharing; ability of forest institutions and conflict management; quality of forest administration; coherence of forest legislation and rule of law; and economic efficiency, fair and incentives; as well as an approach to reduce deforestation and degradation and associated carbon emissions. The assessment will also include a review of available relevant documentation on the role of communities in natural resource governance, including information from projects that have focused on these issues where appropriate. For example the successful implementation of Jompa (Joint Management of Protected Areas). Overall lessons from initiatives to support good governance, either in terms of policy formulation, setting up effective institutions to address governance issues, participation and ownership issues, etc will be document and be used to help put in place good governance for REDD+.

The governance assessment will include other sectors that directly or indirectly contribute to deforestation and forest degradation. It is important to analyze the policies and the state of governance in these sectors to: i) identify incentives, measures, and practices that are related to REDD+, and ii) examine the extent to which these sectors could adjust their policies and programs to reflect and integrate REDD+ activities and objectives for reducing forest emissions. In view of the very large number of laws and regulations referring to each of the sectors mentioned there are examples of overlap and contradiction in the implementation of laws relating to different sectors. Areas where there are contradictions that directly or indirectly affect the risk of deforestation or degradation will need to be identified and steps taken to resolve the matter between the sectors concerned.

Criteria to be considered as checklist during implementation for adjustment as appropriate:

1) Assessment and analysis
    - Check to see whether the summary of the work conducted during the R-PP formulation and implementation phases for this component present a complete, comprehensive and accurate (to the extent possible) analysis of recent historical land use trends and assessment of relevant land tenure, natural resource rights, forest law, policy and governance issues?
2) Prioritization of direct and indirect drivers
    - Check to see how the analysis used to prioritize key direct and indirect drivers was used to address programs and policies included in the REDD+ strategy?
3) Links between drivers and REDD+ activities
    - Check to see what evidence demonstrates that systematic links between key drivers and REDD+ activities were identified?
4) Actions plans to address natural resource rights, land tenure, governance
    - Do action plans to make progress in the short-, medium- and long-term towards addressing relevant land tenure, natural resource rights and governance issues in priority regions related to specific REDD+

programs, outline further steps and identify required resources?

5) Implications for forest law and policy
   - Does the assessment identify implications for forest law and policy in the long-term?

Table 2a-3 summarizes the activities and budget needed for the assessment of land use, land use change drivers, forest law, policy and governance during the Readiness phase.

Table 2a-3: Summary of assessment of land use, land use change drivers, forest law, policy and governance activities and budget

Activities	Estimated Cost (in Thousands US$)				
	2014	**2015**	**2016**	**2017**	**Total**
Update driver analysis	17	11	0	0	28
Economic analysis of strategy options	11	17	0	0	28
Undertake regional assessments of drivers contribution to overall emissions	17	17	0	0	34
Prioritize drivers in terms of contribution to overall emissions	11	16	0	0	27
Undertake forest Governance assessment	11	11	0	0	22
Total	**67**	**72**	**0**	**0**	**139**
Government	7	7	0	0	14
FCPF	**60**	**65**	**0**	**0**	**125**

Other Donors					
Activities	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Update driver analysis	100	150	0	0	250
Economic analysis of strategy options	100	100	0	0	200
Undertake regional assessments of drivers contribution to overall emissions	20	0	0	0	20
Undertake forest Governance assessment	50	0	0	0	50
Total	**270**	**250**	**0**	**0**	**520**

2b. REDD+ Strategy Options

Standard 2b the R-PP text needs to meet for this component: REDD-plus strategy Options

The R-PP should include: an alignment of the proposed REDD-plus strategy with the identified drivers of deforestation and forest degradation, and with existing national and sectoral strategies, and a summary of the emerging REDD-plus strategy to the extent known presently, and/or of proposed analytic work (and, optionally, ToR) for assessment of the various REDD-plus strategy options. This summary should state: how the country proposes to address deforestation and degradation drivers in the design of its REDD-plus strategy; a plan of how to estimate cost and benefits of the emerging REDD-plus strategy, including benefits in terms of rural livelihoods, biodiversity conservation and other developmental aspects; socioeconomic, political and institutional feasibility of the emerging REDD-plus strategy; consideration of environmental and social issues and risks; major potential synergies or inconsistencies of country sector strategies in the forest, agriculture, transport, or other sectors with the envisioned REDD-plus strategy; and a plan of how to assess the risk of domestic leakage of greenhouse benefits. The assessments included in the R-PP eventually should result in an elaboration of a fuller, more complete and adequately vetted REDD-plus strategy over time.

Introduction

This Sub-component proposes a preliminary set of strategies, to reduce deforestation and forest degradation, and enhance and conserve carbon stocks, thereby directly address the key drivers of deforestation and degradation identified in Sub-component 2a. However, it is recognised that not all the answers are known with regards to the best strategy options for REDD+. Thus, during R-PP implementation a process of consultation will continue to identify the best options, using a process of refining and testing the strategy options.

Proposed REDD+ Strategy Options

A number of potential strategy options were identified through analysis of existing policies, legal frameworks and plans, as well as stakeholder consultations. These were evaluated, and key strategy options were selected, based on their importance and feasibility to reduce deforestation and forest degradation. The proposed key strategy options and activities to address the direct and indirect causes of deforestation and degradation are provided in Table 2b-1. Strategy options 1.1 to 1.5 in Table 2b-1 are all aimed at dealing with causes of encroachment, including development pressures from building tourist resorts and second homes. These strategy options are consistent with the country's Eleventh NESDP (2012-2016). The NESDP lays out the strategy for managing natural resources and the environment to achieve sustainability.

Evaluation of Strategy Options

An estimate of the potential costs and benefits for the emerging REDD+ strategy are extremely speculative at this stage as no details have yet been prepared for pilot sites where interventions will be tested and potential reductions in carbon dioxide emissions assessed. In order to assess the order of magnitude of the potential benefits from reduced emissions from interventions tested during the Readiness phase a number of assumptions have been made.
During the process, forest dependant local communities will be consulted through REDD+ task force and relevant technical working groups. Relevant stakeholders including forest dependant local communities will be consulted before selection pilot sites for testing.

The total investment in direct interventions in proposed pilot sites that are aimed at reducing emissions, such as forest boundary delineation and demarcation, forest zoning, alternative livelihoods and improved surveillance is around US$ 5.5 million. This includes the cost of initial planning and consultation and monitoring the outcome. The investment proposed for piloting participatory boundary delineation and demarcation is US$ 560,000, and this is assumed to enable about 350,000 ha of forest to be surveyed and marked on the ground with the participation of the local communities. Other investments in piloting the development of improved livelihoods for forest dependent communities, zoning and planning for tourism, mining and infrastructure development are assumed to apply to a total of around 150,000 ha in pilot sites. Inventory data suggests that the average carbon stock across all forest types is currently around 87 tons carbon per ha. This gives a total carbon stock in the area of forest to be covered by pilot REDD+ interventions of around 44 million tonnes.

Assuming that this stock is being reduced by about 1% annually due to deforestation and degradation the annual loss of carbon stock is around 0.4 million tonnes, which would convert to about 0.9 million tonnes of carbon dioxide annually. It has been assumed that the boundary delineation would achieve a 5% reduction in the current level of emissions and that the improved forest protection and management resulting from improving local community livelihoods and zoning of forest land for other economic uses would achieve a 10% reduction in emissions. The total annual reduction therefore, under these assumptions is around 100,000 tonnes or about 1 million tonnes over a 10-year period after the investment takes place. This gives an abatement cost of US$5.6 per ton, which is close to the current market value for CO_2. This does not take account of possible co-benefits, which will be very site dependent, and can be taken into account when selecting sites for pilot activities, nor does it include any sequestration that may be achieved through restoration of forest cover within pilot sites, which would be minimal in the first few years.

These potential REDD+ Strategies will be evaluated by the REDD+ strategy TWG (see Component 1a) further during the REDD+ Readiness phase. Evaluation of the proposed REDD+ strategies will involve a participatory approach and will undertake the following tasks:

- Evaluation of costs and benefits: Scoping of REDD+ strategies will be undertaken in relation to the costs and benefits considering, *inter alia*: carbon density; co-benefits: biodiversity and local livelihoods; jurisdiction; opportunity costs, investment costs, transaction cost, resource management issues, *etc.*
- Identification of potential synergies and conflicts between the proposed strategies.
- Identification of linkages with drivers of deforestation and governance issues.
- Consideration of ways of mitigating conflicts or modifying the options to compensate affected institutions and stakeholder groups.
- Elaborate on the effects of policies of relevant sectors outside the forest sector.

As indicated in Component 1a, the need for a multi-sectoral approach to REDD+ is recognized by GOT. The government has also put in place an institutional arrangement/management structures that reflects the relevant sectors engaged in land use as well as other stakeholders with an interest and stake in REDD+.

The following studies will be commissioned in the Readiness phase:

1. Risk analysis: A risk analysis framework that summarizes major types of risks,

and how significant they are for the major REDD+ strategy activities.

2. Feasibility assessment (socioeconomic, political and institutional): Regional feasibility of the options through analysis of risks, and opportunities for the proposed options.

Table 2b-2 shows the activities and budget in developing REDD+ strategy options during the Readiness phase. Note that policies outside the forestry sector are addressed through the REDD+ TF, which consists of multi-stakeholders (see, for example, items 1.2.3 and 1.5 in Table 2b-1).

Table 2b-1: Proposed REDD+ strategy options to address causes of deforestation and forest degradation

REDD+ Indicator	Direct cause	Strategy options	Activities	Expected output
Deforestation	1. Encroachment (conversions of natural forest area to agriculture and other uses, *e.g.*, food and energy crops, forest plantations and tourism resorts)	1.1 Participatory delineation and demarcation of clear forest area boundaries.	1.1.1 Pilot participatory boundary demarcation in five regions.	Conversion of natural forest area to other uses reduced.
		1.2 Update and harmonize forest and forest-related policies, and ensure synchronization and coordination between sector development policies, such as agriculture and energy policies.	1.2.1 Meetings of related TWGs. 1.2.2 TF conducts regular meetings. 1.2.3 TF seeks MOUs over policy and planning among sectors, and refers to Cabinet.	
		1.3 Capacity building of field forestry officers, other law enforcement officers and the judiciary to strengthen forest law enforcement and coordination.	1.3.1 Curriculum development and training courses.	
		1.4 Promote public knowledge and awareness of forest conservation.	1.4.1 Develop incentive for forest conservation, for example, award prize from a set fund for best forest practices.	
		1.5 Relevant agencies coordinate development of an optimum forestland zoning system that excludes forests of high conservation value from forest areas earmarked for tourism development.	1.5.1 Meetings of related TWGs 1.5.2 Pilot in one reserve forest area.	

REDD+ Indicator	Direct cause	Strategy options	Activities	Expected output
			1.5.3 Risk analysis of domestic leakage of greenhouse benefits, and feasibility assessment.	
		1.6 Develop alternative livelihoods for people dependent on forest resources to supplement their income. (This option is feasible because it has been successfully practiced at the project level in Thailand. An example is the Ngao Model Forest in northern Thailand, where local people have increased income from sale of value-added NTFPs such as bamboo).	1.6.1 Review existing research. 1.6.2 Pilot in one reserve forest area, and one Protected Area.	
		1.7 Develop forest certification and chain of custody standards	1.7.1 RFD implements ITTO Project 470/07 Rev. 1 (F). (A two-year project "Development and implementation of criteria and indicators of sustainable management of planted forests and community forests" has just been initiated in 2012; its outputs would support this strategy option. As well, the RFD has now set up a Forest Certification Bureau in its organization).	

REDD+ Indicator	Direct cause	Strategy options	Activities	Expected output
	2. Infrastructure development	2.1 Review environmental and social impact assessment process and results of all infrastructure projects (EIA and SIA) 2. 2 Exclude, as much as possible, forests of high conservation value from infrastructure development.	2.1.1 ONEP submits EIAs and SIAs to the Task Force. 2.2.1 Establish cooperation between RFD, DNP and the Department of Primary Industries and Mines for land zoning in mining concessions.	Reduced impact of infrastructure development on HCV and other forest areas
	3. Mining	3.1 Review environmental and social impact assessment process and results of all mining projects (EIA and SIA). 3.2 Exclude, as much as possible, forests of high conservation value from mining concessions. 3.3 Strengthen regulations requiring mining companies to restore mined areas, to maximize carbon sequestration.	3.1.1 See Activity 2.1.1 3.2.1 Establish coopera-tion between RFD and the Department of Primary Industries and Mines (DPIM) for land zoning in mining concessions. 3.3.1 Identify progressive mining company to pilot HCV exclusions and restoration.	Reduced impact of mining on HCV and other forest areas
Forest Degradation	4. Illegal logging	4.1 Improve aerial surveillance.	4.1.1 Discussions with relevant agencies on the technology and feasibility. 4.1.2 Pilot technology	Reduced illegal logging and harvesting of NTFPs

REDD+ Indicator	Direct cause	Strategy options	Activities	Expected output
		4.2 Conduct detailed study of wood industry: wood supply and demand and develop future wood production forecasts from forest and rubber plantations.	4.2.1 Commission study and follow-up with DPIM and RFD on future timber raw materials supply. 4.2.2 Engage private sector wood industry to review future wood demand.	
		4.3 Develop forest certification and chain of custody standards.	4.3.1 See Activity 1.7.1	
		4.4 Promote tree planting, especially of high-value tree species, to increase wood supply.	4.4.1 Develop incentives for tree planting.	
		4.5 Promote planting of NTFP outside forest areas, and development of markets for NTFP.	4.5.1 Develop incentives for planting NTFP.	
		4.6 Update and harmonize forest and forest-related policies, and ensure synchronization and coordination between sector development policies.	4.6.1 See Activities 1.2.1, 1.2.2 and 1.2.3	
		4.7 Capacity building for field forestry officers, other law enforcement officers and the judiciary to strengthen forest law enforcement and coordination.	4.7.1 See Activity 1.3.1	
		4.8 Promote public knowledge and awareness of forest conservation.	4.8.1 See Component 1c.	

REDD+ Indicator	Direct cause	Strategy options	Activities	Expected output
		4.9 Develop alternative livelihoods and markets for people dependent on forest resources to supplement their income.	4.9.1 See Activities 1.6.1 and 1.6.2	
	5. Uncontrolled forest fire	5.1 Improve fire detection and control capability. 5.2 Capacity building for local people and field forestry officers for fire protection and monitoring. 5.3 Promote public knowledge and awareness of forest conservation.	5.1.1 Strengthen fire detection capability. 5.1.2 Strengthen existing fire control procedures. 5.2.1 Develop incentives for forest fire protection. 5.3.1 Involve the Department of Agriculture in creating awareness in preventing forest fires resulting from agricultural activities. 5.3.2 See Component 1c.	Reduced occurrence of uncontrolled forest fires

Criteria to be considered as checklist during implementation for adjustment as appropriate:

Presentation and prioritization of REDD+ strategy options

1. Check to see whether REDD+ strategy options are prioritized based on comprehensive assessment of direct and indirect drivers of deforestation (or informed by other factors, as appropriate), and via a transparent and participatory process?

Feasibility assessment

2. Check to see whether REDD+ strategy options are assessed for their social and environmental feasibility, risks and opportunities, and analysis of costs and benefits?

Consistency with other policies

3. Check to see whether major inconsistencies between the priority REDD+ strategy options and policies or programs in other sectors (e.g., transport, agriculture) have been identified?

Integration with relevant strategies and policies

4. Is an agreed timeline and process is in place to resolve inconsistencies and integrate REDD+ strategy options with relevant development policies?

Table 2b-2: Summary of the activities and budget in developing REDD+ strategy options

Activity	Budget allocation in Thousand US$				
	2014	2015	2016	2017	Total
TWG on REDD+ Strategy	11	11	11	11	44
Risk analysis and feasibility assessment	10	10			20
Technical workshops on REDD+ strategy	11	11	11	11	44
National/provincial/district workshops on readiness activities	11	11	11	11	44
Review existing research on alternative livelihoods	17	11	0	0	28
Study on domestic demand and trade of logs/timber	11	11	0	0	22
Stakeholder consultations	32	22	22	11	87
Meetings of cross-sector TWG include touris	5	5	5	5	20
Processes EIAs and SIAs and biomass disposal regulations	11	17	0	0	28
TWG meetings on land use policy and planning	19	22	22	22	85
Curriculum development and training courses	11	11	6	0	28
Discussion on potential pilot sites	11	11	0	0	20
Pilot participatory boundary demarcation	0	0	17	17	30
Forest certification and chain of custody	11	17	9	0	33
Total	**171**	**170**	**114**	**88**	**543**
Government	34	25	11	8	78
FCPF	**137**	**145**	**103**	**80**	**465**

Other Donors					
Activity	Budget allocation in Thousand US$				
	Year 1	Year 2	Year 3	Year 4	Total
Technical workshops on REDD+ strategy	18	18	18	18	72
National/provincial/district workshops on readiness activities	180	180	180	180	720
Study on domestic demand and trade of logs/timber	150	15	0	0	165
Stakeholder consultations	45	45	0	0	90
Curriculum development and training courses	28	28	18	18	92
Pilot participatory boundary demarcation	250	250	0	0	500
Forest certification and chain of custody	105	90	0	0	195
Pilot tourism zoning and alternative livelihoods in reserved forest	800	800	800	800	3,200
Assessment and procurement of surveillance technology	100	20	20	0	140
SEA regional dialogue on drivers and strategy options	50	50	0	0	100
Capacity building for law enforcement	45	45	0	0	90
Biomass disposal	100	100	0	0	200
Total	**1,871**	**1,641**	**1,036**	**1,016**	**5,564**

2c. REDD+ Implementation Framework

Standard 2c the R-PP text needs to meet for this component:
REDD-plus implementation framework:

Describes activities (and optionally provides ToR in an annex) and a work plan to further elaborate institutional arrangements and issues relevant to REDD-plus in the country setting. Identifies key issues involved in REDD-plus implementation, and explores potential arrangements to address them; offers a work plan that seems likely to allow their full evaluation and adequate incorporation into the eventual Readiness Package. Key issues are likely to include: assessing land ownership and carbon rights for potential REDD-plus strategy activities and lands; addressing key governance concerns related to REDD-plus; and institutional arrangements needed to engage in and track REDD-plus activities and transactions.

Introduction

The REDD+ implementation framework is to provide the scheme for the design and implementation of the appropriate institutional, financial, and legal and governance arrangements to successfully implement REDD+ in Thailand in accordance with international recommendations for future REDD+ efforts. Its principles include the basic requisites of REDD+ to ensure credibility and to provide for transparent, efficient and effective decision making, implementation and monitoring of REDD+ efforts. It has to set out the appropriate institutional, financial, regulatory and technical capacities to enable Thailand to operationalize and implement its provisional REDD+ strategy options to minimize the conversion of forest land into other uses, hence reducing emissions, and equally to introduce actions that will enhance the sequestration capacity. In addition, it needs to ensure that REDD+ implementation activities will deliver real reductions of emissions from deforestation and forest degradation (measurable, reportable, and verifiable) according to international guidance (UNFCCC relevant decisions) and to meet a national development priorities within the existing framework.

Implementation of REDD+ is a multi-sector and multi-stakeholder endeavor and comprises actions at the national and sub-national levels. In Thailand, three main instruments will be used for REDD+ implementation: institutions, fiscal measures and regulatory framework. In addition, information management will be undertaken to form the basis of the implementation framework. Each of these instruments needs to be designed for the tasks that will need to be undertaken for effective implementation. Specifically, key issues unique to REDD+ implementation that must be resolved during the readiness phase are: institutional arrangements, financial management, benefit sharing system, establishment and operation of carbon registry and information and knowledge management. Stakeholder participation and consultation as well as capacity building are the main means to make well-informed decisions. Stakeholder consultation of the following issues unique to REDD+ to implement the national strategy options and development priorities have been undertaken to allow the integration of experiences:

a) Institutional arrangements to plan, implement and monitor REDD+ activities e.g. government or other institutions authorized to participate in domestic and/or international transactions based on GHG emissions reductions following reductions in deforestation and/or forest degradation.

b) Financing mechanisms for REDD+ activities and transactions e.g. anticipated co-financing which could potentially include potential donor or partner agencies, type of support, and amount of contribution for the R-PP implementation.

c) Benefit sharing arrangements e.g. international REDD+ funding to be shared domestically across wide areas and different stakeholders, benefit sharing schemes based on fair and equitable, efficient, effective and transparent principles, revenue allocation mechanism, payment structure and conflict resolution mechanisms.

d) National carbon tracking system or registry for REDD+ activities and transactions e.g. development of criteria to specify REDD+ project proposals, appropriate protocol standards, establishment of national carbon registry and institutional integration.

e) Capacity building to improve technical background knowledge and skills e.g. financial management, accounting, facilitation, negotiation, moderation, planning, monitoring and evaluation skills.

f) Regulatory framework e.g. interpretation and use of existing legislation and development of specific legislation to ensure clarity concerning REDD+ implementation.

Importantly, how institutions will actually lead and coordinate across sectors and stakeholder groups, how benefits are fairly shared and how various interests are satisfied or mediated are key challenges for the success of REDD+ efforts in Thailand. The process to make required decision jointly during the readiness preparation phase will be the key to ensure effectiveness, efficiency transparency. Like many other countries in the region, building technical understanding among stakeholders on key issues unique to REDD+ implementation in Thailand will be necessary before making decisions.

Regulatory Framework

In Thailand, MONRE has ultimate responsibility for majority state forest lands but there are different institutions responsible for different forest categories as indicated in component 1a: (a) RFD is responsible for reserved forests outside protected areas (b) DNP is responsible for forest protected areas (c) DMCR is responsible for mangrove forests outside protected areas and (d) FIO is in charge of forest plantations.

REDD+ readiness requires a regulatory framework that ensures key principles, *i.e.* transparency, efficiency and effectiveness, to implement REDD+ strategy options. Generally, regulations relevant to implementation of REDD+ strategic options for tackling the drivers for deforestation and forest degradation in Thailand are now in place through existing forest laws and policy under which the relevant agencies are currently employed as mentioned earlier. In addition, legal support to the rights of local people to utilize and manage forest resources is also recognized through the Forest Law, B.E. 2484 (1941) and the National Forest Reserve Act, B.E. 2507 (1964) which includes the determination of National Reserved Forest, control and maintenance of the National Reserved Forest. However, there are important new issues that may require a special REDD+ regulation issued by the government during the readiness phase.

Since REDD+ payments will be performance based, the regulation will need to safeguard against the risk of projects being allowed to go ahead that will not be able to achieve the expected levels of emission reductions and expected benefits. Such failures will lead to conflicts between stakeholders involved. Thus benefit sharing should also include the

sharing of risk and liabilities. TGO has developed the system for GHG mitigation options in other sectors. A regulatory environment governing REDD+ transactions and an institutional regime will be investigated. This will provide clarity related to key REDD+ issues including clear REDD+ related terminologies in Thai, clear delegation of responsibility for approving all REDD + activities based upon the National REDD+ strategy, the type of activities that will be allowed, ownership of carbon rights, the principles for a benefit sharing system and financial management and distribution mechanism.

In addition, particular issues need to be addressed: how REDD+ activities are to be developed and which organizations, groups and individuals are eligible to participate in REDD+ activities funded both from national and international sources and participated in appropriate market. Legalization of the institutional arrangements outlined in Component 1a as well as roles and responsibilities among government agencies and other involved stakeholders, is also necessary for REDD+ readiness and implementation. This will harmonize diverging interests among involved stakeholders. To set up a REDD+ regulatory framework, it needs to interpret existing legislation that could implement REDD+ strategic options and/or develop and enact specific legislation and subsequent ministerial instructions to ensure clarity concerning REDD+ activities. It will also require a sequenced approach to ensure that decisions related to key REDD+ issues have sufficient time for intensive stakeholder consultation.

Institutional Arrangements

As indicated in the institutional arrangement in Component 1a, restructure of existing institutions and the establishment of new institutions at national and sub-national levels to implement the R-PP will be undertaken step by step subject to national circumstances to fulfill key functions for REDD+ readiness and implementation. During the REDD+ readiness, consultation process to formulate the kind of activities related to REDD+ that communities need will be undertaken to ensure the state decentralized structure is arranged and local forest-dependent communities referring to all ethnic groups, forest dweller, forest dependent, hill tribes and local communities in Thailand, are considered and recognized as key stakeholders as mention in Component 1a. Therefore, the following key steps will be essential for the institutional arrangement:

- Establish a number of technical working groups essential to the readiness and development of national strategy to provide technical and administrative advices to the REDD+ TF. Detailed Terms of Reference (TOR) to specified roles of each TWG will be arranged.
- Establish the Office of the REDD+ TF Secretariat to serve as a standing office for the REDD+ TF and a national implementing government agency
- Establish the REDD+ Information Center to fulfill a national carbon registry system, and
- Appoint the role of the DNP's Protected Area Regional Offices to serve as a hub of sub-national/local level implementing body.

An institutional restructuring, which cannot be undertaken during the R-PP formulation phase due to the regulations and legislation imposed by forest administration agencies, will be arranged step by step subject to national circumstances to fulfill key functions essential for the Implementation phase:

- Restructure the REDD+ TF to be under the NCCC as indicated in Figure 1a-3 in Component 1a;

- Establish additional technical working groups essential to the REDD+ implementation to provide technical and administrative advices essential for the REDD+ implementation to the REDD+ TF, and
- Enhance the role of local forest administration at provincial level to effectively implement the REDD+ in line with other local stakeholders.

Financial Arrangements

Defining financing mechanisms has dominated international negotiations yet uncertainties prevail. Fund and market based mechanisms, despite having different underlying principles and operation, are not mutually exclusive. From early discussions of fund versus market-based finance, a variety of financing sources needed for REDD+ particularly in the early phases are now recognized i.e. voluntary contributions, market-based and fund-based finance. Thailand aims to test all different funding sources in line with the strategic decision for REDD+ implementation such as national, international bi-lateral and multi-lateral funds, and eventually anticipated future compliance market. International financial contributions (*e.g*., FCPF or UN-REDD Programme) and bilateral initiatives will be the main funding source for the readiness phase.

The most important aspect for the financial mechanism is, the fact that, while international, multi-lateral or bilateral funding may be the main source of funding for REDD+ in the readiness phase, it will be important to also explore internal mechanisms to generate funds. The REDD+ implementation framework in the readiness phase will establish appropriate financial arrangement that can deal with multiple funding sources and ensure that funds get to the intended beneficiaries. The funding arrangement will have to cope with the disbursement of REDD+ benefits to sub-national and local level, while accessibility by local forest-dependent communities and ethnic groups needs to be ensured by taking international requirements into account.

The establishment of a new and special REDD+ fund such as the National REDD+ Fund will be proposed as financial instrument to facilitate financial and benefit-sharing mechanism (Figure 2c-1) in line with the institutional arrangements described earlier in Component 1a (Figure 1a-2). The REDD+ TF will supervise appropriate methods of disbursement, while the Office of REDD+ TF Secretariat will be responsible for the management and administration of the National REDD+ Fund. The National REDD+ Fund will work as channeling vehicle of funds to manage FCPF funds and to implement activities for the preparation of the country to implement fully fledged REDD+ initiatives. The REDD+ funds will be then decentralized through the REDD+ Office, REDD+ Local Offices and intended beneficiaries, local forest-dependent communities and ethnic groups at the national, sub-national and local level accordingly (Figure 2c-1).

To ensure credibility, transparency, accountability, inclusiveness and efficiency, an establishment of National REDD+ Fund needs to be determined in detail at an early stage during the readiness phase through the TWG on Finance and Benefit Sharing Mechanism (Figure 1a-2) with consultations among REDD+ TF, the Ministry of Finance and relevant stakeholders. More importantly, further analytical and design work as well as stakeholder consultation is required to allow a well-informed decision.

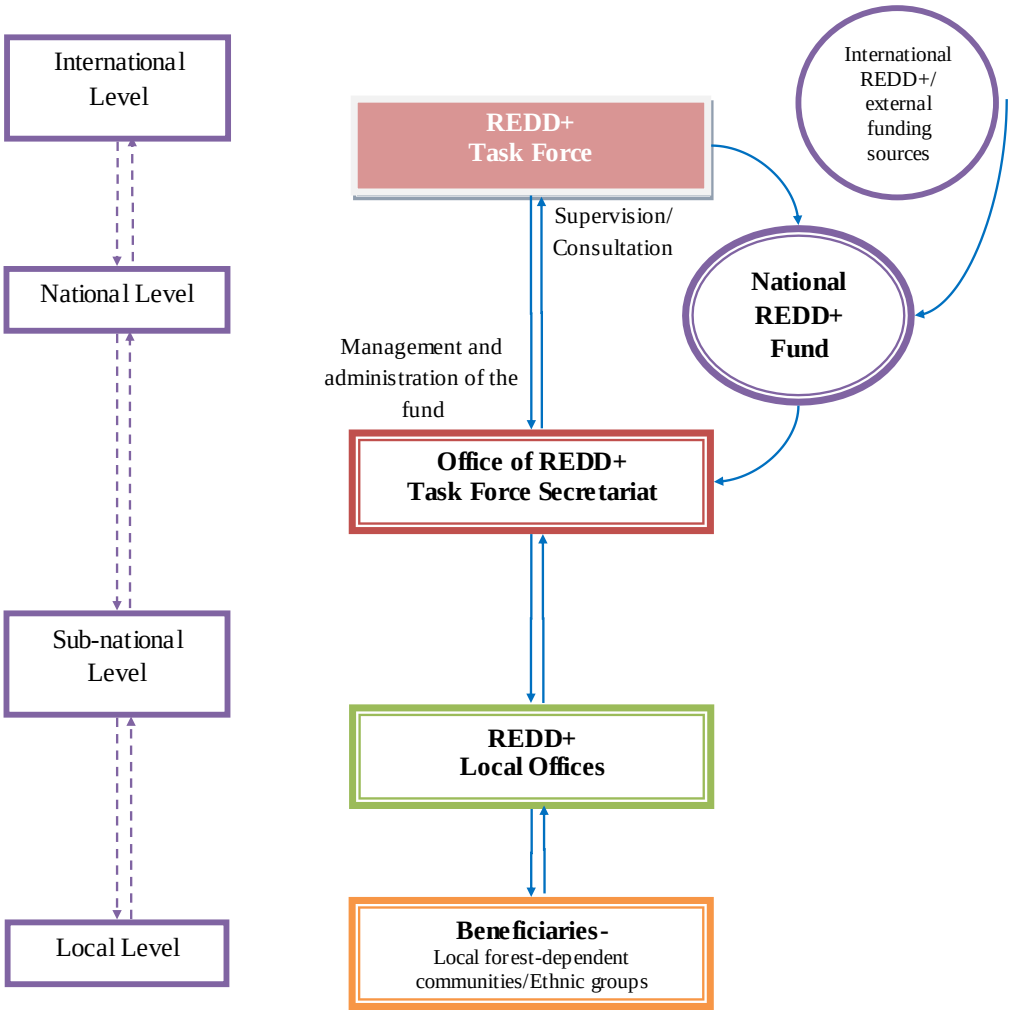


Figure 2c-1: Financial arrangements for REDD+ implementation.

Benefit Sharing

Benefit sharing mechanisms have been discussed during consultations to establish the extent to how benefits will be shared domestically across wide areas and different stakeholders. The most important aspect is that payments from international REDD+ funding sources will have to be shared among eligible stakeholders, with fair and equitable, efficient, effective and transparent benefit sharing system. The benefit sharing system will be extremely complex because of the number of stakeholders involved and the high costs of achieving emission reductions at current carbon value. Payment for Ecosystem Service (PES) at multi-level scheme, international and national scheme, could be beneficial to REDD+ payments and benefit sharing.

In Thailand, the PES scheme could be beneficial at a local level where participation of local forest-dependent communities and/or ethnic groups in forest conservation is of great concern. Many incentive-based conservation programs have been undertaken and several programs have addressed implementation of PES. These lessons for REDD+ activities are described in Component 1a. Importantly, the FIO has applied Forest Village System Plantation by which the Taungya System of planting was modified known as Modified

Taungya System (one known form of agroforestry). The system began in 1967 in forest plantation areas with the introduction of forest village infrastructure and emphasis on agroforestry practice to combine forest trees with crops as well as silvo-pastoral activities. It has been the FIO extension programs for forest village families to enhance income to improve standards of living and become successful lessons learned for incentive-based forest conservation program in Thailand (Phothitai, 1993).

The promotion and development of community participatory in protected areas project launched in 2010 by DNP is also another good practice of incentive-based forest conservation programs that aims to strengthen and enhance the participatory of local forest-dependent communities in forest conservation in watershed areas (DNP, 2012). Similarly, ADB executed the GMS Core Environmental Program (CEP) and the Biodiversity Conservation Corridors Initiative (BCI), a regional technical assistance program for promoting establishment of sound environmental management systems and institutions, and selected the Tenasserim – Western Forest Complex as one of BCI pilot sites and biodiversity landscapes in the GMS. Community funds were subsequently established in 20 targets communities for poverty alleviation through the sustainable use of natural resources and developing the quality of life. The creation of financial models and mechanisms was accomplished and the revolving fund for conservation of the Tenasserim biodiversity corridor created opportunities for poorer households and forest dependence to access funding (ADB, 2008; RECOFTC, 2009; 2010)

Recently, LEAF with the support by USAID has analyzed existing policies and legislations that are relevant to PES implementation in Northern Thailand and identified primary challenges for PES implementation. These include unclear land rights in State-owned land, unclear rights in ecosystem services and return payments, limited policy support to encourage demand for PES and an inadequate regulatory and institutional regime for PES (Tulyasuwan, 2012). An analysis of PES practice, community based forest management and other incentive-based conservation programs in Thailand is recommended and lessons learned from these existing practices could be, therefore, applied along with the REDD+ financial mechanism for REDD+ readiness in Thailand. Pilot activities are recommended during the readiness phase to focus on land management practices that affect ecosystem services, in light of unclear rights in ecosystem services and payments for them. Diverse and simple benefit sharing arrangements can be, therefore, tested during the readiness phase through pilot activities.

Eventually a more complex system will need to be designed and legalized based on experience gained. This would allow for scaling up of REDD+ efforts during the Readiness phase and ultimately accommodates a national approach. More importantly, it will ensure that households and communities adopting new practices to implement REDD+ should be able to benefit from technical support and financing to establish the necessary improvements in practices. At community level, mechanisms to subsidize the development and formalization of associations need to be discussed during the readiness phase. Furthermore, other considerations need to be taken into account: appropriate forms of benefits such as direct payments and in kind contribution; risk minimization and conflict management; and opportunity costs of other land uses as well as assessment of cost effectiveness of different benefit sharing options. Existing relevant legal framework should be assessed for potential opportunities and bottlenecks, while an enabling legal framework or drafting new legal instruments, as an essential prerequisite for successful PES, will be arranged for the REDD+ readiness. These processes will be further developed and discussed with extensive stakeholders during the readiness phase by TWG on Finance and Benefit Sharing Mechanism proposed in line with the institutional arrangements (Figure 1a-3 in Component 1a).

Carbon Ownership

Carbon emission reductions rights are linked to who owns and manage the forests. In the case of carbon rights in state forests, the government will receive payments with sharing mechanism but, in principle, local communities or villagers should receive if their own carbon stocks are conserved. Therefore, REDD+ regulation will address insecure tenure and establish clear tenure rights for forest resources to ensure that corresponding rights match their obligations for managing and maintaining the resources. An appropriate legal framework related to land and forests ownership is of great importance to entitlement of benefits as they define rights and responsibilities under REDD+. Eligibility to receive benefits is determined by not considering only carbon tenure/ownership but also contributions of stakeholders in being involved in REDD+ efforts. Some criteria need to be considered, especially where there are various stakeholders linked to the administration of the area such as protected areas.

At the national level, MONRE has ultimate responsibility for majority of state forestlands in Thailand but these designated forest areas are managed by different institutions- DNP, RFD, DMCR and FIO as mentioned in Component 1a. At the sub-national level, the Governor of each province coordinates forestry activities with local level departments and responsible regional offices of DNP/RFD/DMCR. In the case of carbon rights at the national level, the government will receive payments and distribute with sharing mechanism through the National REDD+ Fund and relevant organizations in line with the institutional arrangements (Figure 2c-1). Nevertheless, high levels of dependency on forest resources by the poor and ethnic groups living in or adjacent to protected areas seems to be a complex issues and needs to be addressed. Effective land use and land tenure arrangements need to be put in place where forest–dependent communities and ethnic groups claim ancestral land, which is now under a protected area mandate. Therefore three key beneficiaries will be addressed for their efforts in the context of implementing REDD+ strategies: government agency at national and sub-national level, forest-dependent communities and ethnic groups as well as private sector and NGOs. To resolve conflicts and speed up forest demarcation with participatory benefits for local communities, the relevant organizations need to set up a forest demarcation project to settle land conflicts and multi-stakeholder participatory and consultative approaches have to be used under REDD+ mechanism. Planned measures and activities and further analytical work and design of revenue allocation mechanism and payment structures will contribute to develop a primary benefit sharing system to be applied at a pilot scale in selected locations where different stakeholders are involved. Experiences gained and eventually additional requirement evolving at the international level will have to be used to refine it towards the end of the readiness phase.

Carbon Registry

Experience with the carbon registry for the energy sector within TGO will be useful for the development of a REDD+ carbon registry to verify and document carbon emission reductions from implemented REDD+ measures that would trigger the release of REDD+ payments and ensure that double accounting does not take place. A carbon registry for REDD+ implementation framework involves two functional elements to administer carbon credits and facilitate a nested approach: (a) protocols or rules for measuring and reporting GHG emissions and reductions including national REL and MRV system establishment and national greenhouse gas accounting system; and (b) registry or formal repository for recording the forest carbon credits of REDD+ projects.

The REDD+ implementation framework in Thailand will get experiences through demonstration pilot activities and sites that aims to implement REDD+ at the national level. It requires a national carbon registry, which initially has to facilitate carbon accounting related to REDD+ pilot efforts, but ultimately to allow carbon accounting at the national scale based on a standardized protocol. Thailand will establish the REDD+ Information Center under supervision of the REDD+ Office to implement REDD+ as indicated earlier in the institutional arrangements (Figure 1a-3 in Component 1a). The role and mandate of the REDD+ Information Center is to manage both functional elements of a national carbon registry and ensure that sub-national REDD+ interventions comply with national and international policies and guidelines. The TWG on REL and MRV Development within the REDD+ TF, a key element of the system, will be established to work in parallel and closely with the REDD+ Information Center to review the proposed Thailand national forest monitoring system (THAIFORM) monitoring design which would serve as a National Carbon Accounting System (Component 3) to implement REDD+ in a fair, transparent and independent manner. The TWG on REL and MRV Development would make appropriate decisions for the REDD+ Information Center to:

a) Establish a clear national REL and sub-national REL for a National Carbon Accounting System

b) Establish data collection definitions, measurement standards, and data analyzes for a National Carbon Accounting System

c) Collate and harmonize existing GHG inventory data and tools to identify gaps and areas where further research is required

d) Develop a national MRV system with independent and transparent verification and decide verification bodies

e) Detect and avoid leakage through a robust MRV system to allocate equitably the benefits and risks associated with REDD+ at the national level

f) Register REDD+ projects which provides essential information such as project boundary, participants, baseline, sources of data, methods for analyzing data, minimum levels of accuracy and precision, methods for establishing REL's, and estimating leakage.

g) Develop guidelines to access and review REDD+ proposals.

The REL establishment and MRV system development are described in greater detail in Components 3 and 4 of this document respectively.

During the readiness phase, information and knowledge management will ensure accessibility of REDD+ related information to relevant stakeholders and the public, fill knowledge gaps through knowledge capitalization and the synthesis of information, as well as facilitate transparency of decision-making and monitoring process. The REDD+ Information Center will also gradually establish a REDD+ clearing house mechanism by refining, harmonizing and strengthening existing information management related to arrangements and efforts in Thailand as well as information on how the registry for REDD+ activities and transactions will be conducted.

Capacity Building

Human resource capacity building and institutional strengthening of relevant government agencies at different levels and other involved stakeholders including communities will have to be arranged gradually. A variety of training and capacity building

measures to access to data/information, technology transfer and know how, and shared learning are necessary to meet the needs of all agencies and individuals required to create a comprehensive REDD+ program. Technical assistance and capacity building proposed at the national and sub-national levels include:

National Level

- A series of sequential awareness creation measures to create basic understanding and interest in REDD+ as a basis for specific training measures for government and other institutions
- A series of sequential awareness creation, consultation and participation measures of various involved stakeholders as well as the providers and users to pay or receive payments for environmental services
- The provision of technical information on key REDD+ issues to various stakeholders as a basis for well-informed decision making (financial and benefit sharing mechanism, REL establishment and carbon registry)
- A series of sequential awareness creation measures to create basic understanding and interest in REDD+ to facilitate the coordination of inputs of different donor initiatives
- Incorporation of REDD+ and related issues into the tertiary level education curriculum in all sectors involved
- Development of awareness creation materials and campaigns at different levels

Sub-national and Local Level

- A series of sequential awareness creation measures to create basic understanding and interest in REDD+ as a basis for specific training measure for local communities
- A series of technical assistance and capacity building on key REDD+ issues to local communities to facilitate REDD+ implementation at local level (e.g. MRV system at community level)

It will also be necessary to make a diagnosis of capacities related to REDD+, which will allow a more accurate design of the program for the creation and strengthening of these capacities. Proposed measures and activities related to the different components have to be implemented during the readiness phase to establish the outlined REDD+ framework. This would be carried out simultaneously with other actions that also need to be conducted during the readiness phase. The budget summary for the main activities is provided in Table 2c-1.

Criteria to be considered as check list during implementation for adjustment as appropriate:

1) Adoption of legislation and regulations
    - Check to see whether necessary legislation and/or regulations related to REDD+ programs and projects have been adopted?
2) Transparent and equitable framework
    - Check to see what evidence is there that the implementation framework is operating in a transparent and equitable manner, and defines e.g., the process for participation in programs, carbon rights, benefits sharing/distribution of benefits, REDD+ financing mechanism/financial architecture and financing modalities, procedures for official approvals, monitoring systems and grievance mechanisms?

3) ational REDD+ information system or registry

Is a national geo-referenced REDD+ information system or registry operational, comprehensive of all relevant information (e.g., information on the location, ownership, carbon accounting and financial flows for sub-national and national REDD+ programs and projects), and does it ensure public access to REDD+ information?

Table 2c-1: Summary of REDD+ implementation framework activities and budget

Main Activity	Sub-Activity	Estimated Cost (in Thousand US$)				
		2014	2015	2016	2017	Total
Regulatory framework	Establish national standards for REDD+	28	28	0	0	56
Financial management	Analyze existing funding mechanisms	11	0	0	0	11
	Establish REDD+ fund mechanisms	11	11	0	0	22
Benefit sharing system	Analyze and document of benefit sharing arrangements	0	0	11	11	22
	Analyze of future benefit sharing options	0	0	17	17	34
Information and knowledge management	Establish REDD+ clearing house	11	5	5	0	21
Capacity building	Raise awareness among stakeholders	11	6	6	5	28
	Provide REDD+ information to TF and stakeholders	11	5	5	6	27
	Finance and benefit sharing mechanism	6	11	11	11	39
Total		**89**	**66**	**55**	**50**	**260**
Government		9	6	5	5	25
FCPF		**80**	**60**	**50**	**45**	**235**

Other Donors						
Main Activity	Sub-Activity	Estimated Cost (in Thousand US$)				
		Year 1	Year 2	Year 3	Year 4	Total
Regulatory framework	Establish national standards for REDD+	25	25	0	0	50
Financial management	Establish REDD+ fund mechanisms	0	13	0	0	13
Information and knowledge management	Establish REDD+ clearing house	30	30	20	30	110
Capacity building	Raise awareness among stakeholders	21	21	21	21	84
	Provide REDD+ information to TF and stakeholders	21	21	21	21	84
Total		**97**	**110**	**62**	**72**	**341**

2d. Social and Environment Impacts during Readiness Preparation and REDD+ Implementation

Standard 2d the R-PP text needs to meet for this component:
Social and environmental impacts during readiness preparation and REDD-plus implementation:

The proposal includes a program of work for due diligence in the form of an assessment of environmental and social risks and impacts as part of the SESA process. It also provides a description of safeguard issues that are relevant to the country's readiness preparation efforts. For FCPF countries, a simple work plan is presented for conducting the SESA process, cross-referencing other components of the R-PP as appropriate, and for preparing the ESMF

Introduction

Activities that reduce emissions from deforestation and forest degradation (REDD) and contribute to conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+) have the potential to deliver significant social and environmental co-benefits. Yet many participants in the consultations have also highlighted the serious risks, particularly for local forest-dependent communities. Strategic environmental and social issues must be considered at the REDD+ readiness stage. These include biodiversity and ecosystem services; micro-climate; water services and quality; soil condition; food security, placement of people and fauna, cultural and social problem as result of migration and immigration, land ownership, land tenure, land accessibility, energy supply and gender equity and other benefits to improve education and health of the people while pursuing growth with low emissions from land use change. Thus the drivers of deforestation and degradation identified in component 2a, and the strategic options identified in component 2b have highlighted the importance of using a strategic environmental and social assessment to ensure that REDD+ does good for the population and the potential negative impacts derived from the strategy options are fully mitigated.

Justification of the Strategic Environmental and Social Assessment

Strategic Environmental and Social Assessment (SESA) is a range of analytical and participatory approaches that aims to integrate environmental and social considerations into policies, plans and programs (PPPs) and evaluate the inter linkages with economic and institutional considerations. The purpose of this component therefore, is to utilize the SESA process to assess the likely impacts of the REDD+ strategy options and implementation framework identified in Sections 2b and 2c or that will be identified in the course of the preparatory work. The objective is that REDD+, starting with the preparation for REDD+ readiness to implementation, should 'do no harm' and, instead, should 'do good'. Apart from the World Bank's safeguard policies that are designed to avoid, limit and/or mitigate harm to people and the environment, and strive to achieve benefits instead, Thailand has a legal framework that provide directives for conducting environmental impact assessment (EIA) and SESA for projects and programs.

The Constitution of Thailand, Article 67 describes the right to a healthy and decent environment and responsibility of development projects to conduct an EIA in case the project has potential impact to environmental quality, the results of which must be approved by designated independent organizations. There are other laws and regulation relevant to this article, *e.g.* The National Environmental Quality Promotion and Preservation Act, B.E.2535 (1992).

Social and Environmental Impacts of REDD+

The REDD strategic options proposed in component 2b aim to contribute to reducing GHGs emissions and poverty reduction, and to enhancing economic growth through the sustainable and equitable management of forests while increasing forest carbon stocks. Implementation of these options will involve local forest-dependent communities, ethnic groups, women and youth. Nevertheless, in spite of the positive results expected with regard to efforts against climate change, the launch of REDD+ could have negative impacts on the environment and on local forest-dependent communities. For example components 1b, 2a, and 2b have helped to articulate concerns of local forest-dependent communities, and NGOs regarding the potential social and environmental impacts associated with REDD+. Some of the concerns expressed by communities during the dialogues are:

- Dilemma of local communities and hill tribes living in forest areas about their rights under the REDD+ mechanism that may lead to change in their traditional livelihood and, in the worst case, resettlement of the forest dwellers.
- Land tenure: many communities, especially ethnic groups and households live in and depend on forest resources for their economic and social livelihoods without any legal title. Risks of REDD+ violating land rights and user rights.
- The issue of land tilting and demarcation was raised as a concern regarding potential inter-community conflict due to land use such as agricultural expansion versus forest conservation; decrease of income from agriculture; risks of politicians using REDD+ as a tool for land negotiations.
- Fear of resettlement from their lands due to REDD+.
- Risks that forest biodiversity may lead to increase in certain wildlife populations and result in damage to agricultural farms.
- Potential conflicts between government agencies and local communities, particularly in resource utilization and land management.
- Centralized REDD+ administration and management may neglect stakeholder participation or imbalance proportion of stakeholders in REDD+ activities.
- Risks of not using local traditional knowledge of communities in REDD+ decision-making process. The need to make sure that REDD+ implementation should not create conflicts with traditional lifestyles and cultural practices.
- Unfair access to financial resources, as some groups may have privileged access to funds, loans and resources for development while others are neglected.
- Increased forest encroachment as some communities are allowed to remain in forest areas.
- Inefficient institutional arrangements and policies that may negatively impact on the welfare of the poor to benefit from REDD+.
- Lack of good governance in forest management in the light of corruption and inadequate forest enforcement.
- Reduced emphasis on the importance of biodiversity conservation, as the basis of food security and medicine for local communities, through forest landscape rehabilitation because of over-emphasis on carbon sequestration.

- Reduced emphasis on other ecosystem services in terms of watershed protection, and alleviation of natural disasters
- Development and activities must be on the basis of sustainable forest management including conservation of ecosystem and biodiversity, appropriate livelihood and social development, conservation of local culture and tradition of the country.

SESA will be conducted to assess the positive and negative impacts that could be generated in the implementation of REDD+ strategic options. SESA will be undertaken through a participatory process involving local forest-dependent communities, marginalized groups, women, and other forest users.

Institutions that Can Play a Role in SESA and ESMF

Given the multi-sectoral nature of REDD+ mechanism and the varied nature of the causes of deforestation and forest degradation in Thailand, the SESA process would seek to bring the various perspectives of the ministries and land resource users on potential negative and positive impacts of REDD+. The consultation process during SESA and development of ESMF would involve the following stakeholders at the national and sub-national levels:

- National governments such as Ministries of Natural Resources and Environment, Agriculture, Interior, Defense, Transportation, Energy and Industry.
- Public Organizations such as TGO and GISTDA
- Local forest-dependent communities such as Community Forest Network, Ethnic Group Network, Sustainable Natural Resources and Agriculture Network, Participatory Natural Resources Management Network and Local People User groups.
- Private sector such as Mining (Rock, lime, coal, cement and zinc), Industry (wood processing and furniture, pulp and paper, agribusiness, transport, energy, sugar, cassava, maize, rubber, salt, shrimp farm)
- NGOs
- Research and academia.

Consultations for SESA

A detailed plan of consultation during the SESA will be developed by the entity that will carry out the study using FCPF framework but also exploring, for example, UN-REDD and CCBA social and environmental standards, principles, criteria and tools for REDD+ where relevant to enhance the process. The main output of the SESA process is the development of a strategic Environmental and Social Management Framework (ESMF).

Social and Environmental Considerations

The FCPF will be one of the major funding sources for the implementation of R-PP and consideration will be made for fulfilling the World Bank safeguard policies, especially: (i) OP 4.01 on 'Environmental Evaluation'; (ii) OP 4.04 on the Natural Habitats; (iii) OP 4.10 on Indigenous Populations (local forest-dependent communities in case of Thailand); (iv) OP 4.11 relating to Physical Cultural Resources; (v) OP 4.12 on Involuntary Resettlement; and (vi) OP 4.36 on Forests. SESA will confirm the following as major REDD+ objectives: (i) regulating forest sector activities and promote efforts against deforestation and forest

degradation; and (ii) Protecting and promoting the rights and opportunities of local forest-dependent communities and ethnic groups.

SESA will be carried out during the R-PP implementation which will include stakeholder analysis, description of the initial social and environmental situation of the forestry sector in Thailand.

Foreseeable Tasks to be Conducted during the Readiness Phase

Tasks to be conducted during the Readiness Phase would include scope of assessments and baseline analysis.

SESA will identify the key drivers influencing social and environmental problems. The analysis will take into account past development and the current situation, and the results will explain the future trend of key social and environmental problems if REDD+ is not to be implemented. SESA would identify existing regulations, gaps of institution and competency of personnel in order to avoid undesirable impacts from REDD+ readiness implementation. Other issues are: (i) potential of institutions to facilitate the relationship between REDD+ and social and environmental issues, and (ii) efficiency of mechanisms for integration of social and environmental factors in the forestry sector. This ongoing assessment will be combined with stakeholder consultations.

The initial aim of the SESA is to identify important social and environmental issues and linkage between REDD+ strategic plan, and policies. Preliminary studies combined with SESA consultations, will identify key social and environmental issues relating to REDD+ strategy options, analysis of policy and strategy framework related to REDD+. The review of key social and environmental problems will be linked to prioritization of problems and activities suggested by the REDD+ strategic plan. There will be additional analysis for each identified negative and positive social and environmental impacts. REDD+ strategies and activities will be prioritized in terms of impacts on affected areas by Province (Changwat), District (Amphor) or Sub-district (Tambon). The results and conclusions will be reviewed followed by stakeholder consultation. Baseline data and social and environmental problem are listed in Annex 2d-1.

Measures for Impact Mitigation and Efficiency Improvement

The results from SESA analysis will be used to suggest measures for mitigation of negative impact and efficiency improvement for positive impacts in REDD+ strategy options The suggestions may include (i) revision of REDD+ strategic options; (ii) revision of rules and regulations together with institutional management as appropriate, such as revision of policy and strategic plans to ensure the efficiency of REDD+ project implementation; (iii) terms and conditions of REDD+ project implementation; and (iv) stakeholder participation.

Monitoring Framework

SESA will suggest the monitoring system, reporting pattern and indicators for monitoring of social and environmental impacts from REDD+ strategy implementation.

Reporting

The results and conclusions from SESA will be summarized in the draft report which will be disseminated to relevant stakeholders.

Development of Environmental and Social Management Framework

The ESMF is an output of the SESA process. It aims to ensure that REDD+ policy and REDD+ activities 'do no harm' and, instead, should 'do good' to all environmental and social aspects. The integration of the Social and Environmental considerations will be handled using the Environment and Social Management Framework tool (ESMF). This tool will be used to guide the process of incorporating the safeguards for identified negative impacts. The tool provides guidance to identify salient environmental and social issues early on, prepare, as needed, remedies and plans to address these issues, and monitor implementation.

Expertise to be Involved

This assignment requires a multidisciplinary team consisting of experts from various filed of specialization. The proposed expertise may include but not limited to:

1. Land use expert
2. Forest ecologist and forest management expert
3. Lawyer in human rights
4. Social and environmental experts
5. Policy Analyst
6. Public Participation Expert with long-term experience with organizing public participation and consultation processes related to local forest-dependent communities.

Criteria to be considered as checklist during implementation for adjustment as appropriate

1. *SESA coordination and integration arrangements:* Check to see whether the necessary institutional arrangements for coordinating the integration of environmental and social considerations into the REDD+ process are in place?
2. *Analysis of safeguard issues:* What evidence is there that applicable safeguard issues have been fully identified/analysed via relevant studies or diagnostics?
3. *REDD+ strategy design with respect to impacts:* How are SESA results and the identification of social and environmental impacts (both positive and negative) used for prioritizing and designing REDD+ strategy options?
4. *Environmental and Social Management Framework:* What evidence is there that the ESMF is in place and managing environmental and social risks and potential impacts during the REDD+ strategy implementation phase?

The budget summary for the main activities in social and environmental impacts assessment is provided in Table 2d-1.

Table 2d-1: Summary of activities and budget in social and environmental impacts assessment.

Main Activity	Sub-Activity	Estimated Cost (in Thousand US$)				
		2014	2015	2016	2017	Total
Understanding social and environmental impacts	Identify potential SEIs for strategy options	11	11	0	0	22
	Baseline analysis of stakeholders and FDD drivers	5	5	0	0	10
	Social and environment impact analysis	17	17	0	0	34
	Establish monitoring framework	0	11	11	0	22
	Finalizing and reporting SESA	0	44	44	44	132
	TWG on SESA and safeguards	11	11	11	11	44
Safeguard	Designing safeguard information system	0	17	11	0	28
	Test the safeguard information system	0	0	0	22	22
Total		**44**	**116**	**77**	**77**	**314**
Government		4	11	7	7	29
FCPF		**40**	**105**	**70**	**70**	**285**

Other Donors						
Main Activity	**Sub-Activity**	**Estimated Cost (in Thousand US$)**				
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Understanding social and environmental impacts	Baseline analysis of stakeholders and FDD drivers	25	20	0	0	45
	Social and environment impact analysis	25	20	0	0	45
	Establish monitoring framework	20	0	0	0	20
	Finalizing SESA	50	0	0	0	50
	Undertake SEIA for pilot site(s)	50	50	0	0	100
	TWG on SESA and safeguards	25	25	25	25	100
Awareness raising	Preparation and publication of material	28	28	28	28	112
	Information sharing	28	28	10	10	76
Focus groups	Meetings to synthesize relevant experience	28	28	10	10	76
	Discussions on potential pilot sites	8	8	0	0	16
Total		**287**	**207**	**73**	**73**	**640**

COMPONENT 3: DEVELOP A NATIONAL FOREST REFERENCE EMISSION LEVEL AND/OR FOREST REFERENCE LEVEL

Standard 3 the R-PP text needs to meet for this component: Develop a National Forest Reference Emission Level and/or a Forest Reference Level:

Present work plan for how the reference level for deforestation, forest degradation (if desired), conservation, sustainable management of forest, and enhancement of carbon stocks will be developed. Include early ideas on a process for determining which approach and methods to use (e.g., forest cover change and GHG emissions based on historical trends, and/or projections into the future of historical trend data; combination of inventory and/or remote sensing, and/or GIS or modeling), major data requirements, and current capacity and capacity requirements. Assess linkages to components 2a (assessment of deforestation drivers), 2b (REDD-plus strategy activities), and 4 (monitoring system design).

(FCPF and UN-REDD recognize that key international policy decisions may affect this component, so a stepwise approach may be useful. This component states what early activities are proposed.)

Introduction

Increasing environmental degradation that, among other things, contributed to the devastating floods in southern Thailand in 1988, led the Royal Thai Government to impose a "total logging ban" in natural forests in January 1989. Since then, the National Forest Policy has been amended to encourage forest protection. In 2008, conservation forests were gazetted to cover 33.44 percent (17,158,565 hectares) of Thailand's total land area. However, despite the logging ban deforestation has continued and has been estimated to have increased from 0.73% annually during the period 1991-1999 to 1.07% in the 2000-2005 period. In 2000, Thailand's forestry emissions were estimated at 13 million tonnes carbon dioxide, which represents 15% of the total national emissions.

In response to these developments, Thailand has increased support for upland watershed protection, the creation of community watershed networks, and provided increased budgetary support for forest protection. The country's extensive coastline also harbors significant mangrove forests. However, in relation to REDD+, Thailand is lagging behind its neighbors in many areas.

Progress has been slow despite the fact that Thailand has strong capacity in remote sensing, GIS, and forest monitoring, including its own satellite (THEOS -Thailand Earth Observation System) and has offered to act as a regional hub for data sharing. It has also been noted that much remote sensing imagery and data may be available from GISTDA, but that there exist obstacles to the sharing of data among related institutions.

Forest Area Definition

Thailand has adopted the FAO definition of 'forest' as tree covered landscape of >0.5 hectares, with an average tree height of >5 meters and >10 % canopy cover for forest inventory and interpretation of satellite imagery.

The DNP has defined forest to cover all forest types such as evergreen, pine, mixed deciduous, dry dipterocarp, scrub, swamp, mangrove and beach forests in the national forest reserves, national parks, wildlife sanctuaries, and areas with a forest working plan. The

definition of forest area will be reviewed by stakeholder consultation and revised where agreed and will be used for the initial REL analysis processes.

Information and Data on Drivers of Deforestation and/or Degradation

During the preparation of the R-PP focal group discussions were held with representatives from the main agencies in Thailand involved in measuring and monitoring forest cover and forest density. The DNP is responsible for assessing forest cover within Protected Areas, and the RFD assesses forest cover in Reserved Forests, while the RTSD undertakes periodic air photo assessments and interprets areas of different land-use, including forests countrywide. The DMCR monitors areas that are legally zoned as mangrove forests.

The reference scenario will define the expected or business as usual (BAU) level of carbon dioxide emissions from deforestation and degradation should there be no change in the policy and regulatory environment aimed at reducing such emissions. The baseline reference emissions level will be used for measuring future reductions in emissions resulting from the specific actions taken in the coming years. At the present time the emphasis is on developing a national reference baseline, but during the readiness phase site specific and sub-national reference emission levels will need to be developed.

Four approaches have been used to derive an estimate of the current level of emissions. One of these uses past trends of deforestation and degradation as determined from remote sensing and forest inventories to project future emissions according to the change on forest cover and forest density. This also uses data on changes in land-use by various sectors to indicate the relative importance of the different drivers. A second approach forecasts likely changes in forest cover, based on a number of macroeconomic factors that have been shown to influence deforestation. This gives a slightly different result, as there is reason to believe that the rate of conversion is now slowing down. The third approach is based on the historic trend in the relationship between population density and forest cover to estimate current and future forest cover. Population density has been shown previously in Thailand and in many other countries to be a good indicator for integrating the impact of many social and economic factors that drive change in land-use. The fourth approach uses periodic estimates of forest carbon stocks to estimate past changes and project the future scenarios.

Land Cover and Inventory Assessment

Thailand has a long history of assessing forest area dating back to 1961. The first survey by Ordnance Survey Department (OSD) used 1:25,000 panchromatic aerial photographs and reported that the forest covers of 27.362 million hectares or 53.3% of the total area of the country. Following introduction of the Earth Resources Technology Satellite (now Landsat) (Klankamsorn, 1992), the Thailand National Remote Sensing Program was set up in 1971. Early in 1973, several government agencies began using Landsat-1 imagery in their activities including in the field of forestry and this proved to be an important tool for natural resource surveys. The RFD established the Remote Sensing and Forest Mapping Sub-division (Forest Resources Assessment Division) and started to use Landsat imagery for natural forest cover assessment. The first assessment report of forest cover using interpretation of Landsat-MSS at the scale of 1:250,000 was published in 1973 which indicated that the forest cover of Thailand had been reduced to 22.172 million hectares or about 43.33 percent of the total land area. Between 1973 and 2000 forest cover was assessed every three to five years, and showed a steadily downward trend.

In 2000 the RFD conducted the forest land-use assessment using visual interpretation of Landsat-TM imagery at the scale 1:50,000. The detail of forest types and other main land

uses was classified instead of forest and non-forest classes. In addition forest land-use data was entered in GIS databases. This data showed that forest cover of Thailand had been reduced to 17.211 million hectares or about 33.14 % of total land area. This estimate was substantially higher than in previous years based on the lower resolution images. This experience showed that forest assessment using visual interpretation of large-scale image (1:50,000) and using GIS to calculate forest land-use areas is more reliable and accurate than small scale (1:250,000) (Ongsomwang, 2003). A further forest land use assessment in 2004 by using visual interpretation of Landsat-TM imageries at the scale 1:50,000, forest cover of Thailand in 2004 was about 16.759 million hectares or about 32.66 % of total land area. In 2005, the Permanent Secretary's Office under Ministry of Natural Resources and Environment (MONRE), joined with DNP, RFD and DMCR to do a rapid forest cover assessment and it found that forest area of Thailand was about 16.578 million hectares or about 32.31 % of total country area (Figure 3-1).

Until now, forest cover assessment in Thailand has been based on visual interpretation of satellite data with GIS used to measure the areas of the different forest types identified. Following the launching of Thailand's THEOS satellite it is expected that digital image processing for national forest cover assessment and change detection will be applied as it is both cost effective in term of staff time and provides higher precision, but well trained staff in digital image processing will be required (Ongsomwang and Rattanasuwan, 2009).

Assuming that the 1961 data, based on large-scale aerial photos and the 2000 and later data based on the high-resolution satellite are reasonably accurate the intermediate data, based on low-resolution imagery can be adjusted to give a smooth trend line, which can be projected for the next five years as one reference scenario. This projects annual decline in forest cover of about 180,000 hectares annually in 2006 falling gradually to about 160,000 hectares annually in 2020. This compared to the estimate of 191,000 hectares referred to in Component 2a based on shorter time series.

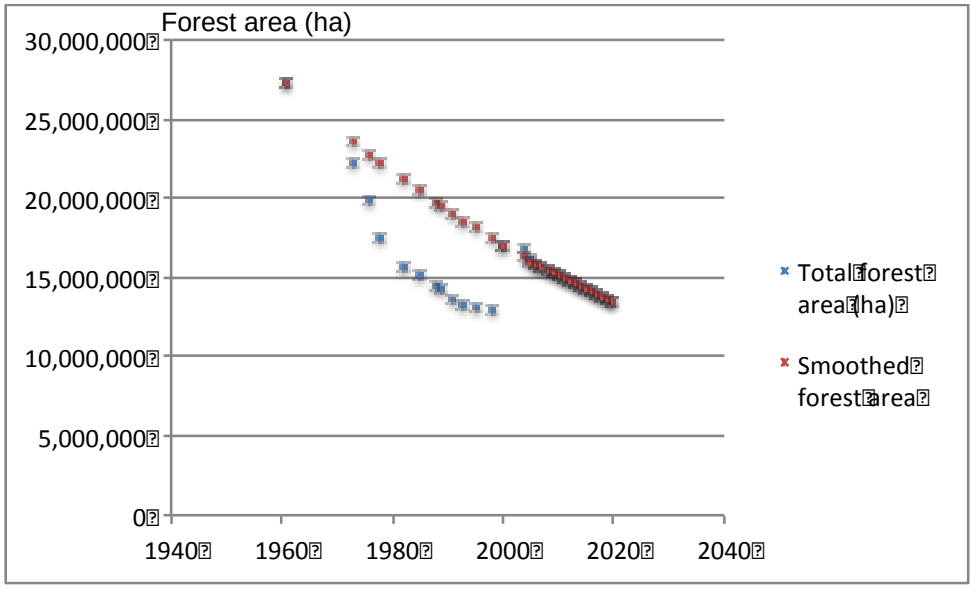


Figure 3-1. Change in estimated forest area (hectare) 1973 - 2000.
(source: Original data from DNP smoothed by consultants)

Econometric Studies

In 1996, Amano *et al* published the results of an investigation into the relationship between 28 macro-economic variables and the rate of deforestation during two 8-year periods. They found that for both periods, the annual area deforested could be explained by a limited number of the variables (8 in the first period and 11 in the second). For the second period, 1983-1991, nine of the variables were changes in sector/sub-sector Gross Provincial Product (GPP) and two were changes in the areas of soybeans and sorghum, both of which were expanding at that time. The sub-sectors that influenced deforestation were found to be agriculture; crops; livestock and fisheries, and the four sectors were mining, electricity and water, transport and communications, and finance. The sector GPPs used 1972 as the base year. The study was based on the aggregation of 73 provinces, which had been grouped into six clusters based on the relative importance of four land use classes. The report concluded that although soybeans and sorghum were not directly expanding into forest land, they were displacing other crops which were then grown on cleared forest. Reports from the stakeholder consultation suggest that this process is still continuing and examples were given of rubber replacing sugar, and forest being cleared to plant sugar. This has implications for the expansion of crops that might be used for bio-energy.

In order to test the relevance of the approach the coefficients for each variable derived by the study were applied to the average annual change in the same sector/sub-sector GDPs and crop areas for the period 2006-2009, adjusted to 1972 constant prices. The results suggested that deforestation should be around 45,250 hectares annually. This is very close to the average annual increase in the area of land used for agriculture as reported by OAE and referred to in Component 2a. With the more recent data it was the Crops and Fisheries sub-sectors and Finance, and Electricity and Water sectors and the two crops all contributed to deforestation, while the livestock sub-sector, which has a negative coefficient, contributed to a small reduction in the rate of deforestation because it has a declining GDP. The other sectors, Agriculture, Mining and Transport and communication all had positive coefficients and so that these sectors appear to have grown with no impact on the rate of deforestation.

Population Trends

The regular estimates of forest cover and population density in the corresponding year, during the period 1961 to 2006 show a strong relationship between the two, as has been found in many countries, as shown in Figure 3-2 below.

Using projections of population density to estimate forest cover in the future suggests that forest area will continue to decline by about 82,000 hectares annually until 2020.

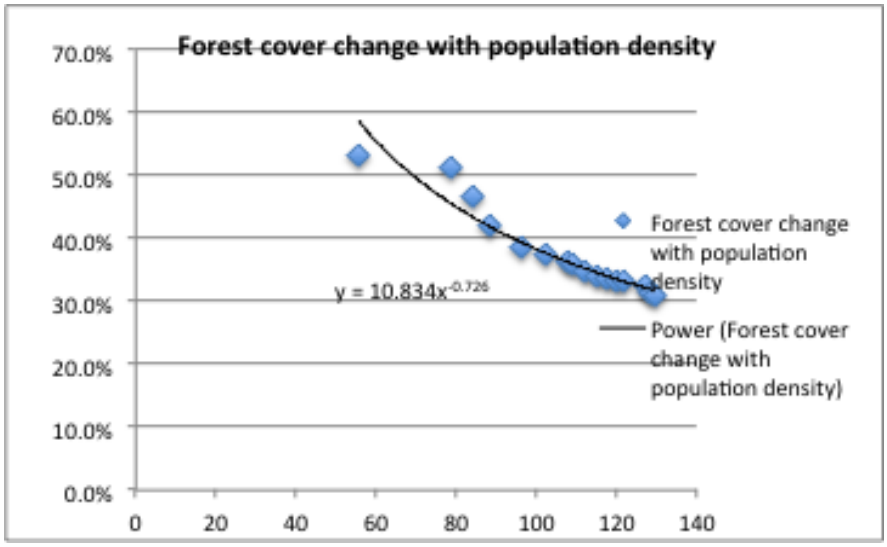


Figure 3-2. Relationship between forest cover % and population density 1961-2006. (Source: Population data from National Statistics Office and forest cover from DNP)

Carbon Stock Assessments

A number of studies have been conducted to estimate the total forest carbon stocks in natural forest and plantations and this enables the changes over the 17 years between 1989 and 2006 to be assessed. The 1989 data is based on the forest areas of different forest types with the carbon densities used in the 1996 assessment. The 2006 data is based on the National Forest Inventory supported by ITTO and referred to in Component 4a. The carbon densities are approximate, based on IPCC conversion factors from stem volumes to aboveground biomass. The measured average growing stock per hectares for each of the forest types declined between 1996 and 2006, which tends to confirm that substantial degradation took place. A summary of the results are given in Table 3-1 below and shows that between 1989 and 1994, carbon stocks declined by about 12 million tonnes annually and in the following period to 2006 they declined by almost 15 million tonnes annually despite the sequestration of about 17 million tonnes annually by plantations. If all this lost carbon is converted to CO_2 it represents total annual emissions of about 54 million tonnes.

Table 3-1: Estimates of total aboveground carbon stocks

Aboveground C stock ('000 tonnes)	**1989**	**1994**	**2006**
Natural forest	1,821,505	1,682,186	1,287,854
Plantations		77,972	292,694
Total	1,821,505	1,760,158	1,580,549
Total change		**-61,347**	**-179,610**
Average annual change		**-12,269**	**-14,967**

Summary of Likely Changes in Forest Cover and Carbon Stocks to 2020

All three methods of estimating future forest cover indicate that it will continue to decline under a business as usual scenario, but there are substantial differences between the estimates, ranging from loss of land to agriculture of around 45,000 hectares annually according to the econometric modeling which does not take account of expansion for other uses, through about 82,000 hectares annually according to population density trends to about

180,000 hectares annually based on past trends in forest cover decline. Despite the substantial area of plantations that are sequestering CO_2 the net decline in the natural forest is more than offsetting this growth. As plantations are harvested in the future the sequestration benefit from the plantations will level off. All the stakeholder consultations supported the conclusions from this data that forest area is still declining.

The estimates of the change in carbon stock in the natural forest shown in Table 3.1 are equivalent to an annual loss of about 33 million tonnes of carbon, which is partially offset by the sequestration in the plantations. The weighted average carbon stock in the forest is about 87 tonnes per hectare, which means that the loss of carbon stocks is equivalent to the annual loss of about 378,000 hectares. Assuming that the estimate of the deforestation from historical forest area data represents the most likely situation, with a loss of around 180,000 hectare annually, it suggests that the balance in the loss of carbon stock is due to forest degradation. This is consistent with the inventory data, which show that the average growing stock in all forest types is declining. The loss in carbon stock due to deforestation is therefore likely to be around 16 million tonnes leaving around 17 million tonnes being lost as a result of forest degradation. With around 15 million hectares of forest this represents about 1.1 tonnes per hectare which is likely to be more than the amount of carbon sequestered through the growth of the trees and plants.

A Reference Emission Scenario

It is clear from the above analysis that the forest sector is a significant net emitter of CO_2 and will benefit greatly from measures to reduce emissions and put forest conservation and management on a sustainable basis. Inconsistencies and deficiencies in the data on forest cover and growing stock mean that it is impossible to develop a definitive reference emission scenario without substantial more work to collate existing information and re-measure forest areas and sample plots. This will be done early during the readiness phase so that by 2015, when Thailand will be fully ready for REDD+ a credible baseline will be established

To estimate the national CO_2 emission level, different data and methods will be used in accordance with the three tiers recommended by IPCC. Based on the recommendations of the focal group discussions, Landsat-5 Thematic Mapper with 30 meters resolution will be used as the reference data (Table 3-2), while THEOS satellite images will be utilized to classify forest and non-forest areas. High-resolution remote sensing data such as aerial photography from MOAC and RTSD projects will be used to provide Tier 2 and 3 quality data. The classification techniques will be visual interpretation for increased accuracy for emission calculations in forest areas. The timeline for developing a national REL is to use Tier 1 and some Tier 2 data within two years of the Readiness Phase beginning, and aiming to achieve Tier 3 data within six years (see Table 3-2).

Collection of Additional Data

As discussed in more detail under Component 4a, Thailand established a national baseline forest resources monitoring system (THAIFORM) during the period 2000-2006 with the support of the International Tropical Timber Organization (ITTO). The results from this investigation include both area and growing stock information for the first time. Re-measurement of the plots planned for 2014-15 will enable comparison with the current baseline data that will provide both a more accurate measure of the current trends and emissions. The system currently has a few limitations for estimating carbon as discussed under Component 4, but these will be rectified as part of the development of the MRV system.

In Component 4b the existing arrangements for collecting data and information on biodiversity, water and socio-economic development is reviewed and will provide baseline data for monitoring of co-benefits. In addition, this analysis will be linked to 2a where analytical work on the drivers will be conducted as appropriate.

Further Studies

The current arrangements for collection of econometric data are discussed under Component 4b and these provide a wealth of information that will be used to follow up and up-date the studies discussed above. This will enable models to be developed that will allow a number of scenarios representing possible development paths for other sectors to be evaluated and used to support decision-making.

Development of Reference Emission Level

A definitive REL will be based on the baseline data collected and analysed for the National Forest Monitoring System as described under Component 4a with projection for emissions being based on the comparison with the THAIFORM inventory system undertaken between 2000 and 2006, referred to above. Component 4a describes the institutional arrangements for the collection, sharing and organizing of the data.

A Community Based Emission Reduction project is currently in progress as described in Component 2a, which has developed a REL based on information from the forest management data for the participating community managed forests. Similarly, pilot projects to examine emission reduction possibilities related to the main REDD+ strategy options identified, will require local level RELs that will be developed as part of each pilot project. These sub-national RELs will be taken into account when deriving a national REL and the possibility that within country leakage may occur will be examined by identifying localities to where drivers may be displaced.

Plan for REL development process is shown in Figure 3-3, with the activities and budget in Table 3-3.

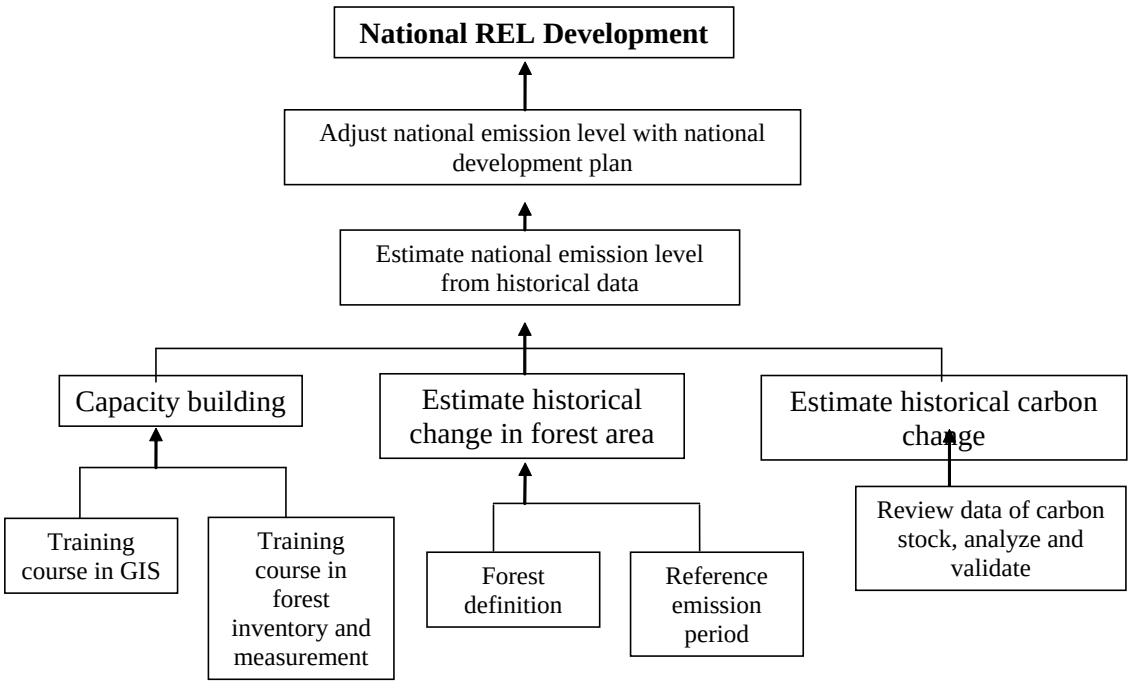


Figure 3-3. Development process of national REL during Readiness phase.

Table 3-2: Methods to be used for development of the reference emission baseline

Detail	IPCC Tier 1	IPCC Tier 2	IPCC Tier 3
Remote sensing data used to classify land use and forest area in the past (reference data).	Landsat – 5 TM (30 m resolution)	- Aerial photography (MOAC) Frame camera Scale 1: 25,000 Acquired in 2002 - Landsat – 5 TM (30 m resolution)	- Aerial photography (MOAC) Frame camera Scale 1: 25,000 Acquired in 2002
Remote sensing data for classifying land use and forest area.	THEOS	THEOS	Aerial photography (RTSD) -Digital camera -Ground sampling distance25 cm -Acquired in 2011
Classification Technique.	Automatic classification	Visual interpretation	Visual Interpretation
Output from Classification	Forest and Non-forest area	- Forest and Non-forest area - Area of land use outside forest	- Forest density class in each forest types - Area of land use outside forest
Reference year used to calculate the reference data.	LS5: 2006	LS5: 2006 AP: 2002	MOAC: 2002 RTSD: 2011
Carbon stock data		THAIFORM re-measurement for AGB	Allometric equations and BGB studies
Assess sub-national RELs		Piloted by four years	Piloted by six years
Time line for REL	Two years	By four years	By six years

Criteria to be considered as checklist during implementation for adjustment as appropriate:

1) *Clear, step-wise methodology*

- Is the preliminary sub-national or national forest REL or RL presented as part of the R-Package using a clearly documented methodology based on a step-wise approach, if appropriate?
- Are plans for additional steps and data needs provided, and is the relationship between the sub-national and the evolving national reference level, if relevant/if appropriate, demonstrated?

2) *Historical data, and adjustment for national circumstances*

- How does the establishment of the REL/RL take into account historical data, and if adjusted for national circumstance, what is the rationale and supportive data that demonstrate that proposed adjustments are credible and defendable?

- Is sufficient data and documentation provided in a transparent fashion to allow for the reconstruction, or independent cross-checking, of the REL/RL?

3) Consistency with UNFCCC/IPCC guidance and guidelines

- Is transparent, complete and accurate information consistent with UNFCCC guidance and the most recent IPCC guidance and guidelines provided, allowing for technical assessment of the data sets, approaches, methods, models, if applicable, and assumptions used in the construction of a reference level?

Table 3-3: Summary of reference level activities and budget

Activities	Estimated Cost (in Thousands US$)				
	2014	2015	2016	2017	Total
Review and analyze existing information	11	11	0	0	22
TWG on REL an MRV	22	22	22	0	66
Develop model for emissions estimations under scenarios	11	11	11	0	33
Total	**44**	**44**	**33**	**0**	**121**
Government	4	4	3	0	11
FCPF	**40**	**40**	**30**	**0**	**110**

Other Donors					
Activities	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Review and analyze existing information	50	40	0	0	90
Acquire and rectify Satellite imagery	100	40	0	0	140
Calibration/vegetation plots	30	0	0	0	30
Promote development of national GIS data repository	85	0	0	0	85
Develop model for emissions estimations under scenarios	45	45	0	0	90
Integrate national and sub-national RELs	180	180	180	0	540
Prepare RELs for pilot sites	90	90	0	0	180
Total	**580**	**395**	**180**	**0**	**1,155**

COMPONENT 4: DESIGN SYSTEMS FOR NATIONAL FOREST MONITORING AND INFORMATION ON SAFEGUARDS

4a. National Forest Monitoring System

Standard 4a the R-PP text needs to meet for this component:
National Forest Monitoring System

The R-PP provides a proposal and work plan for the initial design, on a stepwise basis, of an integrated monitoring system of measurement, reporting and verification of changes in deforestation and/or forest degradation, and forest enhancement activities. The system design should include early ideas on enhancing country capability (either within an integrated system, or in coordinated activities) to monitor emissions reductions and enhancement of forest carbon stocks, and to assess the impacts of the REDD-plus strategy in the forest sector.

The R-PP should describe major data requirements, capacity requirements, how transparency of the monitoring system and data will be addressed, early ideas on which methods to use, and how the system would engage participatory approaches to monitoring by forest–dependent indigenous peoples and other forest dwellers. The R-PP should also address the potential for independent monitoring and review, involving civil society and other stakeholders, and how findings would be fed back to improve REDD-plus implementation. The proposal should present early ideas on how the system could evolve into a mature REDD-plus monitoring system with the full set of capabilities.

(FCPF and UN-REDD recognize that key international policy decisions may affect this component, so a staged approach may be useful. The R-PP states what early activities are proposed).

Introduction

This component develops a proposal to design a National Forest Monitoring System (NFMS) for Thailand that will be one component of a national REDD+ Monitoring System. The objective of the NFMS is to inventory and monitor emissions and removals of GHG due to avoided deforestation and forest degradation, enhancement of forest carbon stocks, and conservation and sustainable management of forests. The NFMS will ultimately provide estimates of GHG emissions and removals from the forests that can be compared against the projected REL.

Design Criteria and Processes

The design of the NFMS will be based on the following criteria:

1. Use aerial photographs (or satellite imagery) to map forest and land use change, and permanent sample plots (PSP) to estimate carbon stocks and changes in carbon stocks
2. Target precision, which is a mix of IPCC Tier 2 and Tier 3
3. Use existing data and ecological studies wherever possible
4. Provide statements of precision associated with the reported data (*e.g.*, carbon stock estimates)
5. Prepare monitoring reports that are easy to use and interpret
6. Establish mechanisms and incentives for data sharing within the country.

The procedures that are developed for REL (Component 3) will be used to map forest and land use change over time and space. The national REL and MRV Development Technical Working Group (TWG) to be established under the national REDD+ Task Force; (see Component 2c) will coordinate the design and implementation of carbon stock estimation and will work with universities for research and technology transfer of the relevant disciplines. The Group will consist of technical experts from relevant agencies, be independent and have adequate authority.

Current Monitoring Methods

Forest and Land use type change

There exist methods for forest area land use change monitoring in several agencies, including the DNP, DMCR, RFD, GISTDA and RTSD. However, these agencies use different forest area estimation techniques, classification systems, and imagery. For example, the DNP uses Landsat-5 imagery with automated and visual interpretation, while the RTSD uses aerial photographs taken with digital mapping camera (DMC). This has caused some discrepancies in the R-PP analysis of deforestation. The causes of inconsistency in different years include differences in types of remote sensing imagery, resolution, and method of forest area calculation. Further analysis of the inconsistencies in the historical levels of deforestation will be conducted during the Readiness phase (see Component 3, budget Table 3-3; item "Review and analyze existing information").

Carbon Stocks

National estimates of carbon stocks for REDD+ activities do not currently exist, although there exist some data on tree volume/biomass, which could be converted to carbon. However, the existing volume/biomass data have several limitations:

1. The existing data are not consistent and standard across the country
2. There are several types of data, including ecological research data and forest inventory data. The ecological data emphasis is on ecological attributes such as stand structure, biomass, soil, and biodiversity and the plot sample sizes are typically small. The forest inventory data emphasize tree and stand volume; the level of detail of the data is low; and the sample size is typically large
3. There are several data custodians including the DNP, the RFD and the DMCR. Each agency has its own objectives, methodologies, standards and sample sizes (Table 4-1). The DNP is responsible for protected forests (national parks, wildlife sanctuaries, *etc*.), RFD is responsible for national reserve forests, and DMCR is responsible for mangrove forests and other coastal forests outside protected area.
4. Limited data on some forest resources (*e.g.*, tree resources outside forest)
5. Limited detailed map area data to permit scaling-up of the ecological data to regional or national scale
6. Insufficient tools to accurately estimate carbon in standing trees in natural forests. Development of these tools requires destructive sampling of a large number of trees, which is restricted by law
7. Mechanisms for information dissemination sharing, networking and access do not exist or are informal.

Table 4-1: Existing network of permanent sample plots (PSP) and temporary sample plots (TSP) in various government agencies in Thailand

Agency	Plot types	Coverage	Data gathered	Remarks
DNP	THAIFORM: Inventory PSPs	National: forest and non-forest areas (20 x 20 km grid). Objectives: national land cover and vegetation monitoring, and national forest inventory.	Tree, seedling, sapling, soil, land use class, site disturbance, wildlife habitat	Potential for NFMS; suitable for ground-truthing remote sensing imagery
	Inventory PSPs	Forest areas (protected forests and reserve forests): 10 x 10 km grid. Objective: national forest inventory	Tree, seedling, sapling, land use class, site disturbance	Potential for NFMS; suitable for ground-truthing remote sensing imagery
	Inventory PSPs	Protected forests: 5 x 5 km grid. Objective: inventory and monitoring of protected forests	Tree, seedling, sapling, land use class, site disturbance	Potential as NFMS but restricted only to protected forests; suitable for ground-truthing remote sensing imagery
RFD	Inventory temporary sample plots (TSPs); and research PSPs in selected community forests; done mainly by government officials	Community forest inventories and research plots	Tree carbon	Suitable for ground-truthing remote sensing imagery
DMCR	Research PSPs	Mangrove forests research	Species and stand structure dynamics	Suitable for ground-truthing remote sensing imagery

The most promising data source for national REDD+ carbon stock monitoring is the DNP THAIFORM. It is most logical and cost-effective to adopt and build upon it for REDD+. The THIAFORM system is described further below.

National Forest Resources Monitoring System (THAIFORM)

With the support of the International Tropical Timber Organization (ITTO), Thailand established a national baseline forest resources monitoring system (THAIFORM) during the period 2000-2006. This system consists of ground sampling to estimate aboveground forest resource statistics of tree attributes, seedlings, saplings, bamboo, rattan, and coarse-woody debris (CWD), as well as land use class, site disturbance and soil characteristics. It is intended to provide the forest resources data at regular intervals by various land use classes or other domains of interest that are statistically valid nation-wide. The ground sampling design was a single systematic sample of points on a 20 km x 20 km uniform grid, covering all Thailand's land mass, whether vegetated or not, including fresh water bodies. A cluster of 'hidden' one PSP and four TSPs was established at each of the 1,129 grid intersections.

There are approximately 432 PSPs in the forest area and 697 in the non-forest area. The PSP is for purposes of monitoring and the TSP for the national forest inventory. The PSPs are located by inserting a metal pin in the ground at the plot centre and marking and recording witness trees inside and outside the plot. The data collected are quite comprehensive, and include seedling and sapling density, tree dimensions, bamboo and rattan length, climbers, coarse woody debris, forest/land-use class, site disturbance, and soil.

The grid has since been intensified in forested areas (10 km x 10 km; approximately 1,600 plots) and in the protection forests (5 km x 5 km). There are plans in the future to expand the 5 km x 5 km grid to all forest areas (a total of about 7,000 plots), to enable reporting by province. The estimated total cost to re-measure plots on the 5 km x 5 km grid in all forest areas is about US$ 5 million. The intensity of the grid is to be increased to 2.5 km x 2.5 km in protected forests, but only in "hot spots". The baseline sample data from the plot clusters have been compiled into plot statistics, and analyzed to provide summary statistics for the entire country and for specific strata (forest type, land use type, watershed, forest complex and region). Examples of the forest type statistics are shown in Table 4-2 below (DNP, 2007). Note that the 17.15 million ha total forest area reported in Component 3 (using remote sensing-based) is lower than, but within the confidence limits, of that in Table 4-2. This is because the ground-sampling based approach picked up more forest area than the satellite-based approach. Preparation of a national forest inventory (2006-2007) report is in progress.

Table 4-2: Forest area, number of permanent sample plots, and tree volume per hectare and biodiversity by forest type from the THAIFORM 20 x 20 km grid

Forest Type	Area (ha)	No. of plots	Total volume (m^3/ha)	Shannon-Weiner biodiversity index
Tropical Evergreen Forest	7,408,127	33	217.7	2.827
Hill Evergreen Forest	3,363,199	24	144.5	2.427
Dry Evergreen Forest	2,136,086	47	123.8	2.417
Mixed Deciduous Forest	1,499,805	163	88.2	2.210
Dry Dipterocarp Forest	1,318,010	74	83.8	1.991
Pine Forest	1,090,767	3	71.6	1.952
Teak Plantation	636,281	11	61.7	0.435
Pine Plantation	590,832	2	39.8	1.178
Bamboo forest	499,935	10	38.7*	1.737
Mangrove Forest	454,486	6	35.6	1.078
Disturbed Forest	272,692	29	29.0	1.307
Secondary Forest	136,346	13	23.6	1.365
Eucalyptus Plantation	90,897	14	19.9	0.435
Fresh Water Swamp Forest	90,897	1	9.1	0.000
Grassland (Savannah)	45,449	2	6.2	1.102
Total	19,633,808	432		

*This is the volume of trees in this forest type; this forest type has since been amalgamated with the Mixed Deciduous Forest type.

Source: DNP (2007)

Table 4-2 is based on ground sampling and includes plantations and areas that may not be recognized as forest from satellite images and so differs from those given in

Component 3. Similarly, estimates of periodic changes in the attribute totals were to be produced every five years in standard reports. Approximately 80% of the forest area plots have been re-measured; none of the non-forest PSPs have been re-measured. The cost of forest-area plot re-measurement is approximately US$ 800 per plot, which includes direct measurement costs (US$ 500) and wages (US$ 300). The fieldwork is done by regional staff and the quality assurance (QA) and training is done by the central (headquarters) staff. To date, however, no reports on change monitoring have been produced.

The THAIFORM is, however, limited by the following factors:

1. Sample plots in three southernmost provinces were not sampled due to insecurity in that area.
2. The existing tree volume equations, and thus carbon stocks, maybe inaccurate for national application. The existing equations are local tree volume equations (only tree DBH is the independent variable, no height) developed by Pochai and Nanakorn (1992). They were developed by the RFD based on upper stem diameter measurements of standing trees using a Spiegel Relascope. Furthermore, these equations were developed using a small sample of trees from only one area in Ngao Demonstration Forest, Lampang Province.
3. Analysis of the data is incomplete and limited mainly to tree attribute statistics such as volume.
4. Uncertain data access and sharing capacities of the existing national forest information management database.

There exist allometric equations and other relationships that are used to estimate aboveground tree biomass for a limited number of forest types and tree species. Examples of these allometric equations include those for Dry Evergreen Forest by Tsutsumi, *et al*. (1983), Dry Dipterocarp Forest by Ogawa, *et al*. (1965), Evergreen Forest by Ogawa, *et al*. (1965), and Mangrove Forest by Tamai, *et al*. (1986) and Komiyama, *et al*. (2005). Wood density coefficients exist for a large number of tree species, and are also used to convert tree volume to biomass. The tree biomass is then converted to carbon typically by multiplying biomass by 0.47 or 0.5. Biomass expansion factors to estimate biomass of branches and leaves from bole biomass, and shoot/root ratios to estimate root biomass from aboveground biomass, do not exist. A shoot/root ratio of 20-25% is usually assumed.

Estimates of soil carbon exist for a limited number of research sites, mainly forest plantations. Soil samples were collected in a sub-sample of PSPs of the THAIFORM system for carbon analysis, but the laboratory analysis for carbon was not done. The soil samples are still available and could be analyzed in the future.

National Forest Information System

There is no comprehensive national forest information system in place. The various government departments under MONRE have their own databases. The MONRE has developed strategies to improve the forest information database with an objective to combine the data from the three relevant departments. The purpose was to create a comprehensive database for use by line authorities and local communities. Each department had to strengthen and develop its own databases in order to meet the requirements of MONRE and these efforts need to be coordinated within a common framework to avoid duplication and gaps. It is not clear, however, if these strategies have been implemented or were successful.

An ITTO diagnostic mission to Thailand (ITTO, 2006) recommended that the entire forest statistical system needed to be carefully reviewed; including clear identification of data needs and gaps. An ITTO supported pre-project is under way with the RFD to strengthen the national forest information system. The ITTO Pre-Project PPD 139/07 Rev. 1 (M) is a feasibility project with the following components:

1. Analysis of the status of existing information system.
2. Survey of information needs (users and uses of the National forest information system (NFIS); planning, monitoring and evaluation; reporting requirements (international, national, institutional); and gaps in the existing information and access to information.
3. Develop an action plan for the strengthening of the NFIS.

The objective is that parts of this NFIS Action Plan will be submitted to ITTO for possible funding for implementation. The Pre-project is still ongoing and expected to be completed in April 2013. An information system for the NFMS for REDD+ should be linked with this ITTO project.

Proposed REDD+ Monitoring System

The REDD+ Monitoring system will consist of two integrated components, one dealing with forests and changes in forest cover and forest quality related to emissions of GHGs and the other dealing with other co-benefits. The latter is described in detail in Component 4b and the linkage between the two systems is shown in Figure 4a-1, and will include development of a national safeguards information system (SIS) in compliance with the Cancun agreements as a priority and integral component of the monitoring

Proposed National Forest Monitoring System

Monitoring Emission Factors and Activity Data

The proposed NFMS involves repeated wall-to-wall classification and mapping using remote sensing imagery to determine Activity Data - location and areas of forest/land-use types, and ground sampling to estimate Emission Factors - carbon stock by forest/land use type (Table 4-3 and Figure 4-1). That is, the mapping aims to answer the question: "Where is the carbon stock located and how is the area changing over time?" and the ground sampling answers the question: "How much carbon stock is there and how is the quantity changing over time?" A TWG on REL and MRV Development in coordination with the REDD+ Office (Component 1a) will review the proposed THAIFORM monitoring design, data collection definitions and measurement standards, prior to implementation.

The classification and mapping will use data from Thailand's THEOS satellite, which has a 15-m resolution (4 multi-spectral) and 2-m (panchromatic). The classification technique will be visual interpretation resulting into forest types and non-forest areas classification. Future enhancements include use of aerial photographs from the RTSD using digital mapping camera with visual interpretation, to refine forest area classification into carbon density classes. The classifications will be done every 2-3 years. See Component 3 for more details.

THAIFORM was initially designed to provide national forest inventory (NFI) information. However, it can also serve to estimate carbon stock as a component of the REDD+ NFMS. Since the current monitoring systems are scattered in various government agencies, this R-PP strongly recommends that THAIFORM form a national baseline for

developing a NFMS for REDD+ implementation and monitoring. The ground sampling would be based on the THAIFORM design as described earlier in this Component. This involves re-measurement of the permanent sample plots on the 10 x 10 km grid (approximately 1,600 PSPs) in the forest areas and on the 20 x 20 km grid (approximately 800 PSPs) in the non forest areas. The PSPs are to be re-measured every 3-5 years at a cost of approximately US$ 800 per plot, on average for the forest and non-forest areas. The ground plot land cover class data from THAIFORM would be used to ground truth the wall-to-wall classification and mapping based on remote sensing.

The THAIFORM easy toolkits and training manuals will be developed for local people and regional forest officers during the Readiness phase.

The proposed GHG to be monitored is mainly carbon dioxide (CO_2). The priority carbon pools are aboveground; the others are (in order of priority): forest floor litter, below-ground (roots), soil, and woody debris. Each of these carbon pools will be monitored under IPCC Tier 2, as agreed to by the Focus Group on Carbon Stock monitoring. Emission Factors (EF) (carbon stocks and change in carbon stocks per unit area), and Activity Data (AD) (forest area and change in forest area) information is combined to compile GHG for REDD+ (tonnes of CO_2 equivalent), forming part of the country's National Communications to the UNFCCC. Under the IPCC method, the GHG Emission and Removals Estimate = AD x EF. The NFMS can also be used for National Forest Inventory (NFI) reporting on growing stock. As mentioned earlier, THAIFORM was initially designed to provide nation-wide information. Thus, the THAIFORM will serve the dual purposes of REDD+ monitoring (Emission Factors) and NFI.

Table 4-3: Proposed design of national forest monitoring system

Monitoring Component	Method
Activity Data (Forest/Land use area change, by forest/land use type and key carbon drivers); refer to Component 3.	1. Wall-to-wall classification and mapping using remote sensing: in the short-term THEOS satellite imagery (Tier 2), and in the medium term the RTSD's aerial photographs using digital mapping camera (DMC) (Tier 3). See Component 3 for more details. 2. The first classification will be into land-use classes, and the second classification will be of forest areas in crown density classes; Tiers 1 to 3. 3. Repeat the classification and mapping every 2-3 years in the short term, and subsequently consider longer intervals.
Emission Factors (carbon stock change by forest/land use type)	1. Continuous forest inventory ground sampling (Tier 3). Adopt the THAIFORM and forest area grids of PSPs for repeated measurement of changes in forest carbon, i.e., 20 x 20 km grid in non-forest areas and 10 x 10 km grid in forest areas. 2. Data collected to include tree attributes, seedlings saplings, bamboo, rattan, CWD, land-use class, site disturbance and soil. 3. Re-measure the plots every 3-5 years. Intervals less than 3 years may be too short to capture real change and it is expensive; and intervals more than 5 years may be too long to detect some changes and relocating the plots may be a problem. Some attributes, however, such as soil, may be re-measured over longer time intervals, e.g., 10 years. 4. Use indirect methods of carbon estimation requiring conversion of observed variables into biomass using equations and factors of biomass expansion, and then a factor of 0.5 to estimate carbon stocks. (Tier 2). National tree carbon equations and other relationships for the major forest types need to be developed (Tier 3).

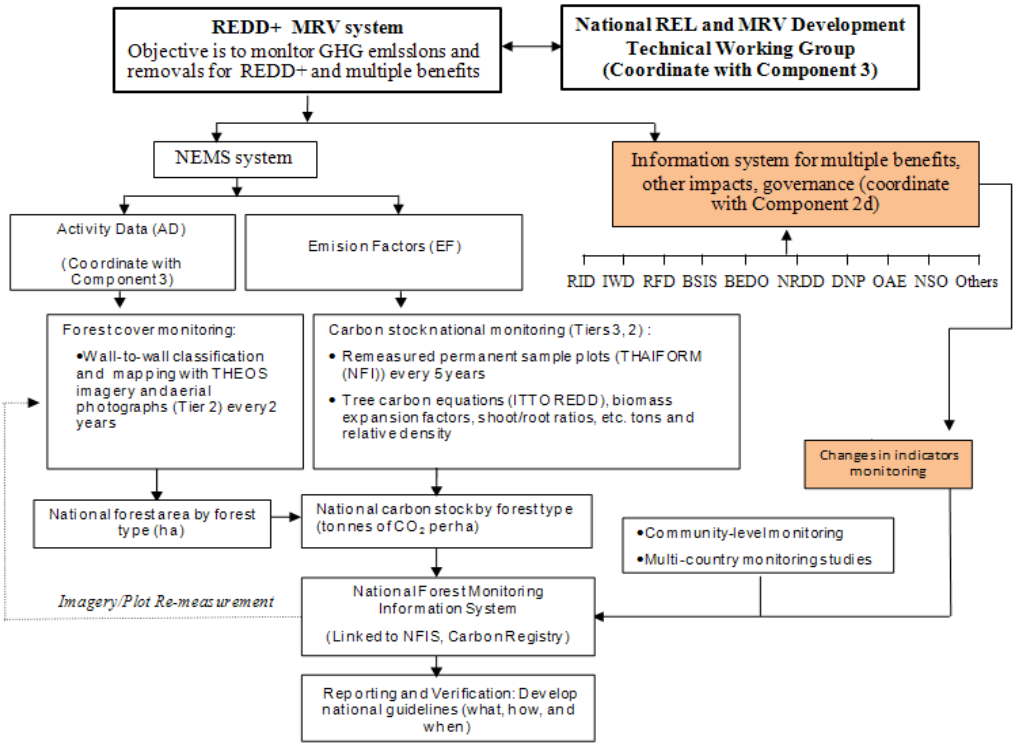


Figure 4-1: Proposed Thailand NFMS system components.

REDD+ Monitoring Indicators

Preliminary REDD+ monitoring indicators are listed in Table 4-4, along with a summary of monitoring tools and activities.

Table 4-4: Indicators for monitoring REDD+

REDD+ indicator	Monitoring Tools and Activities			Outcome Indicator
	Remote sensing	Ground sampling (THAIFORM)	Other	
Deforestation	Map areas deforested and land use changes over time	Estimate carbon stock		Net carbon stock change
Forest degradation	This is difficult to detect with remote sensing. Research is currently underway in the DNP to attempt to identify degraded forests using Landsat imagery and modeling techniques.	Estimate carbon stock, and land use description	Need to continue research into mapping forest degradation	Net carbon stock change
Enhancement of carbon stocks	Map increased forest area (plantations) and rehabilitated natural forests	Estimate carbon stock		Net positive carbon stock change

REDD+ indicator	Monitoring Tools and Activities			Outcome Indicator
	Remote sensing	Ground sampling (THAIFORM)	Other	
Forest conservation	Map protected forest areas	Estimate carbon stock	Protected forest areas	Increase or no change in area and net carbon stock
Sustainable forest management	Map areas of natural forest and plantations	Estimate carbon stock	Volume of Certified timber from plantations	Constant net carbon stock over time

Monitoring Drivers of Deforestation and Degradation

Preliminary direct drivers of deforestation and degradation are listed in Table 4-5, along with a summary of the monitoring tools and activities. These drivers were listed earlier in Component 2a.

Table 4-5: Proposed information required to monitor drivers of deforestation and degradation

Direct driver	Information and tools and activities required to monitor drivers	
	Remote sensing	Ground sampling (THAIFORM)
Conversion of natural forest to large-scale agriculture and other uses	Map forest area and changes over time to detect sudden changes in land use (blocks of forest cleared)	Estimate carbon stock
Infrastructure	Map forest area and changes over time to detect roads and rights-of-way	Estimate carbon stock
Mining	Map forest area and changes over time	Estimate carbon stock
Illegal logging	Possible aerial surveillance (see Component 2b)	Estimate carbon lost due to site disturbance (roads and small patches of logged areas) that appear in the PSPs.
Uncontrolled forest fires	Map forest areas affected by fires	Check site disturbance in the PSPs

Proposed Road Map for NFMS Design

The development of the NFMS will include the following activities for which budgets have been prepared:

1.stablish the REL and MRV Development TWG to review the proposed THAIFORM monitoring design, data collection definitions and measurement standards, and data analyzes. The TWG will be instituted under arrangements in Component 1 and will collate and harmonize existing data and tools to identify gaps and areas where further research is required. It will include representatives from the various government agencies involved in collecting forestry-related REDD+ data, including DNP, RFD, DMCR, FIO and GISTDA. The REL & MRV TWG shall solicit comments on the THAIFORM review from non-government stakeholders.

2. Pilot test the plot re-measurement and any proposed modifications to THAIFORM including tests on forest degradation monitoring by DNP, and data analysis. Systemically analyze and document the experiences and lessons learned. Non-government stakeholders shall be invited to participate in the pilot testing and discussion. Their suggestions shall be considered before an action plan as develop to implement THAIFORM.

3.evelop an action plan to implement the THAIFORM permanent plot re-measurement that includes capacity building through field-level and data analysis training of DNP headquarters staff and regional staff.

4.Develop tree carbon equations to estimate carbon on standing trees. This activity should be linked with the ITTO Project REDD-SPD 039/11 which is being executed by KUFF. This ITTO project aims to develop and test a methodology for constructing standing tree carbon equations, and an action plan to develop national equations for the major tree species groups in Thailand.

5.Develop tree volume equations to support the national forest inventory reporting of the forest growing stock.

1. Develop other supporting relationships, including biomass expansion factors and shoot/root ratios, and soil carbon analysis. The REL and MRV TWG will set priorities to focus on important ecological zones and species.

2. Develop REDD+ national forest monitoring system (NFMS) for data storage, management and sharing. The NFMS development should be linked to the ITTO Pre-project PPD 139/07 Rev. 1 (M), which is strengthening the national forest information system, as discussed earlier.

Existing and Future Capacities of Monitoring System

The Kingdom of Thailand has a long history of forest inventory since 1953, and recently forest monitoring since 2000. Several government departments have information and methods relevant to reporting changes in carbon stocks. Most of the forest resources assessment work is conducted by the DNP, which has the largest pool of forest inventory expertise and personnel. Within the DNP, there currently exist inventory and monitoring systems infrastructure, which could be built upon, strengthened and integrated, to implement a NFMS (re-measure and analyze the PSPs), for the purposes of REDD+ monitoring. Other potential collaborating institutions include:

- KUFF – research and analysis of forest biometrics, inventory and monitoring.
- GISTDA – provide THEOS satellite data for the whole country.
- DMCR – provide data on mangrove and other coastal forests.
- RTSD - provide digital camera aerial photographs.
- RFD – provide information on community forests and research on carbon and biomass estimation.
- FIO – provide information on forest plantations.
- Private sector – provide information on private forests.
- NGOs – incorporate some of the initiatives by NGOs, such as the WWF's LIDAR application initiative for monitoring.

This implementation will be coordinated by the REDD+ TF, which is described in Component 1.

Capacity building at the national level, in the form of training, is needed in the DNP and some collaborating agencies in the following topics:

1. Mapping of activity data: the remote sensing and GIS knowledge and software is available in general at medium expertise level.
2. Estimation of emission factors: in general a medium knowledge level is available in setting up and executing forest inventories. The main knowledge missing is to judge the quality of existing data, setting up statistically sound sampling methods, and statistical data analysis, modeling and reporting.

The training would be done locally by the relevant universities, such as Kasetsart University, and would involve 20-30 relevant staff members from DNP and collaborating agencies.

Hardware needs include notebook computers for data entry and processing, and field equipment such as GPS for relocating the permanent plots. Software requirements include computer programs such as SQL, to replace the current Microsoft Access and Excel as the main data management tool. Funding and source are uncertain. A conceptual overview of data accuracy (IPCC Tiers) for the Activity Data and Emission Factors estimation is depicted in Table 4-6. A two-phase approach should be used in deploying THAIFORM. Initially (during readiness phase) focus on the national 10 km x 10 km grid in forest areas and 20 km x 20 km grid in non-forest areas. In the second phase, expand forest area grid to 5 km x 5 km.

Table 4-6: Conceptual overview of developing the monitoring work plan

Monitoring Capacity Time frame	National Forest Inventory (THAI-FORM)	Carbon density data	Carbon Pool
Current	IPCC Tier 2	IPCC Tier 1	Aboveground, and woody debris
3-5 years	IPCC Tier 3	IPCC Tier 2	Above ground, litter, woody debris-and below ground
> 5 years	IPCC Tier 3	IPCC Tier 3	Above ground, litter, woody debris, below ground and soil

Multi-Country Monitoring

There appears to be scope for regional cooperation in REDD+ monitoring since some of the pertinent REDD+ drivers, such as illegal logging are of transboundary nature. There are already some transboundary conservation efforts. For example, Thailand is receiving support from the ITTO for transboundary biodiversity conservation in the Emerald Triangle Protected Forests Complex situated between Thailand, Cambodia and Lao PDR in a framework of trans-boundary biodiversity conservation area (TBCA). Similar initiatives should be considered for REDD+. Regional cooperation is essential because of leakage and the current displacement of emissions among countries through illegal logging. Therefore, a study is proposed during the Readiness phase that would look into the potential scope of multi-country monitoring, harmonization requirements and possible implementation arrangements.

The proposed study would review relevant existing efforts, in particular the ASEAN Regional Knowledge Network for Forestry and Climate Change (ARKN-FCC). Thailand is a member of ARKN-FCC and will share experiences and lessons learned from other member countries.

Sub-National Level Monitoring

Monitoring shall also be conducted at the sub-national level (*e.g.* a province or a region; there are four regions and 77 provinces in Thailand). A study is proposed during the Readiness phase to:

1. Devises mechanisms to integrate sub-national level monitoring systems to the NFMS.
2. Prescribe the necessary guidelines (systems, design, methodologies and parameters) for implementing carbon monitoring at the sub-national level.
3. Identify needed capacity building/training for sub-nation level monitoring support.

This study will be done through a participatory approach, and shall take advantage of regional needs, local wisdom and tradition, and existing initiatives.

Community-Level Monitoring

There is at present some experience involving communities in REDD+ carbon monitoring in Thailand. However, based on the First Round Consultation, interest in community level monitoring appears to be growing in the country. Participants at this consultation expressed the need for:

- Procedures to identify target areas and activities for community monitoring.
- Focus on community participation, where, for example, the local people do the measurements themselves.
- Very simple monitoring tools, requiring little training and oversight from government officers, so that the communities can implement the monitoring by themselves.
- Respect for local tradition, culture and society.
- Clear land demarcation of areas to be monitored for REDD+.
- Clarification of the roles and responsibilities for community monitoring and reporting.
- Inclusion of monitoring of NTFP carbon pools, e.g., bamboo.

A study is proposed, in coordination with other existing or proposed initiatives, to:

1. Devises mechanisms to integrate community-level and project-type monitoring systems to the NFMS.
2. Prescribe the necessary guidelines (systems, design, methodologies and parameters) for implementing carbon monitoring at the community-level.
3. Identify needed capacity building/training for community-level monitoring support.

This study will be done through a participatory approach, and shall take into consideration the needs and methods identified by the participants above. It should also take advantage of local wisdom and tradition, and existing initiatives.

Capacity Building/Training Needs

Capacity building/training needs at the national level have already been discussed (above). These will be refined by the REL/MRV TWG during the Readiness phase. Details of training needs and courses will be identified during the Readiness phase for the sub-regional and community level monitoring. Stakeholders would be involved in this process through a participatory and transparent approach. With the establishment of the Information Centre during the Readiness phase, all development, training and other information and data can be accessed and shared among stakeholders. Most forest resources data are already available on websites. As well, ITTO-supported information project (described earlier) by RFD is proposing a project to develop a national forest information system to enable faster access and sharing of forest-related information.

Reporting

Reporting for the NFMS will be done in forest area change, changes in carbon stocks, verification and uncertainty assessments. The reports would normally include tabulated statistics and a descriptive component. This reporting should be linked to the planned NFMS. However, there is a need to identify the reporting elements, including contents, responsibilities, communication lines, frequency of reporting, quality standards and control, and approval procedures. An expert on reporting will design standard reporting formats and output routines to be integrated into the planned NFMS.

Verification

Verification standards for REDD+ are lacking in Thailand. Thus, it is proposed to develop national standards and guidelines for independent and transparent verification. Key decisions include identification of responsible government institutions. This would be linked to the regulatory framework described in Component 2c. The guidelines would include decisions on who the verification bodies are, what the verification process should be and how verification results will be reported, and how to make adjustments in reports of reducing emissions from deforestation and degradation. Capacity building measures, specifically training, for government staff, private sector and NGOs on the verification requirements should be foreseen.

Criteria to be considered as checklist during implementation for adjustment as appropriate:

1) *Documentation of step-wise approach*
   - How does the existing or proposed system monitor the specific REDD+ activities prioritized in the country's REDD+ strategy?
   - Is there clear rationale or analytic evidence supporting the selection of the used or proposed methodology (systems resolution, coverage, accuracy, inclusions of carbon pools and gases) and improvement over time? Are potential sources of uncertainties identified to the extent possible?
   - How does the system identify and assess displacement of emissions (leakage), and what are the early results (if any)?
2) Demonstration of early implementation
   - How has the step-wise design if appropriate and early implementation of the

forest monitoring system been demonstrated?

- How are key stakeholders participating/consulted in the development and/or early implementation of the system, including data collection and any potential verification of its results?

3) Institutional arrangements and capacities
    - Are mandates to perform tasks related to forest monitoring clearly defined (e.g., satellite data processing, forest inventory, information sharing)?
    - What evidence is there that a transparent means of publicly sharing forest and emissions data are presented and are in at least an early operational stage?
    - Have associated resource needs been identified and estimated (e.g., required capacities, training, hardware/software, and budget)?

4b. Designing an Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards

Standard 4b the R-PP text needs to meet for this component: Designing an Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards:

The R-PP provides a proposal for the initial design and a work plan, including early ideas on capability (either within an integrated system, or in coordinated activities) for an integrated monitoring system that includes addressing other multiple benefits, impacts, and governance. Such benefits may include, rural livelihoods enhancement, conservation of biodiversity, and/or key governance factors directly pertinent to REDD-plus implementation in the country.

Introduction

This sub-component proposes a process for the development of a component of the national REDD+ MRV system referred to in Component 4a for monitoring benefits from REDD+ interventions other than reductions in net greenhouse gas emissions, that includes biodiversity, soil and water conservation and social and environmental impacts and the effectiveness of the planned safeguards and governance. A preliminary outline of the proposed integrated monitoring system is shown in Figure 4-1 in Component 4a.

Existing Arrangements for Monitoring Co-benefits

Multiple benefits are critical to ensuring that the right people get the right incentives to implement REDD+ initiatives. Socio-economic benefits include diversification of livelihoods; increased productivity; employment, increased income, food security and reduction of poverty are important tangible incentives. However, REDD+ can also help secure benefits such as ownership of land resources and services, participation in decision making, improvement of governance in the forest sector, cross-sector coordination to address emissions resulting from land use change.

A large number of agencies are currently monitoring most of the indicators that are required to assess co-benefits from REDD+ interventions other than changes in carbon stocks and emissions of CO_2. These include indicators for changes in household and community livelihoods, biodiversity, soil and water land-use rights and ownership and governance.

The National Statistical Office (NSO) carries out periodic household socio-economic surveys throughout the country, which assess household income from different sources and expenditure by major categories. The two most recently published surveys were conducted in 2001 and 2007. Another survey will be carried out in 2013 and will provide a baseline for assessing changes in household income and expenditure and livelihoods resulting from REDD+ Interventions.

The socio-economic variables to consider are those related to land use and land use change. Typically these socio-economic variables include population density/growth, GNP, GRP, GPP, rate of urbanization, infrastructure, rural development, and agricultural expansion. In Thailand, annual statistics of agricultural crop areas and production are

available from the OAE under MOAC (http://www.oae.go.th). The GNP, GRP and GPP statistics are available from the Office of NESDB (http://www.nesdb.go.th). They describe in monetary terms the total annual flow of goods and services in the economy of a nation, region or province.

Other socio-economic data are also available from the National Rural Development Database (NRDD) of the Community Development Department (www.cdd.go.th). This database provides survey data at village level every two years for over 100 socio-economic indicators. The variables available from the NRDD database include the following:

- Infrastructure (roads, drinking water, water for agriculture, electricity, land tenure, and communication)
- Occupation (employment, employment in institution, product from rice crop, product from farming, product from other agricultural crops, household industry, and benefits from tourist sites)
- Health and sanitation (safety at work, disease control, sport, drug free)
- Knowledge and education (level of education of population, rate of educated person, and education opportunity)
- Community potency (learning from community, social safety, rural participation, community unity, and access to source of funds)
- Natural resources and environment (soil quality, land use, reforestation, and environment management).

The ONEP developed a Biodiversity Survey and Information System (BSIS) in 2006 (Marod, 2010) and has carried out periodic surveys in different parts of the country since then. The country has been divided into 7 ecosystems including montane, forest, fresh water, agriculture, dry and semi-dry, marine and coastal and island ecosystems. The database also includes Thai red data and endemic species. The system is designed to be shared publicly for users with 3 different levels of accessibility. Within the forest ecosystem, 17 forest complexes corresponding to the major ecological zones are recognised and sampled to monitor: Number of species diversity, disturbance condition, number of species in Red List data, number of endemic species, status according to IUCN classification, importance of area level and potential for future use. The most recent data shows that there are about 20,400 plant, 9,182 vertebrate animal and 81,000 invertebrate species in Thailand of which 3,310 plant and 893 animal species are threatened (Marod, 2010). New species are continually being discovered.

MONRE supported community at community level to monitor biodiversity. The manual to monitor biodiversity and NTFPs has been provided to communities by RFD. The Community Forest Office of the Royal Forest Department monitors community management plans and collects data on stocks of timber and NTFPs. The Biodiversity Economic Development Office (BEDO) monitors stocks of many important species with economic potential.

The Inland Water Division of the Pollution Control Department in MONRE and the RID in MOAC monitor water quality and river flow in 49 rivers with 366 water quality measuring stations, where water quality is measured 3-4 times annually (Sukhappanaphan, 2012).

National parks and wildlife sanctuaries, by protecting biodiversity, provide opportunities to develop ecotourism, which has economic benefits. Improved management of

national parks and wildlife sanctuaries may either attract increasing numbers of visitors or increase visitors' "willingness to pay" for access, depending on the areas' capacity. The DNP records the numbers of visitors to all national parks annually and continuation of this practice will enable changes in numbers visiting national parks where REDD+ interventions have been implemented, to be compared both with past trends and with parks where no interventions have been applied.

The main infrastructure developments that impact on deforestation are roads and power transmission lines. These are respectively the responsibility of the Departments of Highways and Rural Roads in the Ministry of Transport and the EGAT. These agencies record the annual changes in the total length of roads and transmission lines nationally. Should a new road or transmission line have to pass through a protected or reserved forest the agency concerned must seek approval from MONRE, which then has a record of the area of forest affected.

Similarly with mines, the Department of Primary Industry and Mines in the Ministry of Industry must ensure that all mining concessions have both an EIA and approval from MONRE.

Governance and Other Impacts

The existing legal and regulatory framework relating to the forest and other sectors that provides the basis for the governance in relation to REDD+ is described in Component 2a. Responsibility for implementing and monitoring these laws and regulations is spread across a large number of Ministries, Departments and other government agencies resulting in potential overlap and conflict between the different mandates.

Law enforcement, especially with regard to illegal logging and encroachment onto forest-land is the responsibility of the provincial, district and national park forestry staff. The Cabinet has given approval for negotiations for a voluntary agreement with the European Union to implement a FLEGT project that will strengthen capacity to enforce restrictions on logging and ensure that the wood processing industry sources only certified timber.

The major governance issue that impacts on REDD+ is implementation of policy relating to land tenure and rights to the use of land (see component 2a). There is conflict between the legal status of much forest-land and occupancy of the land by many forest dependent communities. Some communities occupied land before it was declared as state forest reserve, while others have expanded the area of land used into protected and reserved forest more recently. The forest authorities (RFD, DNP and DMRC) are responsible for protecting the designated forest areas, while the Agriculture Land Reform Office (ALRO) is responsible for settling landless farmers and promoting their development.

It will be crucial for successful REDD+ implementation to ensure the existence of clear institutional roles and responsibilities, especially between agencies responsible for forests and those responsible for community development, agriculture and land rights. Effective coordination between the relevant institutions across sectors and institutional capacity to implement decisions will need to be investigated and strengthened where necessary and transparency of systems for the management of budgets and financial flows will need to be improved.

Another key aspect of governance recognized by workshop participants was the effective participation of all stakeholders. Participation needs to be broad and genuine, in particular ensuring that space is provided for vulnerable and marginalized groups.

Transparency of and access to information, and the provision of information in a timely manner, are important to ensure effective participation. The need for sufficient capacity to implement genuine multi-stakeholder processes was noted.

Multiple Benefits to be Included in the Monitoring System

The main direct benefits, other than reductions in GHG emissions, from forest protection, management and restoration will be from reduced losses of biodiversity, improved seasonal distribution of water and improved water quality through maintaining forest cover and reducing the risk of soil erosion. Substantial indirect benefits will be obtained through improved governance especially relating to land tenure and improved livelihoods for rural communities. Infrastructure development will generally have large economic benefits, but these must take into account the environmental cost from any reduction in benefits from biodiversity and soil and water conservation that may result from disturbance to any forest and where possible development plans modified to ensure that these benefits are maximized.

Monitoring Governance

Improved governance will contribute to overall benefits from implementation of REDD+ especially through addressing the issue of land-tenure, which will both help to resolve the question of ownership of the carbon, and provide the basis for a concerted effort to improve livelihoods of rural communities, which will contribute to the broad aims of REDD+. Pilot projects to undertake participatory delineation and demarcation of the external boundaries of selected protected and reserved forest will be required to produce both progress reports of implementation of the boundary work, and follow-up annual reports on the effectiveness of the new boundaries.

Monitoring governance will require the cooperation of all the departments of government referred to above in sharing information on relevant achievements.

Monitoring of compliance with EIAs and other development plans still have gap and it will be necessary to put in place measures to require an annual report on monitoring compliance for approved EIAs. This monitoring will be piloted in a representative selection of locations and in addition to the reporting by relevant government departments, local stakeholder beneficiaries will be identified and requested to submit independent compliance reports.

System for Developing Co-benefit Monitoring System

At the beginning of the Readiness phase a workshop with all relevant agencies identified above and invited specialists concerned with monitoring the co-benefits indicated above will be convened. This workshop will aim to record in detail the precise parameters being measured by each agency, together with important statistical characteristics including the frequency and intensity of sampling and locations for site-specific sampling such as river flow. The indicators to be used for monitoring the various benefits will be identified and any gaps that may exist in current monitoring arrangements using any guidelines produced by UNFCCC. Information on the format in which the data is recorded will be assembled together with the quantity of data generated annually for each of the indicators identified. In view of the number of agencies that will need to be involved and the extent and complexity of the current monitoring arrangements more than one workshop is likely to be required, but the aim will be to complete the first step within 6 months. The results of the workshop(s) will be publicized for further stakeholder inputs.

Having assembled information on the parameters monitored and the quantity, quality and format of the data the TWG on REL and MRV development will investigate and recommend on how the data will be integrated into an Information System compatible with the NFMS that can be readily and easily accessed for monitoring purposes. In line with the decentralization process, REDD+ Information Centers will be established throughout the various provinces and in regional hubs in Thailand. These Centers will collect monitoring data that will be fed into the REDD+ Information/Monitoring Center. It is expected that this step will be completed in the early stage of Readiness phase.

This will be followed by consultations with relevant agencies that will be required to monitor aspects of implementation as outlined above and agree responsibilities and procedures for sharing data. At the same time investigations will be proceeding to select sites for pilot studies under Component 2b, and as these are identified and agreed with participating stakeholders arrangements for relevant stakeholders to contribute to the monitoring will be discussed, agreed and approved. It is expected that it will require around a year to identify pilot sites and conduct consultations with participating stakeholders and that the Co-benefit monitoring system will be ready to pilot as the pilot sites are implemented. The monitoring of co-benefits will be an integral part of the monitoring system set up and piloted at the selected pilot sites as shown in Figure 4-1 under Component 4a. After appropriate period, monitoring results from the pilot sites will be evaluated and the national co-benefit monitoring system refined and approved.

The role of Stakeholders in the Monitoring System

The roles of local communities, NGOs, various government agencies or institutes, and the private sector will need to be determined in detail during the design stage of each of the pilot activities. Voluntary participation will be welcomed, especially where the stakeholder already has the capacity, hardware and software to contribute.

The scope for community monitoring of carbon stocks is referred to under Component 4a and trials will also be extended to include community monitoring of biodiversity and water quality. Successful low cost community monitoring of stream flow and water quality has been developed in the Philippines (Deutsch *et al.*, 1998) and of biodiversity in Australia (NPA, 2001) and similar methods based in international experience will be piloted in Thailand. There is at present some experience involving communities in REDD+ carbon and biodiversity monitoring in Thailand. As discussed under Component 4a the First Round Consultation indicated that interest in community level monitoring is growing in the country and Participants expressed the need for support in a number of ways outlined in Component 4a which proposes a study to devise mechanisms to integrate community level and project-type monitoring systems to the REDD+ Monitoring System.

The cooperation and participation of the government agencies referred to above that have a mandate to monitor relevant social and environmental parameters will be sought and their role and responsibilities agreed.

Some private sector companies already have various initiatives, as described in Component 2a (page 46) and discussions will be held with them regarding their current arrangements and experience with monitoring the performance of their initiatives. Consultations will be held with as many private sector companies as

possible to assess their interest in supporting the monitoring of co-benefits and the resources and capacity that they are willing and able to contribute.

Monitoring Systems and Indicators

The overall aim is to have a unified monitoring system that covers changes in forest composition and carbon stocks as well as co-benefits and social and environmental impacts to ensure compliance with safeguards. A REDD+ monitoring system will be created to incorporate the NFMS described under Component 4a and a Co-benefit Monitoring System. This latter will include the BSIS referred to above as well as NRDD socio-economic data, and other relevant systems. This will require changes and improvements to livelihoods and other co-benefits resulting from REDD+ interventions to be collected by other government agencies, local communities and the private sector. The information submitted will be checked by the REDD+ Office to ensure consistency between sources, and re-assessment will be requested where data appears anomalous. Once evaluated results will be posted on an NFMS website to facilitate accessibility and sharing of data both nationally and internationally. The workshop among relevant stakeholders on identifying potential indicators to be used for monitoring co-benefit will be explored during Readiness phase. The indicators identified for R-Package as self assessment will be taken for consideration.

Preliminary potential indicators that may be considered to identify to use and assess REDD+ multiple co-benefits:

Areas that require monitoring	Type of indicators
Policy and governance	Development of relevant policies, regulation, -and procedures for REDD+ Information in the public domain Internal and cross-border migration of activities that can be attributed to REDD+ Number of conflicts over use of resources
Alignment of development plans	Area of forests under sustainable management and certified Sustainable large scale agriculture practices Area and number of people engaged in agriculture conservation, agroforestry systems Area planted and species Enforcement of EIA and management plans (fines, good practices) REDD+ in district development plans
Biodiversity	Endemic species – lost or gained Degraded areas rehabilitated including mangrove vegetation Identify key species (flora and fauna) that characterize the health of different ecosystems, and assess changes Protected areas established and encroachment of the existing

Areas that require monitoring	Type of indicators
Poverty	Food security Employment: creation or loss due to REDD+ Income: gains or losses Enterprises: diversification and migration Technologies made available and accessibility Access to education and health Gender equity
Environmental	Number and incidence of fire Area burnt per year
Social	Impact of change in practices, customs and norms Conflict Gender and change of decision making as result of REDD+ Local level institutions and decision making
Private sector awareness	Certification CSR linked to promoting REDD+

Main interventions to be considered:

Preparation of national forest information platform

- Assess biomass and carbon stocks to establish RL/REL. Detailed forest cover and land use maps as base map of the National Forest Resource Information Platform will be produced for all the areas identified for sub-national level (landscape-level corridor). Base maps for all provinces will be produced after the developing technical guidelines.
- Analyze existing data collection and compilation platforms and establish a mechanism for complementarities of processes and information sharing.
- Establish a platform for regular updates of information and responsibilities.

Establish a database system functioning as the National Forest Resource Information

- Platform which shall be used for the National Accounting System. This platform will be a home-base of MRV system.

Development of methodologies for designing forest cover map based on remote sensing and for ground survey to detect DD (Component 2a) :

- Design survey methods and training
- Establish the mechanisms at sub-national (landscape-level corridors including the 20 districts that will be subject of detailed data collection) and national level.

Development of methodologies and setting up systems for assessing performance related to REDD+ co-benefits

- Refine indicators and establish mechanisms of assessing REDD+ performance as regards.
- Establish baselines
- Participatory monitoring process in place and training of land users.

Monitoring Capacity and Future Capacities Required

Discussions and negotiations will take place with the various government agencies identified above to evaluate the existing facilities and capacity for monitoring the co-benefits during implementation of pilot demonstration sites. The roles and responsibilities of participating departments and national institutions, for the selection of indicators and the design and implementation of measuring, reporting and verifying of both the indicators and the compliance with social and environmental safeguards will need to be negotiated during the first year of the Readiness phase. The need for capacity building, training, and additional hardware and software will be assessed and a plan drawn up for implementation of the identified actions

Sub-National Level Monitoring

Monitoring of co-benefits will be conducted at the sub-national level as required (*e.g.*, a province or a region; there are six regions and 77 provinces in Thailand) as part of the NFMS and integrating monitoring of co-benefits will be included in the study proposed during the Readiness phase in Component 4a.

Social and Environmental Safeguards

The Cancun Agreement encourages all Parties to find effective ways to reduce the human pressure on forests that results in greenhouse gas emissions, including actions to address drivers of deforestation. The Agreement also affirms that the implementation of REDD+ activities should be carried out in accordance with annex I to the decision, which provides guidance and safeguards for policy approaches and positive incentives on issues relating to REDD+. In addition, in Thailand (see Component 2a and 2d) there are a number of regislations, environmental policies, procedures (EIA) and measures that are used to mitigate and protect social and environmental impacts relating to programs/projects. These sets of policies and procedures to include the World Bank Safeguard Policies will be used during Readiness phase as a safeguard tool.

In order to monitor REDD+ that activities in Thailand are consistent with the Cancun Agreement and that safeguards to protect disadvantaged and vulnerable communities are being observed a Safeguards Information System (SIS) will be designed. The system will be initiated to test as appropriate in the pilot sites, subject to available financial support during the Readiness phase. The design will be based on a participatory approach. The related activities and budget is mentioned in Component 2d.

Table 4-7 shows activities and budget in designing systems for the integration of monitoring co-benefits into the national REDD+ Monitoring System.

Criteria to be considered as checklists during implementation for adjustment as appropriate:

1) Identification of non-carbon aspects
    - Check to see how priority non-carbon aspects of REDD+ implementation have been identified?
2) Monitoring, reporting and information sharing
    - Check to see what evidence is there that a transparent system for periodically sharing consistent information on non-carbon aspects/safeguards has been presented and is in at least an early operational stage?

- How is the following information being made available: key quantitative and qualitative variables about impacts on rural livelihoods, conservation of biodiversity, ecosystem services provision, key governance factors directly pertinent to REDD+ implementation, and the implementation of safeguards, paying attention to the specific provisions included in the ESMF?

3) Institutional arrangements and capacities
   - Are mandates to perform tasks related to non-carbon aspects/safeguards clearly defined
   - Have associated resource needs been identified and estimated (e.g., required capacities, training, hardware/software, and budget)?

Table 4-7: Summary of monitoring activities and budget

Activity	Estimated Cost (in Thousands US$)				
	2014	2015	2016	2017	Total
Establish NFIS	11	17	17	0	45
Training and capacity building in MRV	0	11	5	0	16
Study scope for SEA regional monitoring	0	0	0	0	0
Develop guidelines for CBCM	0	0	11	0	11
Design national reporting format	0	11	6	6	23
Design national verification standards	0	0	6	6	12
Total	**11**	**39**	**45**	**12**	**107**
Government	1	4	5	2	12
FCPF	**10**	**35**	**40**	**10**	**95**

Other Donors					
Activity	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Pilot test THAIFORM design	180	180	0	0	360
Prepare & implement plan for re-measurement of PSPs	960	600	0	0	1,560
Purchase of equipment	500	200	0	0	700
Develop allometric equations, conversion factors and soil analysis	100	100	0	0	200
Establish NFIS	220	20	50	0	290
Training and capacity building in MRV	100	120	100	0	320
Study scope for SEA regional monitoring	10	10	0	0	20
Develop guidelines for CBCM	40	0	0	0	40
Monitoring social & environmental benefits	500	200	200	200	1,100
Design MRV system for pilot sites and implement	50	50	50	50	200
Total	**2,660**	**1,480**	**400**	**250**	**4,790**

COMPONENT 5: SCHEDULE AND BUDGET

Standard 5 the R-PP text needs to meet for this component:
Completeness of information and resource requirements

The R-PP proposes a full suite of activities to achieve REDD-plus readiness, and identifies capacity building and financial resources needed to accomplish these activities. A budget and schedule for funding and technical support requested from the FCPF and/or UN-REDD, as well as from other international sources (e.g., bilateral assistance), are summarized by year and by potential donor. The information presented reflects the priorities in the R-PP, and is sufficient to meet the costs associated with REDD-plus readiness activities identified in the R-PP. Any gaps in funding, or sources of funding, are clearly noted.

Component 1a: Summary of National Readiness Management Arrangements Activities and Budget

Main Activity	Sub-Activity	Estimated Cost (in Thousands US$)				
		2014	2015	2016	2017	Total
Support REDD+ readiness process	TWG REDD+ Institutional Analysis	22	22	22	17	83
	Consultation Workshops	22	22	11	11	66
	Technical support	11	11	11	11	44
	Capacity building	22	22	22	22	88
	Attend international meetings, workshops, including lesson learned experience	22	28	28	28	106
Establishment of REDD+ Office	National office operating cost	55	55	55	55	220
	Regional office operating cost	110	110	137	137	494
	Capacity building	33	44	55	55	187
Establishment of REDD+ Information Center	Hardware for database management	17	5	5	5	32
	Hire information specialist	10	10	5	0	25
Total		**324**	**329**	**351**	**341**	**1,345**
Government		29	29	31	31	120
FCPF		**295**	**300**	**320**	**310**	**1,225**

Other Donors

Main Activity	Sub-Activity	Estimated Cost (in Thousands US$)				
		Year 1	Year 2	Year 3	Year 4	Total
Support REDD+ readiness process	Technical support	65	65	65	65	260
	Capacity building	20	30	30	30	110
Establishment of REDD+ Office	Vehicles and Equipment	450	0	0	0	450
	Capacity building	130	130	130	130	520
Establishment of REDD+ Information Center	Hardware for database management	60	0	0	0	60
Total		**725**	**225**	**225**	**225**	**1,400**

Component 1b: Summary of Information Sharing and Early Dialogue with Key Stakeholder Groups Activities and Budget					
Activity	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Design an information sharing and consultation strategy	11	11	0	0	22
Prepare local language media material	11	11	11	11	44
Conduct media campaign	11	11	0	0	22
Develop and manage website	11	0	0	0	11
Publication of documents	5	5	11	5	26
South East Asia regional info sharing	0	0	11	11	22
Information sharing on outcomes of pilot activities	0	0	16	16	32
National workshops	11	11	11	5	38
Provincial and local workshops	22	22	22	17	83
Capacity building	33	33	22	22	110
Technical assistance	11	17	17	11	56
Youth network (4 regions)	0	0	11	11	22
Total	**126**	**121**	**132**	**109**	**488**
Government	11	11	17	14	53
FCPF	**115**	**110**	**115**	**95**	**435**

Other Donors					
Activity	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Prepare local language media material	54	0	0	0	54
Conduct media campaign	90	0	0	0	90
Development and manage website	16	0	0	0	16
Publication of documents	45	45	50	45	180
SE Asia regional info sharing	50	50	50	50	200
Information sharing on outcomes of pilot activities	0	18	20	18	54
National workshops	18	18	20	18	72
Provincial and local workshops	221	221	246	221	884
Capacity building	15	15	20	15	60
Technical Assistance	18	18	20	18	72
Youth Network (4 regions)	20	20	20	20	80
Total	**547**	**405**	**405**	**405**	**1,762**

Component 1c: Summary of Consultation and Participation Activities and Budget					
Activity	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Regional level consultation and awareness raising	11	17	17	11	56
Local level consultation and awareness raising	28	28	28	28	112
TWG on stakeholder engagement	11	11	11	11	44
Training courses in determining the value of benefits	5	5	5	5	20
Establish and operate REDD+ CSO/LC platform	11	17	17	11	56
Environmental and social safeguards for REDD+	11	17	17	11	56
Establish benefit sharing mechanism	11	17	17	11	56
Develop grievance and feedback framework	28	28	28	28	112
Manage grievance mechanisms at different levels	11	33	33	33	110
Total	**127**	**173**	**173**	**149**	**622**
Government	12	18	18	14	62
FCPF	**115**	**155**	**155**	**135**	**560**

Other Donors					
Activity	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Regional level consultation	108	108	108	108	432
Local level consultation	20	20	20	20	80
Training courses in determining the value of benefits	90	90	90	90	360
Establish and operate REDD+ CSO/LC platform	18	18	18	18	72
Environmental and social safeguards for REDD+	45	45	45	45	180
Potential REDD+ projects and activities	20	20	20	20	80
Develop grievance and feedback framework	25	20			45
Manage grievance mechanisms at different levels	13	30	30	39	112
Disseminate grievance information	20	40	40	70	170
Total	**359**	**391**	**371**	**410**	**1,531**

Component 2a: Summary of Assessment of Land Use, Land Use Change Drivers, Forest Law, Policy and Governance Activities and Budget					
Activities	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Update driver analysis	17	11	0	0	28
Economic analysis of strategy options	11	17	0	0	28
Undertake regional assessments of drivers contribution to overall emissions	17	17	0	0	34
Prioritize drivers in terms of contribution to overall emissions	11	16			27
Undertake forest Governance assessment	11	11	0	0	22
Total	**67**	**72**	**0**	**0**	**139**
Government	7	7	0	0	14
FCPF	**60**	**65**	**0**	**0**	**125**

Other Donors					
Activities	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Update driver analysis	100	150	0	0	250
Economic analysis of strategy options	100	100	0	0	200
Undertake regional assessments of drivers contribution to overall emissions	20	0	0	0	20
Undertake forest Governance assessment	50	0	0	0	50
Total	**270**	**250**	**0**	**0**	**520**

Component 2b: Summary of Strategy Activities and Budget					
Activity	**Budget allocation in Thousand US$**				
	2014	**2015**	**2016**	**2017**	**Total**
TWG on REDD+ Strategy	11	11	11	11	44
Risk analysis and feasibility assessment	10	10			20
Technical workshops on REDD+ strategy	11	11	11	11	44
National/provincial/district workshops on readiness activities	11	11	11	11	44
Review existing research on alternative livelihoods	17	11	0	0	28
Study on domestic demand and trade of logs/timber	11	11	0	0	22
Stakeholder consultations	32	22	22	11	87
Meetings of cross-sector TWG include tourism	5	5	5	5	20
Processes EIAs & SIAs and biomass disposal regultaions	11	17	0	0	28
TWG meetings on land use policy and planning	19	22	22	22	85
Curriculum development and training courses	11	11	6	0	28
Discussion on potential pilot sites	11	11	0	0	22
Pilot participatory boundary demarcation	0	0	17	17	34
Forest certification	11	17	9	0	37
Total	**171**	**170**	**114**	**88**	**543**
Government	34	25	11	8	78
FCPF	**137**	**145**	**103**	**80**	**465**

Other Donors					
Activity	**Budget allocation in Thousand US$**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Technical workshops on REDD+ strategy	18	18	18	18	72
National/provincial/district workshops on readiness activities	180	180	180	180	720
Study on domestic demand and trade of logs/timber	150	15	0	0	165
Stakeholder consultations	45	45	0	0	90
Curriculum development and training courses	28	28	18	18	92
Pilot participatory boundary demarcation	250	250	0	0	500
Forest certification	105	90	0	0	195
Pilot tourism zoning and alternative livelihoods in reserved forest	800	800	800	800	3,200
Assessment and procurement of surveillance technology	100	20	20	0	140
SEA regional dialogue on drivers and strategy options	50	50	0	0	100
Capacity building for law enforcement	45	45	0	0	90
Biomass disposal	100	100	0	0	200
Total	**1,871**	**1,641**	**1,036**	**1,016**	**5,564**

Component 2c: Summary of REDD+ Implementation Framework Activities and Budget						
Main Activity	**Sub-Activity**	**Estimated Cost (in Thousand US$)**				
		2014	**2015**	**2016**	**2017**	**Total**
Regulatory framework	Establish national standards for REDD+	28	28	0	0	56
Financial management	Analyze existing funding mechanisms	11	0	0	0	11
	Establish REDD+ fund mechanisms	11	11	0	0	22
Benefit sharing system	Analyze and document of benefit sharing arrangements	0	0	11	11	22
	Analyze of future benefit sharing options	0	0	17	17	34
Information and knowledge management	Establish REDD+ clearing house	11	5	5	0	21
Capacity building	Raise awareness among stakeholders	11	6	6	5	28
	Provide REDD+ information to TF and stakeholders	11	5	5	6	27
	Finance and benefit sharing mechanism	6	11	11	11	39
Total		**89**	**66**	**55**	**50**	**260**
Government		9	6	5	5	25
FCPF		**80**	**60**	**50**	**45**	**235**

Other Donors						
Main Activity	**Sub-Activity**	**Estimated Cost (in Thousand US$)**				
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Regulatory framework	Establish national standards for REDD+	25	25	0	0	50
Financial management	Establish REDD+ fund mechanisms	0	13	0	0	13
Information and knowledge management	Establish REDD+ clearing house	30	30	20	30	110
Capacity building	Raise awareness among stakeholders	21	21	21	21	84
	Provide REDD+ information to TF and stakeholders	21	21	21	21	84
Total		**97**	**110**	**62**	**72**	**341**

Table 2d: Summary of Social and Environmental Impacts Assessment Activities and Budget						
Main Activity	**Sub-Activity**	**Estimated Cost (in Thousand US$)**				
		2014	**2015**	**2016**	**2017**	**Total**
Understanding social and environmental impacts	Identify potential SEIs for strategy options	11	11	0	0	22
	Baseline analysis of stakeholders and FDD drivers	5	5	0	0	10
	Social and environment impact analysis	17	17	0	0	34
	Establish monitoring framework	0	11	11	0	22
	Finalizing and reporting SESA	0	44	44	44	132
	TWG on SESA and safeguards	11	11	11	11	44
Safeguard	Designing safeguard information system	0	17	11	0	28
	Test the safeguard information system	0	0	0	22	22
Total		**44**	**116**	**77**	**77**	**314**
Government		4	11	7	7	29
FCPF		**40**	**105**	**70**	**70**	**285**

Other Donors						
Main Activity	**Sub-Activity**	**Estimated Cost (in Thousand US$)**				
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Understanding social and environmental impacts	Baseline analysis of stakeholders and FDD drivers	25	20	0	0	45
	Social and environment impact analysis	25	20	0	0	45
	Establish monitoring framework	20	0	0	0	20
	Finalizing SESA	50	0	0	0	50
	Undertake SEIA for pilot site(s)	50	50	0	0	100
	TWG on SESA and safeguards	25	25	25	25	100
Awareness raising	Preparation and publication of material	28	28	28	28	112
	Information sharing	28	28	10	10	76
Focus groups	Meetings to synthesize relevant experience	28	28	10	10	76
	Discussions on potential pilot sites	8	8	0	0	16
Total		**287**	**207**	**73**	**73**	**640**

Component 3: Summary of Reference Level Activities and Budget					
Activities	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Review and analyze existing information	11	11	0	0	22
TWG on REL an MRV	22	22	22	0	66
Develop model for emissions estimations under scenarios	11	11	11	0	33
Total	**44**	**44**	**33**	**0**	**121**
Government	4	4	3	0	11
FCPF	**40**	**40**	**30**	**0**	**110**

Other Donors					
Activities	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Review and analyze existing information	50	40	0	0	90
Acquire and rectify Satellite imagery	100	40	0	0	140
Calibration/vegetation plots	30	0	0	0	30
Promote development of national GIS data repository	85	0	0	0	85
Develop model for emissions estimations under scenarios	45	45	0	0	90
Integrate national and sub-national RELs	180	180	180	0	540
Prepare RELs for pilot sites	90	90	0	0	180
Total	**580**	**395**	**180**	**0**	**1,155**

Component 4: Summary of Monitoring Activities and Budget					
Activity	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Establish NFIS	11	17	17	0	45
Training and capacity building in MRV	0	11	5	0	16
Study scope for SEA regional monitoring	0	0	0	0	0
Develop guidelines for CBCM	0	0	11	0	11
Design national reporting format	0	11	6	6	23
Design national verification standards	0	0	6	6	12
Total	**11**	**39**	**45**	**12**	**107**
Government	1	4	5	2	12
FCPF	**10**	**35**	**40**	**10**	**95**

Other Donors					
Activity	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Pilot test THAIFORM design	180	180	0	0	360
Prepare & implement plan for re-measurement of PSPs	960	600	0	0	1,560
Purchase of equipment	500	200	0	0	700
Develop allometric equations, conversion factors and soil analysis	100	100	0	0	200
Establish NFIS	220	20	50	0	290
Training and capacity building in MRV	100	120	100	0	320
Study scope for SEA regional monitoring	10	10	0	0	20
Develop guidelines for CBCM	40	0	0	0	40
Monitoring social & environmental benefits	500	200	200	200	1,100
Design MRV system for pilot sites and implement	50	50	50	50	200
Total	**2,660**	**1,480**	**400**	**250**	**4,790**

Component 6: Summary of Program Monitoring and Evaluation Activities and Budget					
Activities	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Monitoring report preparation and dissemination	6	11	11	11	39
Progress meetings and workshops with stakeholders	0	11	11	11	33
Total	**6**	**22**	**22**	**22**	**72**
Government	1	2	2	2	7
FCPF	**5**	**20**	**20**	**20**	**65**

Summary of Total Budget in Each Component					
Component	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Total Component 1 (1a + 1b + 1c)	577	623	656	599	2,455
Total Component 2 (2a + 2b + 2c + 2d)	371	424	246	215	1,256
Total Component 3	44	44	33	0	121
Total Component 4 (4a + 4b)	11	39	45	12	107
Total Component 6	6	22	22	22	72
Total	**1,009**	**1,152**	**1,002**	**848**	**4,011**
Government	112	117	99	83	411
FCPF	**897**	**1,035**	**903**	**765**	**3,600**
Other Donors					
Component	**Estimated Cost (in Thousands US$)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Total Component 1 (1a + 1b + 1c)	1,631	1,021	1,001	1,040	4,693
Total Component 2 (2a + 2b + 2c + 2d)	2,525	2,208	1,171	1,161	7,065
Total Component 3	580	395	180	0	1,155
Total Component 4 (4a + 4b)	2,660	1,480	400	250	4,790
Total Component 6	0	0	0	0	0
Total	**7,396**	**5,104**	**2,752**	**2,451**	**17,703**

Donor Financial Support

Existing budgetary commitment by donors to activities identified in the R-PP are approximately as follows:

ITTO	US$ 220,000
WWF Treemaps Project	US$ 220,000
USAID-LEAF Regional Project expected benefit to Thailand	US$ 225,000
ADB[3]	US$ 300,000
Total	US$ 965,000

Moreover, Thailand will seek support from other donors, such as UNREDD, USAID, ITTO, WWF, GIZ, ADB and JICA for additional budget of the total of US$ 14,043,000.

[3] See Concept Note in Annex 5-1

COMPONENT 6: DESIGN A PROGRAM MONITORING AND EVALUATION FRAMEWORK

Standard 6 the R-PP text needs to meet for this component:
Design a Program Monitoring and Evaluation Framework

The R-PP adequately describes the indicators that will be used to monitor program performance of the Readiness process and R-PP activities, and to identify in a timely manner any shortfalls in performance timing or quality. The R-PP demonstrates that the framework will assist in transparent management of financial and other resources, to meet the activity schedule.

The REDD Preparation activities described above are intended to get Thailand ready over the next four years to be able to fully access global REDD+ funding from projects and from the compliance and voluntary markets, in whatever form they may develop. It will be important for Thailand to participate fully in international negotiations that will be necessary in the coming years, and the preparatory process also requires that experience gained from implementing a wide range of REDD+ related activities informs national policies and future activities as well as the government's position in international negotiations.

The REDD+ Readiness phase will be extremely complex to manage, because of the wide variety of activities and stakeholders involved, the innovative nature of many of the actions needed and the multiple funding sources that will be involved. The establishment of a REDD+ Office with full-time staff will be a vital component in managing the process but it will require sound Monitoring and Evaluation to ensure effectiveness and the achievement of overall objectives.

The purpose of the Monitoring and Evaluation Framework is to provide the REDD+ Office with the means to manage the REDD+ Readiness phase in an effective, efficient and transparent manner and ensure coordination between donors, identify gaps in activities necessary to implement the REDD+ strategy and assess and synthesise outputs from all activities.

The REDD + strategy will be developed in detail during the Readiness phase based on the results of the pilot studies that will be implemented and regular monitoring and evaluation will be essential. The table below provide the design and monitoring framework (Table 6-1).

Several of the pilot activities and much of the capacity building will be implemented by donor funded projects and it is essential that the REDD+ Office maintains a detailed register of all the activities as part of the overall monitoring process.

The first task of the REDD+ Office when it is established will be to produce a detailed work plan for the four years of the Readiness phase, to include all donor funded activities and any projects initiated by NGOs or the private sector aimed at the voluntary market. This work plan will enable the targets and indicators outlined below to be evaluated, elaborated and milestones set in accordance with the capacity available for implementation.

Further stakeholder consultations will be needed to confirm the Provinces and Tambons where activities aimed at reducing CO_2 emissions will be piloted and these

negotiations will determine the detailed time schedule for implementation. The REDD+ Office will carry out the monitoring and evaluation as shown in Table 6-1.

Table 6-1: The monitoring and evaluation will be carried out by the REDD+ Office with the support of, and information provided by the 77 provincial REDD+ Offices (see Figure 1a-3)

Outcome for component	Compo-nent	Output	Major activities	Indicators	Time frame
Efficient, effective and transparent implementa-tion of REDD+ Readiness programme	1a	Fully staffed and functioning REDD+ Office and REDD+ Information Center at national level and Regional REDD+ Offices established	• National and Regional REDD+ Offices and Information Center established, staffed, equipped and funding secured • TWG appointment	• National REDD+ Office • Regional REDD+ Offices • Information Center	2014 Quarterly review meetings
			• Support REDD+ readiness process -TWG meeting -Consultation workshop -Technical support -Capacity building -Attendance at International meetings	• Annual reports of REDD+ Office to REDD+TF	2014-2017 Biennial review meetings
	1c	National and provincial government agencies, private sector, NGOs and communities' capacity to implement REDD+ strengthened	• Stakeholder consultation workshops held biannually with REDD+ pilot activities	• Reports on stakeholder workshops and training modules	2014-2017
	2b	National REDD+ strategy finalized following comprehensive consultation process	• Develop REDD+ strategy for the period to 2020, developed and published in consultation with stakeholders	• Publish REDD+ strategy	2015
	2c	Financial mechanism and benefit sharing arrangement guideline	• REDD+ financial mechanism and benefit sharing arrangement designed and suggested through research analysis and consultation	• Financial and benefit sharing mechanism	2015-2017 Biennial review meetings
		Carbon registry system	• Develop carbon registry through stakeholder	• Carbon registry system	2015-2017 Biennial

Outcome for component	Compo-nent	Output	Major activities	Indicators	Time frame
			consultation		review meetings
	2d	Pilot activities for reducing emissions from deforestation in Reserved and in Protected Forest areas implemented.	• Participatory land-use planning, SEIA and emission reduction plans for a Reserved Forest and a Protected Area subject to land conversion • Safeguard information system	• Reports on -land-use change -SEIA -emission reduction plans • Reports on field site verification by provincial REDD+ Offices	2015-2017 Biennial review meetings
		Pilot activities for reducing emissions from forest degradation in Reserved and in Protected Forest areas implemented.	• Establish forest land information system • Intensive forest surveillance piloted • Study of domestic timber demand and consumption, including trade • Trials of intensified agriculture on selected sites • Local forest-dependent communities in selected sites adopt sustainable agroforestry system instead of shifting cultivation in primary forest	• Agency to collect and disseminate information on land use • Report on study and analysis of domestic production, trade and consumption of wood products. • Report on trials of agricultural intensification • Report with number of families ceasing shifting cultivation and CO_2 emissions avoided • Report confirming communities involved have adopted alternative systems. • Annual Report on evaluation of change in income and food security. • Reports on field site verification by provincial REDD+ Offices	2015-2016 Biennial review meetings

Outcome for component	Compo-nent	Output	Major activities	Indicators	Time frame
	3	Reference Emission Levels established	• National and provincial REL development, harmonizing forest area data	• Published national and provincial RELs	2014-2017 Biennial review meetings
	4a	System for MRV of emission reductions in place	• Revise national land use change • Revise forest cover base map • Assess national forest carbon stock • Develop national fire monitoring system • Community capacity building on carbon stock monitoring • Community participation in carbon stock monitoring • NFIS	• National report on GHG emissions and Climate Change • Published forest cover maps with 2010 data • Report on national carbon stocks • Community reports on changes in forest carbon stocks • Guideline for NFIS	2014-2017 Biennial review meetings
	4b	System for monitoring co-benefits	• Consultation with agencies currently collecting relevant data and identification of gaps. • Consultations on sharing data on co-benefits between agencies and collection of necessary additional data • Establishment of system for collating data on co-benefits and integrating with MFMS	• Report of inter-agency workshop • Report on workshop od data collection and sharing • National reports on REDD+ co-benefits	

The successful outcome from each of the Components is subjected to a number of assumptions and risks. These are set out in Table 6-2 below. Budget and activities are shown in Table 6-3.

Table 6-2: Assumptions and risks associated with each Component

Component	Assumptions and Risks
1a	**Assumptions** • NCCC given mandate for overall direction and supervision of REDD+ activities • REDD+ Office and TF established at national and provincial levels • Arrangements for managing REDD+ funding agreed and established • Full-time staff assigned to REDD+ Office • REDD+ TF meets quarterly • Government staff and stakeholder representatives made available for training • Government assigns sufficient staff and office space. **Risks** • Delays in disbursing funds • Insuffient qualified staff available
2b	**Assumptions** • Stakeholder support achieved. • Government approves proposed strategy • Stakeholder commitment for negotiating land-use changes to minimize CO_2 emissions secured • A Royal Irrigation Department and a mining company agree to rigorous SEIA and follow-up monitoring • All stakeholders agree an equitable benefit sharing arrangement. **Risks** • Stakeholders fail to agree to crucial parts of the proposed strategy • National or local political interference in land-use planning process
2c	**Assumptions** • Consensus reached on equitable benefit sharing arrangement **Risks** • Disagreement over benefit sharing arrangements insoluble.
2d	**Assumptions** • Selected Communities are able to fully comprehend and agree to the measures that they are expected to implement • Stakeholder commitment for negotiating land-use changes to minimize CO_2 emissions secured • Trials of surveillance equipment take place and are successful. **Risks** • National or local political interference in land-use planning process • Security forces fail to give permission for surveillance
3	**Assumptions** • RFD, DNP and DMCR able to collect complete data on harvesting in selected areas **Risks** • Government agencies fail to agree to share forestry data • Local forest-dependent communities fail to agree to adapt agricultural practices
4	**Assumptions** • Data on concessions for land-use change (agriculture, hydro-power,

Component	Assumptions and Risks
	mining etc) reported accurately and in a timely manner • Adequate and accurate data available from satellite and other sources • Techniques for carbon stock assessment defined and technical guidelines prepared **Risks** • Obstacles to acquisition of necessary data • Leakage proves difficult/impossible to monitor

Table 6-3: Summary of monitoring and evaluation activities and budget

Component 6: Summary of Program Monitoring and Evaluation Activities and Budget					
Activities	**Estimated Cost (in Thousands US$)**				
	2014	**2015**	**2016**	**2017**	**Total**
Monitoring report preparation and dissemination	6	11	11	11	39
Progress meetings and workshops with stakeholders	0	11	11	11	33
Total	**6**	**22**	**22**	**22**	**72**
Government	1	2	2	2	7
FCPF	**5**	**20**	**20**	**20**	**65**

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ANNEXES

Annex 1a: National Readiness Management Arrangements

Annex 1a-1: Forest activities in Thailand which has potential to inform REDD+ activities

Program	Implementing agency	Description of the project	Period
he Greater Mekong Subregion (GMS) Biodiversity Conservation Corridors Initiative (BCI)")"	DNP with financial support from ADB	The biodiversity conservation corridor initiative were implemented in the period 2006–2009 in the Tenasserim connecting Western Forest and Kaeng Krachan Complexes on the western border of Thailand with Myanmar. The BCI site covers 20 selected villages in two provinces: Ratchaburi and Kanchanaburi. Conducted activities divided to five components: (i) Poverty reduction (ii) Land use planning and land management (iii) Restoring ecosystem connectivity (iv) Capacity building (v) Sustainable financing	2006-2009
The project on "Developing Payment Mechanisms for Watershed Protection Services and Improved Livelihoods of Rural Poor: A Pilot Study in Critical Upland Watersheds of Thailand"	Faculty of Economics, Kasetsart University with financial support from Winrock International under the JDR 3rd Scholar Program	The project is in Mae Lao watershed, Wiang Papao District, Chiang Rai province, upper northern Thailand. Findings show that watershed conservation imposed opportunity costs to service providers at US$ 36 per household per year with the current subsidy of 20%. 95% of downstream beneficiaries wanted to compensate the upstream communities for the benefits of water stabilization they received.	2006-2008. No implement-tation of PES in the research site.
The case study about PES schemes in mainland SE Asia (Thailand and Lao PDR)	IRD Kasetsart University and France.	Mae Thang watershed with the area of 13,000 ha located in Phrae province, northern Thailand. Upstream villagers practice maize production. Ecosystem service addressed in the study is the control of soil erosion and sediment transport. (http://www.thecommonsjournal.org/index.php/ijc/article/view/131/62)	No implemen-tation of PES in the researched site

Program	Implementing agency	Description of the project	Period
The project on "Developing Small-holder Agro- forestry Carbon Offset Protocols for Carbon Financial Markets"	Mahasarakam University, Michigan State University, and National Research Council of Thiland	The site is located in Sakon Nakon province, northeast Thailand. Carbon sequestration measurement and monitoring. Technologies were trained to the communities. In the first phase (2007-2010), the project targeted on teak plantation of Inpaeng community network. The estimated annual sequestration rate for teak is 10.62 $tCO_2e/ha/yr$. Total 75,000 tonnes CO_2e were traded in 2011. The project duration is 15 years.	In the first phase, trading began in February 2011 for 2 years of 2000-2011.
Mangrove reforestation small-scale A/R CDM project in Chantaburi province	JICA and TGO with collaboration among RFD, DMCR and Chantaburi province	The project for capacity development and institutional strengthening for GHG mitigation. The site is Welu wetland located in coastal area of Chantaburi province, eastern Thailand. The area was designated as reserved forest in 1962 but mangrove forest was cut down for shrimp production during 1980-1990. The simplified baseline and monitoring methodology for small-scale CDM afforestation and reforestation project activities was implemented on wetlands. RFD, and DMCR have been implementing reforestation of mangrove along the coast	2011
The project on "Development of REDD Model Site in Thailand"	TGO and RFD supported by FAO the Technical Cooperation Programme (TCP) Facility	An assessment of 11 potential sites for establishing carbon project through forestry activities was undertaken. The sites were accessed according to Afforestation / Reforestation Clean Development Mechanism (AR-CDM) methodological tool for determining the additionality.	2010
The project on "Lowering Emissions in Asia's Forests (LEAF) Program"	DNP supported by USAID through WINROCK International	The project is aiming to reduce GHG emission from deforestation and forest degradation in ASEAN region including Thai, Cambodia, Laos, Vietnam, Papua New Guinea and Malaysia. The study site in Thailand includes four Biospherical Reserve Sites in Thailand	2012 ongoing

Annex 1a-2: List of organizations involved in REDD+ and their related activities in Thailand

Organization	Activities
Government Organizations	
Ministry of Natural Resources and Environment (MONRE)	National Climate Change Policy Committee REDD+ Taskforce Responsible agency for the implementation of UNFCCC and KP in Thailand Responsible for all state forest
Ministry of Agriculture and Cooperatives (MOAC)	Land use planning and mapping
Department of National Park, Wildlife and Plant Conservation (DNP)	Responsible for forest protected areas REDD+ Focal Point
Department of Marine and Coastal Resources (DMCR)	Responsible for mangrove forest areas Mangrove forest inventory
Royal Forest Department (RFD)	Responsible for reserved forests areas Forest inventory Community forest
Forest Industry Organization (FIO)	Responsible for state forest plantations
Provincial Natural Resource and Environmental Offices	All forest activities in the provincial levels
Forest Resource Management Regional Office	Forest resource management in the regional and provincial levels
Protected Area Regional Office	Protected area management in the regional and provincial levels
Mangrove Resources Conservation Office	Mangrove resources management in the regional and provincial levels
Office of Natural Resources and Environmental Policy and Planning (ONEP)	National focal point on climate change National GHG inventory
Pollution Control Department (PCD)	Protection and conservation of environment quality
Department of Environment Quality Promotion (DEQP)	Development of environment technology, natural resources and environment
Thailand Greenhouse Gas Management Organization (TGO)	Implementing agency on GHG emission reduction and DNA for CDM
Office of the National Economic and Social Development Board (ONESDB)	Set up the national economic and social development plans in relation to the forest sector
Geo-Informatics and Space Technology Development Agency (Public Organization) (GISTDA)	Satellite imagery
The Thailand Research Fund (TRF)	Research fund for REL development
Kasetsart University	Academic consultation
International Organizations	
The World Bank	Forest Carbon Partnership Facility – Readiness Preparation Plan for Thailand
Food and Agriculture Organization of the United Nations (FAO)	Technical Cooperation Programme Facility – Development of REDD model sites in Thailand

Organization	Activities
Asian Development Bank (ADB)	Capacity building on REDD+
International Tropical Timber Organization (ITTO)	National forest monitoring information system
Winrock International	Capacity building on REL and MRV
The Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC)	Training and capacity building on REDD+
Non-governmental Organizations	
Indigenous Peoples' Foundation for Education and Environment (IPFEE)	REDD+ strategy for forest-dependent and local communities
Green World Foundation	Raising awareness and capacity building
Thai Society of Environmental Journalists	Journalists
Thai Society of Environmental Journalists	Raising awareness and capacity building

Annex 1b: Information Sharing and Early Dialogue with Key Stakeholder Groups

Annex 1b-1: Multi stakeholder mapping exercise for early information sharing and dialogue in Thailand

Thailand is in the process of formulating their (R-PP) document to help reduce emissions from deforestation and degradation (REDD). The formulation of the R-PP requires Thailand to provide a road map for taking stock of the national situation with respect to deforestation, forest degradation, and the other REDD+ activities, and also for addressing this situation by undertaking analytical work, combined with public consultation on the core components of REDD+ readiness. It is understood that REDD+ has the potential to deliver significant benefits to forest-dependent communities, including the sustainable management of biodiversity, the provision of alternative livelihoods, equitable benefit sharing of revenues generated from emission reductions, etc. However, if not done appropriately, it also presents serious risks to livelihoods, security to land tenure, forest governance, culture, biodiversity, etc. For REDD+ programs to succeed in the long term, these risks have to be identified, reduced and mitigated, and stakeholders have to be involved in the formulation and implementation stages.

In order to ensure that the R-PP is formulated in an inclusive transparent and accountable way, it is acknowledged that REDD+ requires extensive information sharing with and consultation among relevant stakeholders including multi-sectoral government agencies, civil society, private sector, and local communities. This information sharing should establish a two way dialogue that will enabled stakeholders to:

- Understand what REDD+ means
- Share their views on the underlying causes of deforestation and forest degradation and their environmental/social impacts
- Share stakeholder experience and early views on previous programs to slow deforestation and manage forest in other lands, and governance issues associated with them
- Understand what the government plans to do in order to begin to develop the various component of the R-PP, and
- Understand what their roles will be and how they will remain engaged in supporting the government work in developing the R-PP and implementing early studies
- Identify the appropriate participatory structures, especially those at the local level that will help them to continually engage in the REDD+ process
- Identify suitable grievance mechanism at local and national level to enable stakeholders especially forest-dependent communities to seek redress

It is envisaged that conducting early information sharing and meaningful dialogue with relevant actors will ensure wide-range acceptance and interest in REDD+, but also build the trust of stakeholders and support their capacity to participate in REDD+ in a meaningful and effective way. Stakeholder mapping is therefore critical in helping to identify who are relevant stakeholders are? In which agro ecological zones and Regions are they based? How have they been using the forest and for what purpose? What kinds of forest changes have

they experienced over the past decades, how these changes occurred and who contributed to the changes in forest use?

Conducting this mapping exercise will help identify and target the relevant stakeholders for the information sharing and early dialogue for the R-PP process.

Definition of Stakeholders:

Stakeholders are defined as those individuals or groups affected by the outcome- either negatively or positively or those that could affect the outcome of any proposed interventions. They generally have an interest or a stake in the project and will include groups from the public and private sectors, as well as civil society, communities, ethnic group, and other forest dwellers who have an interest in the project. Stakeholder identification is an important step in averting any long term problems.

This Table provides an exhaustive list of who the stakeholders are

Region	Stakeholders	Regional Profile
North	Forest-dependent population, ethnic groups (Thai, Karen, Hmong, Akha, Lisu, Lua, etc.) community based forest network, grazers, coal mine, gold mine	Types of ecosystems: hill evergreen, pine, dry dipterocarp, mixed deciduous, dry evergreen, plantation. Teak is dominant in mixed deciduous forest in this area. The northern region is mountainous and was traditionally the most heavily forested area of the country which was deforested by several drivers such as agriculture, over-cutting, forest fires, grazing, fuelwood, tourism and poverty. Alternative land use and agricultural practices have been introduced to discourage shifting cultivation in this region especially in the mountainous area. Trans boundary migration labor, land conflicts problem as well as extension of commercial agriculture are also highlighted.
North-east	Forest-dependent population, community based forest network, local community, farmers,	Type of ecosystems: dry dipterocarp, dry evergreen, mixed deciduous, swamp, plantation, scrub forest on saline soil, pararubber plantation. The north-eastern constitutes approximately one third of the area of the Kingdom and comprises the Korat Plateau which is bounded on the north and east by the Mekong River. Largely owing to lower and erratic rainfall and poorer soils than in other parts of the country, This region have the lowest per capita income in the country, high level of deforestation and degraded area due to poverty and poor soil fertility. Trans boundary migration labor is commonly practiced in this region.

Region	Stakeholders	Regional Profile
South	Forest-dependent population, community based forest network, local community, farmers, miners, shrimp farmers	Types of eco-systems: Mangroves, rainforest, pararubber plantations, cultivated lands, swamps, fruit orchards. The southern peninsula has the highest rainfall in the country. It is the principal rubber-growing area and contains extensive alluvial deposits of tin. The forests of the south have been seriously overcut as elsewhere in the Kingdom. In recent years, the region has suffered from several flooding which are believed to have been amplified by deforestation and subsequent soil erosion. Agriculture is the main economy with production of commercial and subsistence food crops such as pararubber, palm oil, , coffee, and fruit orchards, etc. Expansion of commercial agricultural land is leading to degradation. Conversions of mangrove forest to commercial shrimp farms are highly extensive.
Central and east	Forest-dependent population, community based forest network, local community, farmers, shrimp farmers, charcoal makers, commercial plantations, mining industries	Type of eco-system: Mangroves, rainforest, mixed deciduous, dry evergreen, pararubber plantations, cultivated lands, swamps, fruit orchards. The central region is affectionately known as “Thailand’s rice bowl”. One of the world’s most fertile rice and fruit growing areas. Thailand’s eastern sea coast is among the most attractive and complete seaside destinations. Nature has endowed the area with mountains and beaches. Huge forest loss is caused by infrastructure development, urbanization and commercial (food crop) agriculture. Several industrial estates have been developed in this region.

Annex 1b-2: List of NGOs active in REDD+ activities in Thailand

NGO	REDD+ relevant activities
Regional Community Forestry Training Center (RECOFTC) - Center for People and Forests	An international NGO working closely with community forest, emphasizing on training and capacity building on REDD+.
World Wildlife Fund Thailand (WWF)	An international organization working on ecological conservation, focusing on training and capacity building
Indigenous People Foundation for Education and Environment (IPFEE)	Build capacity for forest-dependent and local communities to promote full and effective participation of local communities in a wide range of international policy processes relevant to them
The Rajapruek Institute Foundation	Forest restoration and building environmental awareness.
Thailand Development Research Institute (TDRI)	A public policy research institute, provides technical analysis (mostly in economic areas) to support long-term economic and social development
Raks Thai Foundation	Develop from CARE International. One mission is on natural resources and environmental management
Community Forest Network	Network of community forest which distribute throughout the country

Annex1b-3 The comment of The Thai Climate Justice

คณะทำงานเพื่อโลกเย็นที่เป็นธรรม
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โทรศัพท์ 02 – 952 5061 โทรสาร 02 – 952 5062

2 พฤศจิกายน 2555

เรื่อง ขอชี้แจ้งเหตุผลของการไม่เข้าร่วมการประชุมพิจารณาร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัส สำหรับประเทศไทย

เรียน คณะกรรมการพิจารณาร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัส สำหรับประเทศไทย

ตามที่ทางกรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช ได้ส่งหนังสือเชิญประชุมคณะทำงานเพื่อโลกเย็นที่เป็นธรรม เพื่อเข้าร่วมประชุมให้ข้อคิดเห็นและข้อเสนอแนะต่อร่างโครงการฯ ซึ่งคณะทำงานฯได้รับจดหมายเมื่อวันที่ 2 พฤศจิกายน 2555 นั้น ทางคณะทำงานฯ จึงใคร่ขอแจ้งกลับไปยังคณะกรรมการพิจารณาร่างข้อเสนอโครงการฯ ว่าไม่สามารถเข้าร่วมการประชุมดังกล่าวได้ เนื่องด้วยเหตุผลที่สำคัญ ดังนี้

ประการแรก การรับฟังความคิดเห็นขาดหลักการการมีส่วนร่วมในการตัดสินใจและเพียงพอ เนื่องจากการจัดรับฟังความคิดเห็นที่ทางกรมอุทยานฯ แจ้งว่าได้ดำเนินการไปก่อนหน้านี้แล้วจำนวน 2 ครั้ง ๆ ละ 4 ภาคนั้น ทางคณะทำงานฯ เห็นว่า ผู้มีส่วนได้ส่วนเสียไม่ครอบคลุมผู้ที่จะได้รับผลกระทบโดยตรงจากโครงการฯ โดยเฉพาะเครือข่ายหรือกลุ่มเกษตรกรที่อาศัยและทำกินอยู่ในเขตพื้นที่ป่าอนุรักษ์ อีกทั้งกระบวนการรับฟังความเห็นยังดำเนินการอย่างเร่งรีบและรวบรัด

ประการที่สอง เนื้อหาหรือหัวข้อในการรับฟังความเห็น กำหนดประเด็นเฉพาะในโครงการเตรียมความพร้อมฯ ซึ่งคับแคบและไม่สอดคล้องกับสถานการณ์ปัญหาป่าไม้-ที่ดินที่ดำเนินมาแต่ประวัติศาสตร์ และยังคงดำรงอยู่ในปัจจุบัน ซึ่งชุมชนในพื้นที่ป่าและเป็นผู้มีส่วนได้ส่วนเสียสำคัญเห็นว่าประเด็นสิทธิชุมชนมีสำคัญและจำเป็นต้องมีรูปธรรมการแก้ไขปัญหาที่ชัดเจน ก่อนที่จะมีการดำเนินการใดๆ เกี่ยวกับเรดด์พลัส

ดังนั้น ทางคณะทำงานเพื่อโลกเย็นที่เป็นธรรม จึงขอชี้แจงเหตุผลที่ไม่เข้าร่วมประชุมมา ณ โอกาสนี้

ขอแสดงความนับถือ

นางสาวพรพนา ก๊วยเจริญ
คณะทำงานเพื่อโลกเย็นที่เป็นธรรม Ekungterra@hotmail.com
(081-692-8701)

Annex1b-4(1) Comments of local forest dependant communities on REDD+ R-PP

แบบแสดงข้อคิดเห็นและข้อเสนอแนะ
ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย
(Thailand Readiness Preparation Proposal: R-PP)

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ชื่อ-สกุล นาย ประกาย, [illegible]
ตำแหน่ง ประธานเครือข่าย ป่าชุมชน จังหวัดขอนแก่น
ชื่อหน่วยงาน/บริษัท..
เบอร์โทรศัพท์ 0828483220-0828599594 โทรสาร........................
E-mail address..

( ) ไม่มี

(✓) มี กระผมในฐานะที่เป็นผู้ดูแลป่าทางภาคอีสาน ความจำเป็นของ
แต่ละพื้นป่านั้นแตกต่างกัน แต่ที่เหมือนกันคือ งบประมาณ
ในการดูแล ส่งเสริมให้ดำเนินงานนั้นยังขาดแคลนอยู่มาก ป่าที่เราดูแล
ทุกปี หากได้มีการดูแลรักษาก็คาดว่าจะอยู่ตลอด เช่น [illegible]
หากแต่ละพื้นป่ามีเครื่องไม้เครื่องมือในการดูแลรักษา - งบประมาณ
สนับสนุนมันก็จะได้ผลดี คนรู้ไม่ตอบจากสนับสนุนงบประ
มาณทางรัฐไม่ได้ก็เสียหาย หากพองไม่มีความสำคัญของป่าไม้

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่
กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช
สำนักวิจัยการอนุรักษ์ป่าไม้และพันธุ์พืช ส่วนสิ่งแวดล้อมป่าไม้
๖๑ ถนนพหลโยธิน แขวงลาดยาว เขตจตุจักร
กรุงเทพฯ ๑๐๙๐๐
หรือ โทรสาร ๐ ๒๙๔๐ ๗๔๗๑ หรือ E-mail: envdnp@mail.com
สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex1b-4(2) Comments of local forest dependant communities on REDD+ R-PP

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แบบแสดงข้อคิดเห็นและข้อเสนอแนะ

ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย

(Thailand Readiness Preparation Proposal: R-PP)

....

ชื่อ-สกุล นาย ชาย ศรีลากุล

ตำแหน่ง ประธานเครือข่ายป่าชุมชน จังหวัดยโสธร

ชื่อหน่วยงาน/บริษัท เครือข่ายป่าชุมชน จังหวัดยโสธร

เบอร์โทรศัพท์ 084-8268923 โทรสาร

E-mail address

( ) ไม่มี

(✓) มี ก็เป็นข้อดีที่เราคนไทยต้องการรักษาพื้นที่ป่าไม้ไว้ให้ลูกหลานในอนาคต ซึ่งอาจเป็นผลดีต่อโลกของเรา ถึงแม้ว่าคาร์บอนนี้จะยังไม่มีข้อตกลงว่าจะเป็นการอนุรักษ์ป่าที่เป็นเชิงพาณิชย์ที่แต่ละประเทศจะรับข้อเสนอมาว่าจะทำเพื่อโลกของเราลดภาวะโลกร้อนปลูกต้นไม้ และชดเชยที่ประเทศที่พัฒนาแล้วนำเงินมาลงทุนซื้อคาร์บอนของประเทศที่สามารถปลูกต้นไม้ทดแทนได้ แต่ในอนาคตอาจเป็นผลเสียก็ได้ ถ้าแต่ละประเทศเอาเงินไปลงทุนซื้อคาร์บอนมากๆ แต่ประเทศตนเองปล่อยก๊าซเรือนกระจกมากกว่าเดิม ก็ไม่มีประโยชน์ที่ประเทศที่รับข้อเสนอมาปลูกป่าทดแทน เพราะว่าที่ดีที่สุดคือการที่ประเทศแต่ละประเทศต้องช่วยกันลดภาวะเรือนกระจกลดลง แล้วมาปลูกป่ากันอย่างจริงจังเสียที ไม่ใช่ปลูกเพราะเป็นการค้าขายป่าไม้เชิงพาณิชย์ เพราะถ้ามีการปลูกป่าที่หวังค่าตอบแทน แต่ไม่ตระหนักถึงความสำคัญจริงๆ ของป่าไม้ก็เท่ากับว่า เราไม่สามารถที่จะสร้างสิ่งแวดล้อมทรัพยากรณ์ป่าไม้ให้อยู่กับเราชั่วชีวิตตลอดไปได้

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่

กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช

สำนักวิจัยการอนุรักษ์ป่าไม้และพันธุ์พืช ส่วนสิ่งแวดล้อมป่าไม้

61 ถนนพหลโยธิน แขวงลาดยาว เขตจตุจักร

กรุงเทพฯ 10900

หรือ โทรสาร 0 2940 7471 หรือ E-mail: envdnp@mail.com

สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex1b-4(3) Comments of local forest dependant communities on REDD+ R-PP

14-DEC-2012 10:45 P.01

แบบแสดงข้อคิดเห็นและข้อเสนอแนะ
ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย
(Thailand Readiness Preparation Proposal: R-PP)

ชื่อ-สกุล นาย[illegible] [illegible]
ตำแหน่ง ประธาน
ชื่อหน่วยงาน/บริษัท ป่าชุมชน[illegible] ม.16 ต.[illegible] อ.[illegible] [illegible]
เบอร์โทรศัพท์ 084 0841059 โทรสาร
E-mail address

( ) ไม่มี

(✓) มี 1. ควรเพิ่มมาตรการ[illegible]ให้ประชาชน [illegible] ควบคู่ไปกับการเสริมสร้างความเข้มแข็งให้แก่ประชาชน

2. ควรหนุนเสริมพลังการมีส่วนร่วมของประชาชน ทุกภาคส่วน [illegible]

3. ภาครัฐ หรือ องค์กรปกครองส่วนท้องถิ่น (อปท.) หนุนเสริมงบประมาณ – ตามความเหมาะสม [illegible]

4. ให้ความรู้ [illegible]

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่
กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช
สำนักวิจัยการอนุรักษ์ป่าไม้และพันธุ์พืช ส่วนสิ่งแวดล้อมป่าไม้
๖๑ ถนนพหลโยธิน แขวงลาดยาว เขตจตุจักร
กรุงเทพฯ ๑๐๙๐๐
หรือ โทรสาร ๐ ๒๙๔๐ ๗๔๗๑ หรือ E-mail: envdnp@mail.com
สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex1b-4(4) Comments of local forest dependant communities on REDD+ R-PP

แบบแสดงข้อคิดเห็นและข้อเสนอแนะ
ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย
(Thailand Readiness Preparation Proposal: R-PP)

ชื่อ-สกุล นาย วิลชัย เกเหวาย
ตำแหน่ง ประธานเครือข่ายป่าชุมชน จ.อุตรดิตถ์
ชื่อหน่วยงาน/บริษัท
เบอร์โทรศัพท์ 089-2704104 โทรสาร
E-mail address 081-0419903

( ) ไม่มี

(✓) มี ขอให้มีการสนับสนุนเรื่องงบประมาณ เรื่องของการจัดการทรัพยากรป่าชุมชน เพราะป่าชุมชนขาดงบฯ [illegible] เรื่องงบประมาณ ป่าชุมชนมีประโยชน์กับพื้นที่ที่มีความใกล้ชิด และพึ่งพาป่า ดูแลรักษาป่าของชุมชนและความหลากหลายทางชีวภาพ พื้นที่ป่าชุมชนในอุตรดิตถ์ มีถึง 105 ป่าชุมชน เครือข่ายป่าชุมชน จ.อุตรดิตถ์ จึงให้ความเห็นชอบต่อโครงการเรดด์พลัส ที่ให้ความสำคัญกับป่า และป่าชุมชนต่างๆ ได้รับประโยชน์ต่อโครงการนี้

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่
กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช
สำนักวิจัยการอนุรักษ์ป่าไม้และพันธุ์พืช ส่วนสิ่งแวดล้อมป่าไม้
๖๑ ถนนพหลโยธิน แขวงลาดยาว เขตจตุจักร
กรุงเทพฯ ๑๐๙๐๐
หรือ โทรสาร ๐ ๒๙๔๐ ๗๔๗๑ หรือ E-mail: envdnp@mail.com
สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex1b-4(5) Comments of local forest dependant communities on REDD+ R-PP

FROM : MAEKAJAN COLOR LAP FAX NO. : 053789599 Dec. 11 2012 10:00PM P1

แบบแสดงข้อคิดเห็นและข้อเสนอแนะ
ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย
(Thailand Readiness Preparation Proposal R-PP)

ชื่อ-สกุล [illegible]
ตำแหน่ง ผู้ใหญ่บ้าน [illegible] อ.เวียงป่าเป้า จ.เชียงราย
ชื่อหน่วยงาน/บริษัท
เบอร์โทรศัพท์ 081-9380914 โทรสาร
E-mail address

( ) ไม่มี

(✓) มี การดำเนินกิจกรรม [illegible]

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่
กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช
สำนักวิจัยการอนุรักษ์ป่าไม้และพันธุ์พืช ส่วนสิ่งแวดล้อมป่าไม้
๖๑ ถนนพหลโยธิน แขวงลาดยาว จตุจักร
กรุงเทพฯ ๑๐๙๐๐
หรือ โทรสาร ๐ ๒๙๔๐ ๗๔๗๑ หรือ E-mail: envdnp@mail.com
สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex1b-4(6) Comments of local forest dependant communities on REDD+ R-PP

แบบแสดงข้อคิดเห็นและข้อเสนอแนะ
ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย
(Thailand Readiness Preparation Proposal: R-PP)

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ชื่อ-สกุล นาย สำฤทธิ์ เสน่ห์
ตำแหน่ง ประธานป่าชุมชน
ชื่อหน่วยงาน/บริษัท..........
เบอร์โทรศัพท์ 08-9936-2878 โทรสาร..........
E-mail address..........

(✓) ไม่มี

( ) มี..........
ข้อคิดเห็น ไม่ทำเพื่อนายทุน ไม่ทำเพื่อพวกพ้อง ดีกว่าอนุรักษ์
ต้อง คงอยู่ อย่างสมบูรณ์ มิใช่ เช่น ปัจจุบัน อนุรักษ์ดีแล้ว ชาวบ้าน
แต่คนมีสีหรือพวกทำลาย พร้อมเจ้าหน้าที่รัฐ ทำลายป่า
จึงอยากให้ท่าน ออกมาตรการดูแล ดีกว่าอนุรักษ์ที่ เขาหักหลัง หรือเขา
รับประกัน (ระยะยาว) ดูแลป่าไม้ไว้ อันนี้คือ ความเห็นผม ของฝาก
มาถึงท่านอย่าใช้ดีกว่าป่าอนุรักษ์จริงๆ (ความเห็นส่วนตัว
จากคนผู้รักป่า) เพราะเมื่อก่อนเคยมีมาก แต่ปัจจุบันไม่มีเพราะ

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่
กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช
สำนักวิจัยการอนุรักษ์ป่าไม้และพันธุ์พืช ส่วนสิ่งแวดล้อมป่าไม้
๖๑ ถนนพหลโยธิน แขวงลาดยาว เขตจตุจักร
กรุงเทพฯ ๑๐๙๐๐
หรือ โทรสาร ๐ ๒๙๔๐ ๗๔๗๑ หรือ E-mail: envdnp@mail.com
สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex1b-4(7) Comments of local forest dependant communities on REDD+ R-PP

แบบแสดงข้อคิดเห็นและข้อเสนอแนะ
ต่อร่างข้อเสนอโครงการเตรียมความพร้อมต่อกลไกเรดด์พลัสสำหรับประเทศไทย
(Thailand Readiness Preparation Proposal: R-PP)

ชื่อ-สกุล นาย ประยง ทองอ่อน
ตำแหน่ง ประธานเครือข่าย ป่าชุมชน จังหวัดขอนแก่น
ชื่อหน่วยงาน/บริษัท
เบอร์โทรศัพท์ 0828483220-0828599594 โทรสาร
E-mail address

( ) ไม่มี

(✓) มี กระผมในฐานะที่เป็นผู้ดูแลป่าทางภาคอีสาน ความจำเป็นของแต่ละพื้นป่านั้นแตกต่างกัน แต่ที่เหมือนกันคือ งบประมาณในการดูแล ส่งเสริมให้ดำเนินต่างหากมีผลใช้ได้เหลืออยู่มาก ป่าที่เราปลูกทุกปี หากไม่มีการดูแลรักษาก็ยากที่จะอยู่รอดเจริญเติบโต หากแต่ละพื้นป่ามีเครื่องไม้เครื่องมือในการดูแลรักษา - งบประมาณ สนับสนุนมันก็จะได้ผลดี คนรู้ไม่ต้องจากสนับสนุนงบประมาณมากมายอะไร ได้คือเสียหาย หากมองเห็นความสำคัญของป่าไม้

กรุณาส่งแบบแสดงข้อคิดเห็นและข้อเสนอแนะ มาที่
กรมอุทยานแห่งชาติ สัตว์ป่า และพันธุ์พืช
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๖๑ ถนนพหลโยธิน แขวงลาดยาว เขตจตุจักร
กรุงเทพฯ ๑๐๙๐๐
หรือ โทรสาร ๐ ๒๙๔๐ ๗๔๗๑ หรือ E-mail: envdnp@mail.com
สามารถดาวน์โหลดเอกสารร่าง R-PP ได้ที่ www.dnp.go.th/environment

Annex 1b-5 : World Bank /LEAF Funded Workshop

World Bank /LEAF Funded Workshop: CSOs/Local Community/Women/Ethnic Group Review of Draft Thailand Readiness-Preparation Proposal (R-PP)

March 7-8, 2013

Background Information:

The Forest Carbon Partnership Facility (FCPF) is helping build the capacity of developing countries (36) in tropical and subtropical regions to reduce emissions from deforestation and forest degradation, forest carbon stock conservation, the sustainable management of forests and enhancement of forest carbon stocks (REDD+) as well as to tap into future system of financial incentives for REDD+. (For more information on the FCPF, visit www.forestcarbonpartnership.org)

The Readiness Fund provides readiness preparation grants to REDD+ countries (up to $3.8 million each) for the following activities:

i. Preparing a national REDD+ strategy;
ii. Establishing a reference level for forest emissions and forest cover;
iii. Designing a national REDD+ monitoring system; and
iv. Setting up national REDD+ management arrangements.
v. Integrating environmental and social safeguards in REDD+
vi. Ensuring broad based consultations and participation of relevant stakeholders, especially forest dependent indigenous peoples and other forest dwellers in decision making for REDD+.

The government of Thailand is one of the FCPF countries and has recently prepared their draft R-PP under DNP as the focal point for REDD+ in the country. Thailand will submit and present their R-PP requesting approval to the Participants Committee (consist of Donors and REDD+ Country Participants) of the FCPF in March 2013. Prior to this event, the World Bank in collaboration/partnership with the USAID funded Lowering Emissions in Asia's Forests (LEAF)Program will be organizing a day and half workshop exclusively targeting representatives from CSOs and forest dependent local community groups, ethnic groups, and women and youth groups to enable them to review the draft R-PP and provide technical inputs into the relevant component of the R-PP.

LEAF is a five year USAID funded program engaging regional governments, forestry and climate mitigation specialists, and relevant stakeholders in capacity building focused on REDD+. The program's goal is to strengthen the capacity of targeted Southeast Asian countries to achieve meaningful and sustained reductions in greenhouse gas emissions from the forestry-land use sector and to allow these countries to benefit from the emerging international Reduced Emissions from Deforestation and Forest Degradation (REDD+) framework.

Rationale for the Workshop:

It is now acknowledged that REDD+ has the potential to deliver significant benefits to local forest dependent communities, including the sustainable management of biodiversity, the provision of alternative livelihoods, and equitable benefit sharing of revenues generated from emission reductions. However, it is also recognized that REDD+ may pose potential serious risks to livelihoods, security to land tenure, forest governance, culture, biodiversity, gender-

equity etc. For REDD+ programs to succeed in the long term, these risks have to be identified, reduced and mitigated. To achieve this, it isessential for forest dependent communities and ethnic groups to be involved in the formulation and implementation of the REDD+ readiness processes. This requires their active engagementand participation in: i) setting up inclusive and transparent institutional arrangement/management for REDD+, ii) analysis of the drivers and underlying causes of D&D, iii) designing pro poor REDD+ gender sensitive strategy options, benefit sharing and grievance mechanisms, iv)consultation &participation processes, and v) reviewing social and environmental impacts associated with REDD+, as well as setting in place good monitoring systems etc.

With these goals in mind, the World Bank in partnership with the USAID funded LEAF program will be hosting a one and a half day workshop to provide opportunity for CSOs and local community/ethnic groups engaged in the REDD+ process[i] to review the Thailand R-PP draft and provide technical inputs into the various components of the document. This workshop is in addition to the several regional workshops already implemented by DNP targeting this particular stakeholder groups. The general objective is to familiarize the participants on REDD+, allow the DNP to present the Draft R-PP, and receive feedback from stakeholders.

The Specific Objectives of this workshop are to enable participants to review and provide recommendations on the following:

- Design of effective consultation and participation framework
- Proposed institutional arrangements
- Drivers and underlying causes of D&D
- REDD+ strategy options
- Social and environmental impacts
- Inclusion of co-benefits and/or safeguards such as indigenous and women's rights in MMRV systems

Besides, this workshop will provide opportunity for participants to discuss whether the CSO platform in Thailand should be set up.

Methodology for Delivering the Workshop:
The workshop will be extremely participatory. Two presentations will be made: a brief overview of the FCPF and REDD+, followed by Thailand R-PP presentation. The workshop in its entirety will then focus on interactive group exercises- whereby participants will be divided into groups based on the components of the R-PP and facilitated to discuss, review and provide their views/inputs.

Outputs:
The inputs provided will be incorporated directly into the relevant components of the R-PP

Venue: World Bank Office:
30th Fl, Siam Tower, 989 Rama 1 Road,
Pathumwan, Bangkok,10330,Thailand
Tel: (66) 2 686 8358

Workshop Dates: March 7-8, 2013

Workshop Organizers:

LEAF Program: Luke Pritchard-l.pritchard@climatefocus.com
World Bank: Haddy J. Seyhsey@worldbank.org

Annex 1b-6: Summary of dilemma, good practices and prospects from REDD+ local dialogues and stakeholder consultations

Dilemma	Good practice	Prospects from REDD+
▪ More fertile forests lead to infestation of disease-transmitted animals such as mosquitoes, crops and properties damaged by wild animals, elephants and wild pigs in particular, as a result of an increase in wildlife population. ▪ Community's conflicts in resources use due to individual loss of benefits and violation of community rules, limit expansion of farm land. ▪ Decrease in size of farm land which is insufficient to distribute among family members resulting in less income and more debt. ▪ Change in way-of-life among community population such as local knowledge-based agricultural practices. ▪ Limit expansion of urban and community areas leading to the problems of slum and slum environment, crime as a result of migration, mobilization of labor. ▪ Government budget allocated for REDD+ activities may result in reduction of national income from agricultural sector as well as budget cut in other sectors. ▪ Increased community's responsibility to safeguard the forests, participation in project activities and meetings causes the loss of income from their regular activities. ▪ Government sector loose authority in natural resources management caused inefficient management which may affect project implementation ▪ Unclear definition of "forest", communities may	▪ Stakeholders (community forest networks, ethnic groups, forest-use groups, forest-dependent communities, youth and women groups) fully and equitably participate in forest resource management. ▪ Communities undertake activities on tree planting and/or natural restoration of degraded forest using local knowledge such as forest (tree) ordination, community forest networking, sacred forest, with regular monitoring. ▪ Local livelihood development, improvement of agricultural practices with conservation-based agriculture, productivity improvement, product value-adding, self-sufficiency basis through learning-by-doing process and local research. ▪ Establishment of community forest networks which are very strong networking covering over 8,000 community forests. ▪ Community's management of "community forest" and "conservation forest" with community rules and regulations under joint agreement with government agency, such as Tambon Maeta Rules: an agreement between Maeta Community and Maeta Tambon Administration Organization. ▪ Establishment of knowledge dissemination center for sustainable conservation and utilization of forest resources, a forum for exchange of knowledge and experience, and follow-up the situations in each area, such as Samkha	▪ Fertile forests with high biodiversity help reduce the damages from natural disaster, communities enjoy the services of natural resources (soil. water and forests) as a source of food , fiber, fuel, medicinal plants, organic composite, tourism, and better health conditions of local people. ▪ Alternative livelihood for local communities with more and consistent income. ▪ Confidence of communities upon land use and management systems of land, water, forest and farming practices leading reduction of community conflicts on resource use. ▪ Reduction of government workload through financial arrangements to communities for participatory forest management and creation of good relations between villagers and government officers. ▪ Learning opportunity and knowledge creation for forest resource management as well as preservation and utilization of local knowledge. ▪ Awareness on value of forest resources among communities. ▪ Extension of community activities (on forest resource management) through direct financial arrangements to community. ▪ Real decentralization of administration to local communities, with community participation at early stage of operation. ▪ Capacity building for government officers, communities, NGOs and

Dilemma	Good practice	Prospects from REDD+
lose their access to the resource in the project-supported area.	Community Forest of Nam Jang Watershed Network. ▪ Incorporation of forest resource conservation, sustainable forest management and traditional local livelihood in school curriculum. ▪ Community's awareness of the issues on climate changes as indicated by active participation in training on forest carbon stock assessment in community forests with support of independent academia. ▪ Application of technical knowledge in forest fire management in community forest area as a source of food and income of local people. ▪ Government agencies such as DNP, RFD initiation of projects on promotion of local community participation in forest management with budget arrangements to participating communities and awards to outstanding communities in forest management, private corporation's activities such as PTT Green World Project, SCG Project on check dam construction in community forests to promote community participation in forest management.	relevant stakeholders involved in participatory forest management. ▪ Strong networks for forest resource management through supports from the Project.

Annex 2d: Social and Environmental Impact Assessment

Annex 2d-1: List of baseline data on social and environmental problems

Issue related to REDD+ Project	Details	Relevant national documents	Relevant agencies
Economic development	The REDD+ implementation can potentially influence the economic development both in macro and micro scales (income from REDD+ payments, modification of taxes, effects on food and commodity prices, labour force and employment, different land-use, availability of products from the forestry sector *etc.*).	• The Eleventh NESDP (2012-2016) • Labor Protection Act of (B.E. 2541) • Government Economic Policy	• Ministry of Commerce • Ministry of Labor • Ministry of Finance
Poverty alleviation	The REDD´s effects on poverty can be assumed (infrastructure improvements, new livelihood opportunities for the poor, effects on food and commodity prices, labour force and employment, enhancing skills and knowledge of local communities)	• The Eleventh NESDP (2012-2016) • Labor Protection Act (B.E. 2541) • The Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 • Government Policy on Living Quality Development	• Ministry of Commerce • Ministry of Labor • Ministry of Finance
Education	The REDD+ implementation can involve raising awareness and educational measures.	• The Eleventh NESDP (2012-2016) • National Education Act • Government Policy on Education • Ministry of Education's Education Management for Climate Change Studies	• Ministry of Education
Agriculture	The REDD+ implementation can have potential effects to the agriculture (changes in the land-use policies, preventing agricultural	• The Eleventh NESDP (2012-2016) • Agricultural Development Plan under the Eleventh NESDP (2012-2016)	• Ministry of Agriculture and Cooperatives • Land Reform for Agriculture Committee

Issue related to REDD+ Project	Details	Relevant national documents	Relevant agencies
	expansion, improved agriculture practices, opening new markets *etc*.)	• Land Reform for Agriculture Act (B.E. 2518)	• Ministry of Commerce
Vulnerable group	The effects of the REDD+ implementation (changes of land use practices, land acquisition etc.) can be very significant for ethnic groups, since they are in many cases solely depending on the current land use.	• The Eleventh NESDP (2012-2016)	• National Human Rights Committee
Rural development	The REDD´s effects to the rural development are related to the influence of the REDD+ to the overall economy development and poverty (effects on food and commodity prices, labour force and employment, different land-use, effects to agriculture *etc*.).	• The Eleventh NESDP (2012-2016) • (Labor Protection Act (B.E. 2541) • The Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 • Government Policy	• Ministry of the Interior • Ministry of Natural Resources and Environment • Ministry of Commerce • Ministry of Labor • Ministry of Agriculture and Cooperatives
Resettlement	The REDD+ implementation can result in changes of land use practices and influence the land acquisition, and thus lead to resettlement of people inhabiting rural and forest areas.	• The Eleventh NESDP (2012-2016) • Government Policy • Law relevant with compensation.	• Ministry of Labor • Ministry of the Interior • Ministry of Natural Resources and Environment
Waste management	The REDD+ implementation can potentially change trends in waste management in the forestry and agriculture sectors as well as municipal waste management systems in rural areas.	• The Eleventh NESDP (2012-2016) • The National Environmental Quality Promotion and Preservation Act, B.E. 2535	• Ministry of Natural Resources and Environment
Energy management	The REDD+ might influence planning and specific projects in the energy sector (especially hydropower and renewable energy use). The REDD+ measures can also influence the energy efficiency in the forestry sector.	• National Energy Policy • Ten-Year Renewable and Alternative Energy Development Plan (B.E. 2555-2564) • Twenty-Year Energy Conservation Plan (B.E. 2554-2573) • The Eleventh NESDP (2012-2016) • The National Environmental	• Ministry of Energy • Ministry of Natural Resources and Environment

Issue related to REDD+ Project	Details	Relevant national documents	Relevant agencies
		Quality Promotion and Preservation Act, B.E. 2535	
Transportation	The REDD+ measures can include also transport planning especially in the rural areas.	• The Eleventh NESDP (BE 2012-2016) • The National Environmental Quality Promotion and Preservation Act, B.E. 2535 • Master Plan for Sustainable Development of Transportation Systems and Mitigation of Impacts of Climate Change from Transport and Transportation Sectors for B.E. 2556-2560 • Pilot Project on Sustainable Transportation System and Mitigation of Climate Change Problems	• Ministry of Transport • Ministry of Natural Resources and Environment
Tourism	The REDD+ can include activities and measures potentially promoting tourism development in specific areas and *vice versa* the REDD+ implementation can be influenced by the tourism development.	• Tourism Development Plan (2012-2016) • Strategic Plan for Tourism Development (2012) • The Eleventh NESDP (2012-2016)	• Ministry of Tourism and Sports • National Tourism Policy Committee • Ministry of Natural Resources and Environment
Human health	The REDD+ implementation can lead to changes of the health status of the population (incidence of infectious diseases, job-related injuries) as well as to affect the access to the health care and medical services.	• National Health Act (B.E. 2550) • National Mental Health Act (B.E. 2551) • National Health System Statute B.E. 2552 • The Eleventh National Health Development Plan (2012-2016)	• Ministry of Public Health • Office of National Health Committee
Climate and climate changes	The REDD+ implementation should optimally directly contribute the decreasing emissions of greenhouse gases.	• National Strategy on Climate Change Management (2008-2012) • National Master Plan for Climate Change (2010-2019)	• Ministry of the Interior • Ministry of Natural Resources and Environment • Ministry of Agriculture and

Issue related to REDD+ Project	Details	Relevant national documents	Relevant agencies
			Cooperatives • National Climate Change Policy Board • Thailand Greenhouse Gas Management Organization; TGO.
Air	REDD+ implementation should result in changes in forestry practices and thus influence the effects of the forestry sector to the air (preventing burning for example).	• The National Environmental Quality Promotion and Preservation Act, B.E. 2535 • National Strategy on Climate Change Management (2008-2012) • National Master Plan for Climate Change (2010-2019)	• Ministry of Natural Resources and Environment
Land and soil	The REDD+ implementation can influence the soil – soil erosion (through improved forestry practice, slower deforestation), soil pollution (measures in agriculture). The land-use planning at the national, provincial and local level should be taken into account during the REDD+ preparation and implementation.	• The National Environmental Quality Promotion and Preservation Act, B.E. 2535 • Land Reform for Agriculture Act (B.E. 2518) • The Eleventh NESDP (2012-2016) • Agricultural Development Plan under 11th National Economic and Social Development Plan (2012-2016)	• Ministry of Natural Resources and Environment • Ministry of Agriculture and Cooperatives
Water	The REDD+ implementation can influence both water quantity and water quality (effects to the water regime, reducing pollution resulting from better forestry practice etc.).	• The National Environmental Quality Promotion and Preservation Act (B.E. 2535)	• Ministry of Natural Resources and Environment
Biodiversity and landscape	The potential REDD´s effects to the biodiversity can be related to improved forestry practice, reducing deforestation, changes in agriculture sector, or specific conservation measures. The REDD+ implementation can affect the landscape in numerous	• The National Environmental Quality Promotion and Preservation Act (B.E. 2535) • The Eleventh NESDP (2012-2016) • Town and Country Planning Act B.E. 2538	• Ministry of Natural Resources and Environment • Ministry of the Interior

Issue related to REDD+ Project	Details	Relevant national documents	Relevant agencies
	ways – for example slower deforestation, reforestation of new areas.		
Cultural heritage	REDD+ Projects should take cultural heritage into considerations as well as the impacts on cultural heritage from project implementation.	• Constitution of the Kingdom of Thailand (B.E. 2550) • Ministry of Culture's Four-Year Action Plan	• Ministry of Culture • Office of National Culture Committee

Annex 5 : SCHEDULE AND BUDGET

Annex 5-1 ADB : RETA 7987 CONCEPT PAPER

RETA 7987 CONCEPT PAPER

Supporting REDD+ Readiness in Thailand - Development of guidelines for and testing of community based monitoring and benefit distribution system

A. Introduction

1. Thailand has prepared a Readiness Preparation Proposal (R-PP) in anticipation of a future global agreement on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+). The R-PP for Thailand outlines a list of activities that are planned over the next four years including the preparation of a REDD+ strategy, development of a national reference emission level and identification of arrangements for monitoring, reporting and verification.

2. This concept paper outlines potential support for the R-PP for Thailand from the ADB through the Greater Mekong Subregion[4] (GMS) Core Environment Program and Biodiversity Conservation Corridors Initiative (CEP-BCI)[5] with a focus on providing technical support to technical working groups on instituting participatory monitoring framework and benefit distribution system with a provision of conducting a pilot project in Tenasserim / Western Forest Complex.

B. Background

3. The CEP-BCIis a multi-donor funded program that is working to reduce the impact of rapid economic development driven by the GMS Economic Cooperation Program. Launched in 2005, the program has supported the GMS countries to achieve the shared vision of a "poverty-free and ecologically rich GMS" by helping them to mainstream sound environmental practice within key economic growth sectors and geographic landscapes.The CEP-BCI is administered by the Asian Development Bank (ADB) and is overseen by the GMS Working Group on Environment (WGE), comprising representatives from the environment ministries of each of the six GMS countries. The Environment Operations Center (EOC) in Bangkok acts as the secretariat to the WGE and provides coordination and technical support for the implementation of CEP-BCI.

4. During the first phase of the CEP-BCI, a pilot site was established in Tenasserim / Western Forest Complex as part of the Biodiversity Conservation Corridor Initiative (BCI)

[4] The Greater Mekong Subregion includes six countries along the Mekong River – Cambodia, PR China (Yunnan and Guangxi provinces), Lao PDR, Myanmar, Thailand and Viet Nam

[5] Visit www.gms-eoc.org for more information about CEP-BCI.

with the aim of maintaining, restoring and enhancing carbon. Pilot activities facilitated the establishment of decentralized institutional and financial mechanisms (village and commune-based revolving funds) for participatory forest restoration, protection and livelihood improvements with oversight and performance monitoring by district, provincial and central levels. Implemented by the Department of National Park, Ministry of Natural Resources and Environment Thailand (MNRE), these activities included the development of revolving funds in 20 villages to incentivize sustainable natural resource utilization, land use planning and corridor delineation, and forest restoration activities.

5. Since 2011, CEP-BCI has been providing technical support to the REDD+working groupsinvolved for in preparation of R-PP. The support included input from international REDD+ specialist and organization of REDD+ seminars and consultation workshop.

6. CEP-BCI Phase 2[6] will support REDD+ readiness activities in Thailand and other GMS countries, with emphasis on developing participatory and community-based approaches to monitoring and protecting carbon sinks. There have been a number of comprehensive efforts in the GMS to develop and test community based carbon / forest monitoring protocols including those by Winrock International, SNV Netherlands and the Viet Nam UN-REDD program. Thailand-specific efforts include engagement of communities in forest management by the Royal Forestry Department and REDD+ MRV development studies by the National Research Council of Thailand partnered with Michigan State University. As part of the national REDD+ strategy development for Thailand it is necessary to review the lessons and experience consolidated from these efforts and develop guidelines for Community Based Monitoring of REDD+ benefits including various parameters such as carbon, forest, biodiversity, water etc.

C. Scope of Work/Description of Project

7. This project is in line with the R-PP for Thailand, particularly Component 2b i.e. REDD+ Strategy Options and Component 4a and 4b i.e. designing systems for national forest monitoring and information on safeguards. The project will a) develop guidelines for community based monitoring of carbon and other REDD+ benefits and b) test the use of these guidelines in a selection of communities in the Tenasserim BCI area.

8. At a national level, the project will support the development of the national REDD+ strategy by organizing technical workshops for relevant stakeholders. The scope of work for the project is shown below. Through these activities, ADB's CEP-BCI is expected to play a role of catalyst to mobilize investment needs outlined in R-PP.

[6] CEP-BCI Phase 1 was implemented between 2006 and 2011. CEP-BCI Phase 2 was initiated in mid-2012, and will be completed by the end of 2016.

Title	Activities	Relevant R-PP component
a) Development of guidelines for community based monitoring of carbon and other REDD+ benefits	• Review ongoing community based / participatory monitoring of REDD+ benefits • Identify major parameters and indicators to monitor REDD+ co-benefits at a community level (e.g. biodiversity, water conservation, poverty reduction) • Draft protocols / guidelines to conduct community based monitoring of REDD+ benefits including process design, methodologies and parameters, capacity building / training for communities, data management (e.g. using web based systems) • Explore mechanisms to link national forest monitoring with community-level and project-level monitoring systems	4a
b) Testing of guidelines for community based monitoring of carbon and other REDD+ benefits	• Identify villages / communities in BCI areas and local stakeholders (i.e. NGOs, universities, local government agencies) to carry out community based monitoring • Design / adapt existing survey / data collection instruments • Train community groups in carrying out carbon stock and other monitoring including development of sample plots • Explore the use of technology to support data management at a community level • Draft training guidelines in Thai • Update community based monitoring guidelines with experiences / lessons learned through testing exercise	4b
c) Supporting development of national REDD+ Strategy	• Organize annual technical workshops on REDD+ Strategy development for local and national stakeholders	2b

D. Budget and timescale

9. The overall budget for the project is $300,000. The project will be implemented between 2013 and 2016. Specific timescales and budget by activity is shown below:

Activity	Budget	Timeline
a) Development of guidelines for community based monitoring of carbon and REDD+ benefit distribution system	$60,000	Start in 2013Q2, duration: 6 months
b) Testing of guidelines for community based monitoring of carbon and + benefit distribution system	$168,000	Start in 2013Q4, duration: 12 months
c) Supporting development of national REDD+ Strategy	$72,000	Start in 2013Q2, annual meetings between 2013 and 2016.

[i] Ideally would be good to have reps from CSO, IPs, women's groups engaged in NRM, environmental governance, land tenure, issues, community forestry, gender issues and social issues in forestry