United Nations Development Programme

Country: Lao People's Democratic Republic

PROJECT DOCUMENT

Project Title: Mainstreaming Biodiversity in Lao PDR's Agricultural and Land Management Policies, Plans and Programmes

UNDAF Outcome: UNDAF Outcome 1: By 2011, the livelihoods of poor, vulnerable and food insecure populations are enhanced through sustainable development (within the MDG framework)

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome: Mainstreaming Environment and Energy

UNDP Strategic Plan Secondary Outcome: Expanding Access to Environmental and Energy Services to the Poor

Expected CP Outcome(s): Outcome 1: Improved and equitable access to land, markets and social and economic services, environmentally sustainable utilization of natural resources

Expected CPAP Output (s) Output 1.2: The role of biodiversity, agro-biodiversity, land management and environment in general in the livelihoods improvements and poverty reduction strengthened through enhanced knowledge and management capacity; Output 1.3: Enhanced management capacity of the Government in meeting its international environmental obligations through strengthened implementation of multi-lateral environmental agreements and related national policies and legislation.

Executing Entity/Implementing Partner: Ministry of Agriculture and Forestry

Implementing Entity/Responsible Partners: UNDP

Lao PDR encompasses the species rich Mekong Valley and the Annamite mountain range, and has an extensive protected areas network. Agriculture plays a significant role in Lao PDR and many rural people rely on wild species, particularly aquatic species, for a large part of their diet. Farming intensification and the conversion of land for mono-crop plantations is reducing crop, livestock and wild species diversity. Lao PDR is a globally important centre of diversity of rice, with estimates of over 3,000 local varieties, and at least three species of wild rice. Many local varieties of rice and other crops have been displaced by improved varieties with higher yields and greater needs for agrochemicals. Wild relatives of rice may be at risk from changes in land use, including wetland drainage. Lao PDR has a rich diversity of wild species but there are concerns that numbers and distribution are being reduced rapidly. Significantly, many globally threatened species make use of agro-ecosystems. The project will work strategically with government, agribusiness, farmers, donors active in rural development, and the general public, to make biodiversity a key consideration in routine day to day decision making. Agro-biodiversity management will be used to promote benefits in both global biodiversity and in food security and quality of life.

Programme Period:	2011-2016
Atlas Award ID:	00060069
Project ID:	00075435
PIMS #	2903
Start date:	1 March 2011
End Date:	30 March 2016
Management Arrangements	NIM
PAC Meeting Date:	11 June 2010

Total resources required	US$ 6,701,872
Total allocated resources:	US$ 6,701,872
• Regular	
• Other:	
• **GEF Grant**	**US$ 2.265,000**
• Government (in kind)	US$ 556,200
• UNDP (cash)	US$ 213,000
• UNDP (in kind)	US$ 321,900
• FAO (in kind)	US$ 345,772
• SDC (in kind)	US$ 3,000,000
TOTAL	**US$ 6,701,872**

Agreed by Government: Day/Month/Year

Agreed by UNDP: Day/Month/Year

CONTENTS

Acronyms and Abbreviations

ADB	Asian Development Bank
AMSL	Above Mean Sea Level
APR	Annual Project Review
ARN	Agriculture and Natural Resources
ASEAN	Association of Southeast Asian Nations
AVRDC	The World Vegetable Center
BCCI	Biological Corridors Conservation Initiative
BD	Biodiversity
CBD	Convention on Biological Diversity
CPAP	Country Strategy and Action Plan
CPD	Country Programme Document
CTA	Chief Technical Adviser
DAFO	District Agriculture and Forestry Office (MAF)
DED	German Development Service
DG	Director General
DLF	Department of Livestock and Fisheries (MAF)
DoA	Department of Agriculture (MAF)
DoE	Department of Environment (WREA)
DoS	Department of Statistics (MPI)
DoFI	Department of Forestry Inspection (MAF)
DoL	Department of Land (NLMA)
DoLUPaD	Department of Land Use Planning and Development (NLMA)
DoP	Department of Planning (MAF)
DoWR	Department of Water Resources (WREA)
DPA	District Project Assistant
DPI	Provincial Department of Planning and Investment
ERC	Evaluation Office Evaluation Resource Center
ESIA	Environmental Social Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
FNPP	FAO Netherlands Partnership Program
GDP	Gross Domestic Product
GPAR	Governance and Public Administration Reform
GPAR	Public Administration Reform
IBA	Important Bird Area
IFAD	International Fund for Agricultural Development
INGO	International Non Government Organizations
IP	Implementing Partner
IRRI	International Rice Research Institute
IUCN	World Conservation Union
IWRM	Integrated Water Resource Management
LAO PDR	Lao People's Democratic Republic

LNMC	Lao National Mekong Committee (WREA)
LPLUID	Land Policy and Land Use Inspection Department (NLMA)
LUP/LA	Land Use Planning and Land Allocation Law
M&E	Monitoring and Evaluation
MAF	Ministry of Agriculture and Forestry
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreements
MPI	Ministry of Planning and Investment
MRC	Mekong River Commission
NABP	National Agricultural Biodiversity Programme
NAFES	National Agriculture and Forestry Extension Service (MAF)
NAFRI	National Agriculture and Forestry Research Institute (MAF)
NAPA	National Action Plan for Climate Change Adaptation
NBCA	National Biodiversity Conservation Area
NBSAP	National Biodiversity Strategy and Action Plan
NEPL	Nam Et/Phou Louey Protected Area
NGPES	National Growth and Poverty Eradication Strategy
NIM	National Implementation Modality
NLMA	National Land Management Authority
NPA	National Project Assistant
NSC	National Science Council
NSDS	National Sustainable Development Strategy
NSEDP	National Socioeconomic Development Plan
NT	Near-Threatened
NTFP	Non-timber forest product
ODA	Overseas Development Assistance
PA	Protected Area
PAFO	Provincial Agriculture and Forestry Office (MAF)
PIR	Project Implementation Review
PIR	Project Implementation Report
PLUP	Participatory Land Use Planning
PM	Project Manager
PMO	Prime Minister Office
POPS	Persistent Organic Pollutants
PPR	Project Progress Reports
QPR	Quarterly Progress Report
RCU	Regional Coordination Unit
RECOFTC	Regional Community Forestry Training Centre
REDD	Reduced Emissions from Deforestation and Degradation
SDC	Swiss Agency for Development and Cooperation
SEDP	Socio-economic Development Plan
SELNA	Support for an Effective Lao PDR National Assembly
SNV	Netherlands Development Organization

SO	Strategic Objective
SP	Strategic Priority
SUFORD	Sustainable Forestry and Rural Development Project
TABI	The Agro-biodiversity Initiative
TPR	Tripartite Review
UNCCD	United Nations Convention on the Control of Desertification
UNDP CO	UNDP Country Office
UXO	Unexploded Ordinance
WAAA	Wildlife and Aquatic Animals
WCS	Wildlife Conservation Society
WERI	Water and Environment Research Institute
WREA	Water Resources and Environment Administration
WWF	Worldwide Fund for Nature

EXECUTIVE SUMMARY

Lao Peoples' Democratic Republic (Lao PDR) lies in the centre of the Indochinese peninsula surrounded by Thailand, Vietnam, China, Myanmar and Cambodia. Lao PDR has a population of 6.67 million people, and the overall population density is low[1] at 24 people per km2. As a result of its relatively wide ranges of latitude and altitude, its rich water resources and tropical climate, Lao hosts globally significant tropical ecosystems.

Within these ecosystems are diverse agro-ecosystems ranging from the slash and burn swidden agriculture of the uplands, through long-standing agro-forests in the middle lands, to paddy fields, household or community managed wetlands in the lower-lying lands of the Mekong Plain. These ecosystems contain a huge number of globally and locally significant species of plants, animals, fungi and other organisms.

Agro-ecosystems in Lao PDR are very important for global biodiversity. They are important habitats for some globally important species of wildlife, and have their own importance in terms of agricultural biodiversity: wild relatives of crops, diverse varieties of crop and domestic animals and other crop associated biodiversity.

The richness and as such global significance of Lao PDR's agro-biodiversity[2] is attributable to several factors: location between two major bio-geographical zones – the temperate north and the tropical south, high ethnic diversity, and different climatic and altitudinal zones. Lao PDR is thought to be at the centre of domestication for Asian rice and the centre of origin for Job's Tears. Other potentially globally significant agro-biodiversity include cultivated local and indigenous varieties of maize; sugar cane varieties such as oy hok and oy pa used in confectionaries; bushy peas including indigenous varieties currently being studied at NAFRI; livestock; and crop associated biodiversity such as wild crop relatives; and pollinators and other insects.

The Government of Lao PDR has developed and implemented a wide-range of policies that directly or indirectly impact on the use, development and conservation of biodiversity. The main overall development goals reflect international commitments and focus on poverty reduction, economic growth and social development, advancement of infrastructure and investment in hydropower and mining, but also protecting the environment. They also acknowledge that future economic growth continues to rely on the sustainable use of the natural resource base and the conservation of forests and biodiversity. At the national level, ***main responsibility*** for the management and conservation of biodiversity in agricultural landscapes are with The Ministry of Agriculture and Forestry (MAF), especially after the responsibility to implement CBD related commitments has been recently transferred to the Department of Planning at MAF.

The long term solution that the project aims to contribute to is that **Lao PDR's biodiversity, including agro-biodiversity, is maintained, protected and sustainably used as a key to poverty alleviation and adaptation to climate change impact".** Within this solution the **overall goal** is conservation and sustainable use of biodiversity resources in agro-ecosystems in Lao PDR for the attainment of food security and sustainable economic development, however several barriers exist. To achieve productivity and food security at the household level, the multiple values of conserving Lao PDR's biodiversity endowment have to be mainstreamed into government policies. There are inadequate incentives and

[1] Total human population in 2008 estimated at 6,677.534 http://www.unohrlls.org/en/orphan/97/

[2] In Lao PDR, agricultural biodiversity (agro-biodiversity) is used to denote all components of biological diversity of relevance to food and agriculture, and all components of biodiversity that constitute agro-ecosystems: variety and variability of animals, plants and micro-organisms, at genetic, species and ecosystem levels, necessary to sustain key functions of the agro-ecosystem, its structure and processes.

capacities to mainstream biodiversity, especially agro-biodiversity, at the community, District Province and National level.

Loss of crop and domestic animal diversity, crop-associated biodiversity and other biodiversity within agro-ecosystems and degradation of ecosystems are being caused through a number of direct and indirect threats. Land use practices are placing greater pressures on biodiversity and agro-biodiversity, and affecting the ecological functioning of these agro-ecosystems. The changes to agro-ecosystems may have significant impacts: reduced resilience, a loss of ecosystem services and reduced adaptive capacity for agriculture. This is of further concern in consideration of global climate changes.

Agriculture, including crops, plantations and livestock, plays a significant role in the Gross Domestic Product for Lao PDR, and even more significant role in providing food and livelihoods for a majority of the population. In spite of the significance of this sector policy and management mechanisms have been somewhat ad-hoc and there needs to be greater attention placed on the management of agro-ecosystems and agro-biodiversity.

A major consideration in the selection of the pilot sites has been the linkage with relevant activities. As requested by the Government the proposed sites for GEF actions are within the current MAF/SDC: The Agro-Biodiversity Initiative target area. The two project target areas are: Luang Prabang Province, Phonxay District and Xieng Khouang Province, Phoukout District.

The objective of this project is: **to provide farmers with the necessary incentives, capabilities and supporting institutional framework to conserve agricultural biodiversity within farming systems of Lao PDR**. To achieve this, the multiple values of conserving Lao PDR's biodiversity endowment have to be mainstreamed into government policies, and sustainable productivity and food security at the household level must be improved whilst simultaneously securing the conservation of important agro-biodiversity. There are inadequate capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community level. The project is split into two overarching components, the first having a more national policy focus and the second having a more village level action focus. Within these components the following section identifies the project outputs and indicative activities to fulfil these outputs.

Outcome/Component 1. National policy and institutional frameworks for sustainable use, and *in-situ* conservation of biodiversity in agro-ecosystems.

This component will involve the mainstreaming of agro-biodiversity considerations into national legislation, including the development and promotion of policies that encourage and support the active conservation and sustainable use of agro-biodiversity in agricultural landscapes. In support of this outcome four outputs will be pursued focused on key thematic areas: 1) Integrating agro-biodiversity into policies, 2) Promoting coordination on agro-biodiversity, 3) Enhancing institutional capacity for agro-biodiversity, and 4) Increased understanding among key stakeholders of agro-biodiversity and it significance.

Outcome/Component 2. Capacities and incentives **to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community levels**

This component will involve the development of incentives and capacity for the conservation and sustainable use of agro-biodiversity with a focus on Community, District and Provincial levels. In support of this outcome six outputs will be pursued focused on key thematic areas: 1) Strengthening the capacity of PAFO and DAFO to act on agro-biodiversity management and to adapt extension packages and services, including diversifying the seed supply system, 2) Conducting Participatory Land Use Planning

including the development and implementation of Participatory Natural Resources Management plans at village level in order to be able to identify products for sustainable use and niche marketing (in Outcome 2), 3) Establishing in-situ[3] conservation areas for agro-biodiversity in order to be able to protect local biodiversity hotspots (in Outcome 2), 4) Promotion of biodiversity-friendly farming approaches in two pilot sites such as organic farming and a reduction in pesticide and fertilizer use, 5) Identification and development of market incentives for agro-biodiversity for farmers and agribusiness, and 6) Linking with the private and public sector through agro-biodiversity planning agreements.

GEF investment in this project will lead to strengthened policy, a coordinated and strategic investment in biodiversity conservation in agro-ecosystems with long-term national capacity building in Lao PDR. Mainstreaming increases awareness, ensures agro-biodiversity is considered across different sectors and builds capacity for management and sustainable use. Alternatives of creating protected agricultural landscapes, or developing regulations and incentives for agro-biodiversity would be ineffective without the underpinning of a wide appreciation of these values. The project is well timed to strengthen and support improvements in relation for capacity and market incentives for the conservation and sustainable use of agro-biodiversity.

The GEF funds will be provided as a grant. Government of Lao PDR will contribute in staff time, meeting room and office hire, and transport to an estimated value of 556,200 USD. UNDP co-finance is split – 213,000 USD in cash to fund activities, and 321,900 USD in-kind contribution of staff time for senior and junior management and intern (UN Volunteer). FAO co-financing (in-kind) consists of staff time for both technical input and project management (345,772 USD). Significant parallel finance (3,000,000 USD) will also be in kind, mainly from SDC/TABI.

Activities to mainstream agricultural biodiversity into national policy and planning should achieve results that are one-off. Mainstreaming agricultural biodiversity into national policy is important to have a national-level impact, however the implementation of such policy will be essential for positive long-term impacts. The farmer to farmer approaches bring the farmers to the centre of the project and as such promote avenues for direct and indirect replication. As farmers see incentives for agro-biodiversity approaches they will be attracted to replicating these approaches, especially when there is support through Government extension programmes and materials. The project will build the capacity of the MAF, PAFO and DAFO staff that will be directly engaged in replicating the approaches to other villages, districts and ultimately Provinces.

Outcome 3: Effective Project Management

The project will be implemented under UNDP's National Implementation Modality (NIM), which for GEF corresponds to national execution of the project by the Government. Specifically MAF will act as the Implementing Partner (IP). MAF has been selected as the IP given its formal role as lead institution in the biodiversity sector for Lao PDR. The project is co-financed and as such will also include major participation from FAO and SDC. The GEF Project Board will be merged with the TABI National Steering Committee into an overall Agro-Biodiversity Steering Committee chaired by the Vice Minister of MAF. This programmatic approach will promote technical collaboration and will allow UNDP, FAO and SDC to provide integrated managerial support to both projects. UNDP and SDC will provide project assurance support to their respective parts of the government's Agro-biodiversity "programme".

The purpose of this outcome is to ensure that the project is implemented in a timely manner and is cost effective. The main concern is that the project should be managed according to the principles of adaptive management, whereby lessons learnt during its implementation as well as lessons from other relevant initiatives are fed into refining project implementation. An additional issue here is that since Lao PDR has generally weak capacities for

[3] In agriculture, in-situ includes in-nature and on-farm.

project/ programme implementation, this should also be considered as a part of overall national capacity building. There is only Output under this component will be: Improved capacity of IP for integrated planning, management, monitoring and evaluation of programmes.

1. SITUATION ANALYSIS

1. Lao Peoples' Democratic Republic (Lao PDR) lies at the centre of the Indochinese peninsula surrounded by Thailand, Vietnam, China, Myanmar and Cambodia. The country has an area of 236,800 km2, three quarters of which is rugged, mountainous terrain with narrow, steep-sided river valleys. The highest mountains, up to 2,816 m Above Mean Sea Level (AMSL) are in the northern uplands, and the Annamites extend south from there along the Vietnamese border. The only extensive flat areas lie along the east bank of the Mekong River at around 100-200 m (AMSL), to the west of the Annamites.

Map 1: Lao PDR

2. The agricultural zones of Lao PDR are divided into lowlands and uplands, where the lowlands have historically had the greatest agricultural activity and population. According to available statistics, "permanent" agriculture area covers about 5% of the country, of which about 4% is rice paddy land and 1% is agricultural plantations and other agricultural lands4. However, typically, rural communities use a wider area of "agro-ecosystem" encompassing "managed" or "semi managed" communal forests, grasslands and wetlands. The complex interweaving of culture and biodiversity both wild and selected through agricultural lifestyles forms part of the global significance of Laos' biodiversity. Rural people in Laos still rely substantially on plants, animals and fungi collected from the wild for everyday subsistence. Lao also has a rich cultural and ethnic diversity. In terms of biodiversity and specifically agro-biodiversity there is a wealth of Traditional Ecological Knowledge held by communities in Lao, especially those that are more remote and as such more reliant on natural biodiversity resources.

1.1 General Biodiversity Context

3. Lao PDR lies at a convergence of three mega-diversity centres – India, China and South-East Asia and is at the centre of the Indomalayan bio-geographical zone. As a result of its relatively wide ranges

[4] ftp://ftp.fao.org/docrep/fao/012/i1067e/i1067e01.pdf

of latitude and altitude, its rich water resources and tropical climate, Lao hosts globally significant tropical ecosystems: such as the evergreen forests of the Annamite Mountains and their foothills, the limestone karst of central Indochina, the wetlands and dipterocarp forests of the Mekong Plain, and the Mekong River itself. Within these ecosystems are diverse agro-ecosystems ranging from the slash and burn swidden agriculture of the uplands, through long-standing agro-forests in the middle lands, to paddy fields, household or community managed wetlands in the lower-lying lands of the Mekong Plain. Laos' rich biodiversity is still being discovered with even quite large species being discovered in the region recently. The numbers of wild species of major groups are constantly being revised upwards, so statistics[5] are soon out of date.

4. Lao PDR covers parts of four WWF 200 Global Ecoregions[6], and there are 27 Important Bird Areas[7] (IBA) distributed over the country and one Endemic Bird Area[8]. Of the 27 IBAs, eight are fully outside the protected area system, including those in the Mekong midstream.

5. The floristic diversity of Lao is poorly known and only a fraction of its species has been recorded. The first Checklist of the Vascular Plants of Lao PDR, published in March 2007[9] lists 4,800 species of plants in 232 families, yet it is thought that this represents less than half of the total number of species in the country. Species new to Laos, and even new to science, are being discovered in recent years, not just in relatively undisturbed forests but also in fallow patches in the agricultural landscape. Three confirmed new species of plant for the world and a further 16 possible new species, were recorded for Lao PDR, between 2004 and 2007. Orchidaceae species were estimated at 340, however within 4 weeks of a specific orchid project (Orchis[10]) commencing, they had discovered ca. 150 new orchid species to Laos. It is anticipated that a focus on many other areas of plant diversity would also yield significant new findings for Lao and potentially the world.

6. Among the animal species there have been some startling discoveries. The tropical forests of the Annamite Mountains east of the Mekong River (along the border between Laos and Vietnam) are home to species that have persisted through the last ice age. They were, until recently, some of the least explored places on earth, made even more inaccessible by political instability and war. As the country has opened up and as biologists have begun to explore more, a host of fascinating plants and animals have "emerged", most known to the local people but not to science. Many of the animals were discovered in food markets or hanging on display on the walls of village houses. They include 15 mammals, 89 frogs, 279 fish, 46 lizards, 22 snakes, four birds, four turtles and two salamander species.

7. Among the new mammals was the Laotian Rock Rat (*Laonastes aenigmamus*) whose closest relatives were thought to have been extinct for some 11 million years, the Annamite Striped Rabbit (*Nesolagus timminsi*) whose closest relative is a critically endangered species in Sumatra, two species of deer - the Large-antlered Muntjac *(Muntiacus. vuquangensis*) and the Dark Annamite Muntjac (*M. truongsonensis*), and the extraordinary Bare-faced Bulbul (*Pycnonotus hualon*), a (probably) endemic songbird with a pink, almost featherless head, that even the local residents had not noticed. The Saola (*Pseudoryx nghetinhensis*), an oryx-like antelope discovered in 1992 in Vietnam also occurs in Lao PDR. There are many other newly discovered species in Laos including a remarkable new salamander (*Paramesotriton laoensis*), several frogs, and steadily increasing numbers of new species of fish, some of them endemic to specific stretches of river (Kottelat, 2009). In addition to the newly

[5] Duckworth, JW, RE Salter and K Khounboline (1999) Wildlife in Lao Status Report. IUCN, WCS, DoF
[6] Annamite Range Moist Forests; Indochina Dry Forests; Northern Indochina Sub-tropical Moist Forests; Mekong River and its catchment
[7] Internationally Significant Bird Areas – Birdlife International
[8] Annamese Lowlands, Fan Si Pan and N Laos (SA), Southern Laos (SA) (although this includes two secondary areas (SA) that are probably not valid any more).
[9] http://www.rbge.org.uk/science/tropical-diversity/inventory-research-in-threatened-areas/laos
[10] Orchis (2009) The Open (Re)source for Commerce in Horticulture aided by species Identification Systems.

discovered species, over 125 Globally Threatened species[11] on the IUCN Red List are found in Lao PDR (see Table 1), and an additional 51 Globally Near-Threatened (NT) species. Many of these species make use of parts of the agricultural landscape, particularly near protected areas, and there are several wetland and aquatic species that are vulnerable to pollution from agriculture.

Table 1: Globally threatened species in Lao PDR

	Critically Endangered (CE)	Endangered (EN)	Vulnerable (VU)	Total
Amphibians	0	0	5	5
Birds	5	4	12	21
Fishes	3	3	15	21
Mammals	6	19	21	46
Plants	5	7	9	21
Reptiles	2	5	4	11
TOTALS	21	38	66	125

8. Much of Lao PDR's biodiversity in conserved under 20 National Protected Areas, covering almost 3.5 million hectares or more than 13% of the country's land area. Additionally, another 8 million hectares have been designated as Protection or Conservation Forest at the provincial and district levels, bringing the total land area under some kind of protection to more than 21%. The management strategy of the overall Lao Protected Area system is based on an integrated conservation and development approach, which seeks to alleviate poverty while minimizing degradation of the area's biodiversity[12]. While the percentage is very significant, dual management of these areas means they do not conform to norms for international protected areas. The allowance for villages and associated agriculture within the protected areas provides some de-facto protection for agro-biodiversity, however there are no explicit in-situ conservation areas set aside for agro-biodiversity. Some accessions of potential genetic resources, especially rice and vegetables, have been collected for ex-situ conservation, but this represents a fraction of the in-situ agro-biodiversity and crop associated biodiversity that would be conserved in-situ.

1.2 Biodiversity related to agro-ecosystems

9. Agro-ecosystems in Lao PDR are very important for global biodiversity. The richness and as such global significance of Lao PDR's agro-biodiversity[13] is attributable to several factors: location between two major biogeographical zones – the temperate north and the tropical south, high ethnic diversity, and different climatic and altitudinal zones.

10. Laos lies in the heart of the Siam – Malaya – Java Vavilov sub centre of origin and domestication for domestic crops, which falls under the Vavilov Indo-Malayan ("Hindustan Centre"). This sub- region is considered to be centre of domestication for cereals and legumes such as Job's tears, velvet bean, several fruit species including pomelo, banana, breadfruit and mangosteen as well as other plant such as sugarcane, clove, nutmeg, black pepper , and manila hemp. The Indo-Malayan centre is also noted as domestication centre of origin and domestication of rice, chickpea, pigeon pea, eggplant, taro, sugar

[11] www.iucnredlist.org
[12] WCS (2004). Integrated Ecosystem and Wildlife Management in Bolikhamxay Province.
[13] In Lao PDR, agricultural biodiversity (agro-biodiversity) is used to denote all components of biological diversity of relevance to food and agriculture, and all components of biodiversity that constitute agro-ecosystems: variety and variability of animals, plants and micro-organisms, at genetic, species and ecosystem levels, necessary to sustain key functions of the agro-ecosystem, its structure and processes.

cane, sesame, oriental cotton, and bamboo (amongst other species) and a high diversity of these crops have been reported from Lao PDR as well.

11. Lao PDR lies within the centre of the domestication of **Asian rice** (*Oryza sativa* L.). Moreover, the centre of origin of the glutinous rice types is recognised to be within the Lao PDR and northern Thailand. It is thought to have the greatest number of rice cultivars in the Mekong region. Rice is a globally important crop species and Lao PDR probably has the highest number of accessions of any country of a similar size in the world. There are now over 15,000 accessions (specimens) of rice cultivars *and wild r*elatives (ca 300) in the gene banks of the International Rice Research Institute (Manila) and MAF (Vientiane). Estimates from names and morphological characteristics are that there are about 3,000 genotypes, but this yet to be confirmed through DNA analysis. At least three wild relatives of Asian cultivated rice are found in Lao PDR: *Oryza rufipogon, Oryza officinalis,* and *O. granulata.* A fourth variety, *O. nivara,* is lumped by some taxonomists with *O. rufipogon* as there is no taxonomic agreement on whether this is another variety. The most significant variety from the point of view of rice breeding is *O. rufipogon,* but as there is constant hybridization with cultivated rice most populations are very heterogeneous. The results of such hybridization are often called weedy rice (*O. sativa f. spontanea*). *O. rufipogon* is found throughout tropical Asia and is particularly abundant in Vientiane plain wetlands. *O granulata* and *O. officinalis* are found in the north and south of the country respectively. Out of the 7000 accessions of upland rice stored at IRRI gene banks, two upland varieties have been identified through a participatory process: Khao Nok (Bird Rice) and Khao Mak Hin Soung (Stone Rice), which could provide 0.3 to 0.5 tonnes/hectare higher yields compared to other local varieties.

12. Information on Lao's overall agrobiodiversity importance is only recently being analyzed. Laos is thought to be the centre of origin for Job's Tears (*Coix lachryma-jobi*). Over 2,000 accessions of vegetables of varieties naturally occurring in Laos are held in a medium-term gene bank at the Haddokkeo Horticultural Research Centre in Vientiane, waiting to be analyzed. There is huge morphological and sgenetic diversity too in various other crops, including fruits and vegetables, aubergine (*Solanum melongena*), banana (*Musa* spp.) and mango (*Mangifera indica*). Several indigenous **taro** varieties have also been recorded in the Lao PDR including: trunk taro, lo taro, aromatic taro, chin taro, ordinary taro, big taro, small taro, banana taro, louk hong taro, China taro, and the black taro. Out of these varieties aromatic taro is the most commonly cultivated. The diversity of **cassava** found in the Lao PDR includes ordinary cassava, red cassava, yolk cassava, mottled cassava, and the animal feed cassava. Bushy peas mainly consist of indigenous varieties which are presently being studied at the Agriculture Research Centre include the black pea, the brown pea, the red pea, the Nok Kho pea, and the black-eyed pea. Other native varieties yet to be collected which are currently being cultivated consist of the Nang pea, the thong pea, the kheem pea and the striped pea. Indigenous sugar cane varieties presently being grown by farmers which have not yet been collected and studied include: oy pa, oy laou, oy xang, oy nou, oy guiam, oy deng, oy siam, oy dam, and others. **Cotton** is an important industrial crop with a high commercial value and is traded both in domestic and export markets. Indigenous cotton varieties include Faimui, Fainoi, Fainiai, and Fainia KT. Farmers grow these indigenous varieties in upland areas mainly for household use, and particularly the provinces situated along the Lao-Thai border export a certain quantity.

13. Five physically discernable ecosystems are found in the agro-ecosystem in Lao PDR, encompassing both agricultural area as well as natural and semi-natural ecosystems:
    - Water ecosystems (including rivers, streams, ditches, ponds and wetlands and rice fields)
    - Field borders (including roadsides)
    - Trees and forest areas (including small parcels of forests within cultivated areas, individual
    - trees, and groves)
    - The homestead

- Cultivated and fallow fields (including annual and perennial crops)14

14. They are important habitats for some globally important species of wildlife, and have their own importance in terms of agricultural biodiversity: wild relatives of crops, diverse varieties of crop and domestic animals and other crop associated biodiversity. Agricultural land provides one of the main habitats for six[15] (including three Critically Endangered vultures) of the 21 Globally Threatened birds, and a secondary habitat for a further ten. The migratory Yellow-breasted Bunting (VU) (*Emberiza aureola*) feeds on rice-stubble as part of winter feeding grounds on return from breeding in Siberia. Globally near-threatened aquatic species including the Oriental Darter (*Anhinga melanogaster*) and the Painted Stork (*Mycteria leucocephala)* are beginning to appear on wetlands associated with agriculture. Globally threatened species of mammals that use agricultural land as a main habitat include the Fishing Cat (*Prionailurus viverrinus*), the Small-clawed Otter (*Aonyx cinereus*) and the Smooth-coated Otter (*Lutrogale perspicillata*).

15. There is limited knowledge on **crop-associated biodiversity** in Lao PDR. The diversity of the upland agricultural systems both in terms of the ecosystems and diversity of crops used support crop-associated biodiversity and healthy upland ecosystems. The combination of still low pesticide use due to the lack of cash buffers farmers need for their purchase combined with a high and fragmented, even if degraded, forest cover encourages high diversity and numbers of arthropods, including many insects and arachnids beneficial as pest predators. Native parasitoids of the Rice Gall Midge for example, provide natural checks on gall midge infestation[16]. Research by the Mekong River Commission on the role of aquatic resources, and by FAO on the role of insects in food security, will add to our understanding of crop-associated biodiversity and its importance.

16. Many studies have shown that local communities are highly dependent on plants, bamboo shoots, fish, frogs and other resources from such areas for their nutrition and for their livelihoods[17]. In terms of defining agro-ecosystems in Lao PDR, considering the swidden and NTFP practices, the area is probably thrice as large as the "permanent" agricultural lands – i.e. more than 15% of the total surface area.

1.3 Socioeconomic Context

17. Lao PDR has a population of 6.67 million people, and the overall population density is low[18] at 24 people per square km. This is low compared with neighbouring Vietnam (232), Thailand (127) and Cambodia (78). However, about 78% of the population work mainly in agriculture and population density on agricultural land is close to the regional mean. One of the key contributors to the agro-biodiversity in Lao PDR is its ethnic diversity. There are at least 49 main groups that fall into four ethno-linguistic families: Tai-Kadai, Mon-Khmer, Hmong-Mien, and Tibeto- Burman. Each group, in turn, is further subdivided into branches and subgroups, encompassing over 230 ethno-linguistic groups. Of the four regions, Northern Lao has the highest proportion of distinct ethnic groups; they account for 87% of the region's population.

[14] cmsdata.iucn.org/.../agrobio**diversity**_handbook___eng_vers_2.pdf

[15] White Rumped Vulture (*Gyps bengalensis*) (CR); Slender-billed Vulture (*Gyps tenuirostris*) (CR), Red-headed Vulture (*Sarcogyps calvus*) (CR), Greater Spotted Eagle (*Aquila clanga*) (VU), Yellow-breasted Bunting (*Emberiza aureola*) (VU) and Lesser Kestrel (*Falco naumanni*) (VU)

[16] Kobyashi M (1996) Natural enemies of the rice gall midge (*Orseolia oryzae*) (Wood Mason). Proceedings of the Workshop on Rice Gall Midge Management. Vientiane, Laos 28-30 October, 1996

[17] http://www.undplao.org/newsroom/factsheets/publication/Biodiversitycountryreport.pdf

[18] Total human population in 2008 estimated at 6,677.534 http://www.unohrlls.org/en/orphan/97/

18. Lao PDR is one of 49 Least Developed Countries[19], and has a UN Human Development Index of 0.619[20], which ranks it 133rd of the 182 countries with data. Thirty-four percent of people live below the poverty line[21] (down from 46% during the early 1990's) with huge variations over the country. The national literacy rate (2005) for those over 15 years of age was 72.7% and there was wide variation across the country, from less than 20% literacy in rural mountain areas in Phongsaly, Luang Namtha, Khammuane and Savannakhet provinces to more than 80% in major urban areas and provincial capitals[22]. Life expectancy at birth is 64.6 years. Health facilities are poorly developed, and maternal mortality (405 deaths per 100,000 live births) and first year mortality (70 deaths per 1000 live births) are particularly high. There is a high incidence of chronic malnutrition, linked in part to low fat intake (WFP[23], 2006), and 40% of children under 5 are reported as underweight.

19. In 2000, agriculture contributed just over half of GDP. About 85% of the population is dependent upon agriculture, fisheries and other biodiversity for their primary livelihood. The sector is dominated by subsistence production, especially of rice, although there has been some growth in the cultivation of cash crops, especially coffee, over recent years. In most areas of subsistence agriculture, production is insufficient to provide for daily food needs, and the harvesting of wild species is intricately woven into the agricultural lifestyle and is often considered as part of farming. There is a large non-cash, subsistence, element in rural livelihoods, including a high reliance on aquatic and terrestrial biodiversity and wild food sources.

20. Households supplement farmed produce with a wide variety of wild plants, animals and fungi. Rice and a range of vegetables and fruits supply the farmers with food for subsistence, and some income through sale of cash crops such as maize (*Zea mays*), Job's tears (*Coix lachryma-jobi*), coffee (mainly Robusta – *Coffea canephora* - but also some Liberica and Arabica), cassava (*Manihot esculenta*), peanuts (*Arachis hypogaea*), paper mulberry (*Broussonetia papyrifera*), tea (*Camellia sinensis*) and sugar-cane (*Saccharum officinarum*). Aquatic species, including fish, amphibians, reptiles, crustaceans, molluscs, and insects, are particularly important in many rural Laotian diets, although the lower consumption of terrestrial species may be simply because those species have been reduced to such low population levels. Over 200 species of animals are consumed and this dietary component could supply most of the vitamins A and B, calcium, iron, sulphur, essential fatty acids and amino acids needed by the villagers. Recent data indicate that although some aquatic species are under pressure from pollution, and others from overharvesting, it is sometimes people's particular food habits and cultural choices, rather than low absolute food availability that are contributing to malnutrition. FAO is currently compiling data on the significance of insects in food security for Lao PDR.

1.4 Policy and Legislative Context

21. The Government of Lao PDR has developed and implemented a wide-range of policies that directly or indirectly impact on the use, development and conservation of biodiversity. The main overall development goals reflect international commitments and focus on poverty reduction, economic growth and social development, advancement of infrastructure and investment in hydropower and mining, but also protecting the environment. They also acknowledge that future economic growth continues to rely on the sustainable use of the natural resource base and the conservation of forests and biodiversity. Development in the Agriculture and Natural Resources sector focuses on commodity oriented agricultural production, stabilization of shifting cultivation and enhanced

[19] http://www.unohrlls.org/en/ldc/related/62/
[20] 2007 figure in 2009 UN Human Development Report
[21] The "overall poverty line" calculated by the Department of Statistics uses the criteria of the amount of money required to purchase 2,100 Kcals of food per day plus a non-food allowance.
[22] Socioeconomic Atlas of Lao PDR
[23] Comprehensive Food Security and Vulnerability Analysis (CFSVA 2007)

productivity. This is being done through crop and livestock development, enhanced use of living aquatic resources, and cash crops including industrial tree plantations.

22. The most important policies and policy documents for the conservation and sustainable management of biodiversity in agricultural landscapes are briefly described below:

❒ The *National Growth and Poverty Eradication Strategy* (NGPES) provides strategic guidance for secure future economic growth and to achieve poverty eradication in a holistic and comprehensive manner. The Strategy is an operational guide toward for enhancing growth and development and reducing poverty, with the goal to eradicate poverty by 2020. One of the priorities is most relevant to agricultural biodiversity as it is related to improved environmental conservation and natural resources management. Priorities in the Agriculture and Natural Resources (ANR) sector include village based natural resource use, land use planning, improve agricultural productivity, conserving aquatic resources and controlling NTFP use.

❒ The *National Sustainable Development Strategy* (NSDS) embodies the country's strategic planning process to address the full integration of economic, social and environmental objectives across sectors, territories and generations and sector-wide mainstreaming of sustainable development principles and poverty-environment linkages. It will also address other key elements not considered in other existing plans and strategies, such as: indicators to evaluate the overall status of national sustainable development; institutionalized mechanism for public participation; linking the short-term plans to medium and long-term plans addressing inter-generational equity; and coordinating different sectors and territories.

❒ The *6th National Socioeconomic Development Plan 2006 – 2010* (stresses poverty reduction[24], strengthening economic growth and social development, improving the food security situation[25], the protection and sustainable management of natural resources. There is a strong focus on continuing robust economic growth and on further development of the agriculture sector, especially the transformation from subsistence and semi-subsistence to commercial production to meet growing domestic requirements for agricultural products, and rapidly expanding agricultural exports. It also emphasizes the diversification of rural economies and farming methods, as well as infrastructure development.

❒ The GoL '*Strategic Vision for the Agriculture and Forestry Sector*' (1999) guided the development in these sectors during the past decade and included the following key themes: participatory planning; lowland transformation (transformation of farming systems – market oriented cash crop production/ modern farming technologies) to help to expand the production of export commodities; sustainable development of sloping lands (protection of NPA's, regulate harvest of NTFPs, community based approach to land management); stabilization of shifting cultivation; expansion of irrigation (more effectively, expansion of area); human resource development (focus on agricultural staff at district level, improve participatory planning/ extension techniques); enabling environment for business development.

❒ In response to the CBD and related commitments, the Government developed the *National Biodiversity Strategy and Action Plan* (NBSAP) was elaborated and approved in 2004 with the objective to "maintain the diverse biodiversity as one key to poverty alleviation and protect the current asset base of the poor". This objective emphasizes the importance of agro-biodiversity not only for the conservation of biodiversity, but also for securing the livelihood of the rural population and contributes to achieve important MDGs such as poverty reduction. This is further manifested in

[24] Reduce the ratio of poor families to below 25 % in 2010.
[25] Completely abolish seasonal scarcities of rice.

some of the strategic principles[26]. Other objectives include improve the biodiversity data base, management and monitoring, capacity building and awareness creation, adjust legislation and regulations in line with MEA's. Especially the goals 3[27], 4[28], 5[29], 8[30], 9[31], 10[32] are especially relevant for the conservation and sustainable use of biodiversity in agricultural landscapes.

❒ With the assistance of FAO, the *National Agricultural Biodiversity Programme* (NABP) was prepared and endorsed by the Government of Lao PDR in 2004, which provides a long-term strategy to sustainably manage, develop and conserve agro-biodiversity in the country. Its aim is to support two of the main development priorities for Lao PDR to achieve food security and improve the livelihoods of the rural communities; and to enhance the Government's capacity to ensure the sustainable use and conservation of natural resources. It addresses the following thematic issues: crop associated biodiversity, livestock management, NTFP's, sustainable use and conservation of aquatic biodiversity and integrated agricultural production systems (FAO/ MAF, 2007). The Program is implemented since 2005 by the Government in cooperation with international partners, such as FAO (e.g. through the FAO/Netherlands Partnership Program (FNPP)), IUCN and WWF. TABI also contributes to the implementation of this program through their Component 1.

❒ The *Forestry Strategy to the Year 2020* is of central importance for the forestry sector as it provides strategic guidance to develop in line with national strategies for socio-economic development and environmental conservation. Priority actions to be undertaken until 2020 include among others to maintain a healthy and extensive forest cover, to avoid deforestation and forest degradation and to preserve species and unique habitats of national and global importance. It promotes village-based natural resource management, sustainable participatory management and processing of NTFPs, as well as biodiversity conservation through law enforcement, capacity building and assisted participation of villagers in forest management (MAF, 04).

❒ Under the most recent policies of MAF, the '*4 Goals and 13 Measures*', four development targets are identified: ensuring food security, commercialization of agriculture production, shifting cultivation stabilization for poverty reduction, and sustainable forest management[33].

❒ The *National Nutrition Policy*[34] (2008) was developed with the support from FAO and adopted by the Government to respond to the MDG 1/ target 2[35]. This policy clearly states that achieving such a goal requires effective cooperation between concerned sectors in particular health, education, agriculture, environment, industry/ trade and others. The National Nutrition Policy assigns the National Science Council (NSC) to assist in enhancing the current coordination mechanism on nutrition and food security including relevant line ministries, committees and mass organizations.

23. Some of the most relevant and available[36] legislations are briefly described below:

❒ The new *Fishery and Aquaculture Law* was approved by the National Assembly in June 2009. It was drafted through a partnership between the Department of Livestock and Fisheries, FAO, WWF and MRC based on a nationwide stakeholder consultation process. It aims to ensure an effective and

[26] E.g. "cultivated areas should remain diverse and productivity should be increased, through protection, conservation and the sustainable use of land resources".
[27] Promote the conservation of genetic diversity.
[28] Promote sustainable use and consumption.
[29] Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.
[30] Maintain capacity of ecosystems to deliver goods and services and support livelihoods.
[31] Maintain socio-cultural diversity of indigenous and local communities.
[32] Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources.
[33] Whereby biodiversity conservation in agricultural landscapes is considered under the 1st and 4th of these targets.
[34] Prime Minister Decree No. 248, 01.12.2008
[35] 'to reduce hunger and malnutrition by half in the year 2015'.
[36] Especially the most recent ones are not yet available in English.

sustainable management of fish and aquatic resources and reflects international fishery instruments and commitments (FAO, 2009).

❒ The *Wildlife and Aquatic Animals (WAAA) Law* was adopted by the National Assembly in 2007. The WAAA is administered by MAF Department of Forestry Inspection. The objective of the WAAA is to set out the principles, rules and measures relating to the management, preservation, protection, utilization, propagation and rearing of wildlife and aquatic animals with a view to minimizing impacts on habitat and ecosystems.

❒ Based on the overall policy directions various legislations were established subsequently. Related to land management the promulgation of the *Land Law* in 1997 was an important milestone[37]. It was amended in 2003 and facilitates together with PM Decree 88 effective and efficient management of land. Criteria for individual and collective or communal land titles are provided in the recent *Ministerial Instruction No 564* issued by the NLMA. This instruction includes a new aspect in contrast to previous legislations as it provides for the issuance of land titles for collectively or communally managed lands.

❒ The PM *Decree No 135 on State Land Lease or Concession* approved in May 2009 determines principles, procedures and measures regarding granting of state land for lease or concession, to promote the development of state land ('to turn land into capital') including the investment into cash crop production to generate income for the state budget. Different Articles specify conditions related to land concession for agricultural business such as for cash crops/ NTFP's and industrial tree plantation. Art. 26 defines where such investment can take place.

❒ The *Forestry Law* (2007)[38] provides principles, regulations and standards for the use of forestland and resources. It defines the responsibilities and roles of authorities on various levels for forest management, control and inspection. Primary responsibility over forest resources is handed over to MAF and its line agencies at provincial and district level, but also to village organisations. Many of the weaknesses of the old one, especially related to the selection of land for investment have been addressed[39].

❒ The *PM Decree 59 on Sustainable Forest Management of Production Forest Areas* issued in 2002 provides provisions for the delineation of production forests, management planning and regulates the participation of villages in production forest management. It also provides for timber and NTFPs harvesting by villagers for commercial purposes in designated production forests.

❒ The *PM Decree 164 for the Establishment of National Biodiversity Conservation Areas (NBCAs)* in 1993 was a direct response to the results from the Rio Summit in 1992 and prove the GoL's commitment to conserve biological diversity in large forested areas and to maintain their environmental and ecological functions. At that time 20 NBCAs were declared covering approximately 3,3 million ha of natural forests that equalled 12% of the total land area at that time.

❒ The *MAF Regulation 524 on the Management of NBCAs, Wildlife and Aquatic Animals* from 2001 outlines the procedures for establishing and managing NBCAs[40], related rights and responsibilities, and sets rules that ensure their protection. According to the categories in the Forestry Law, NBCA's are conservation forests. They are divided into a core and buffer zone, whereby there is no access without prior authorization to the latter. The buffer zone should

[37] It superseded the Decree on Land (No 99/ PM), which had been in effect since 1992.
[38] First issued in 1996, and amended in 2005.
[39] However some inconsistencies and unclear formulations related to definitions (e.g. article 3 – definition of degraded forest/ degraded forest land and barren forest land).
[40] Since recently called National Protected Areas (NPA).

protect the core zone from outside development pressure and limited activities according to regulations are allowed[41].

❒ The *Agriculture Law* dates back to 1998 and determine principles, rules, and measures regarding the organization and activities of agricultural production as the basis for economic development. It covers aspects such as the management and preservation of agricultural practices, promote agricultural production[42], to create favourable conditions to expand agro-industrial processing and to avoid negative impacts on the environment. It also regulates the application of fertilizers and pesticides.

24. At **sub-national level** such as provinces and districts the main strategic documents include the 5 Year SEDP's. For the different sectors, the 5 year sector plans and related annual plans provide guidance to achieve set development goals. Beside this no other strategic documents exist[43], except provincial Environmental Strategies in a few provinces as the result of donor support initiatives[44]. Existing policy implementation tools developed at national level including ESIA and PLUP procedures, as well as technical guidelines are applied as provided.

25. The 5 Year SEDP's are strategic documents, which provide medium-term social and economic targets and goals for the provinces and districts. They outline sector strategies for achieving those targets. Plans integrate national development and sector policies with the needs and priorities of the province and the districts. Provincial plans take the five-year development plans for districts within the province into consideration. The Provincial Department of Planning and Investment (DPI) is responsible for the finalization of this plan in coordination with provincial sector departments, the private sector and mass organization representatives[45]. The plan is approved by the Provincial Governor (Funke, 2009).

1.5 Institutional Context

26. At the national level, *main responsibility* for the management and conservation of biodiversity in agricultural landscapes are with Ministry of Agriculture and Forestry (MAF), especially after the responsibility to implement CBD related commitments has been recently transferred to the Department of Planning at MAF. Beside this other technical line ministries, such NLMA, WREA and MPI are important, especially if mainstreaming of the conservation and sustainable use of biodiversity into agricultural landscapes is concerned.

❒ *MAF* is responsible for all aspects related to agriculture and forestry. It is for example in charge of managing different categories of forests and agricultural land, developing regulations for their management, protection, development and use including environmental protection. MAF was reorganized between 1999 and 2001, resulting in the creation of the National Agriculture and Forestry Research Institute (NAFRI), the National Agriculture and Forestry Extension Service (NAFES), the Department of Agriculture (DoA) and the Department of Livestock and Fisheries (DLF). In 2008 the Department of Forestry Inspection (DoFI) was additionally established. Almost all of its departments[46] are relevant to the conservation and sustainable use of biodiversity in agricultural landscapes. However, so far NAFRI was mainly responsible to implement the NABP in cooperation

[41] Various livelihood development measures, agriculture and forestry related activities, limited infrastructure development.
[42] To secure food supply and commodity production.
[43] Based on investigations in Luang Prabang.
[44] In this case the support from the Sustainable Environment Management (SEM II) project at WREA.
[45] The Lao Front for National Construction (LFNC) and the constituency offices of the National Assembly (NA) are also involved.
[46] 7 departments: Department of Planning, Department of Inspection, Department of Agriculture, Department of Livestock and Fisheries, Department of Forestry, Department of Irrigation, Department of Forestry Inspection), NAFES and NAFRI.

with others and the Department of Forestry (DoF)[47] was in charge of managing the NPA's. Its Department of Planning (DoP) has the overall responsibility for the elaboration of ANR sector plans (e.g. in the context of NSEDP's) and policies, based on the contributions from the different technical departments[48].

❒ The *National Land Management Authority* (NLMA) was set up within the Prime Minister's Office (PMO) since 2003[49]. Its main functions include the coordination of land management across sectors, land management and administration tasks - including land registration and land valuation, carry out land surveys, land allocation, land zoning, land classification and land use planning, granting of land lease and concession, issuing of Land Survey Certificate and Land Title; collecting statistical data on land, and inspecting land use. The most important departments in this context are the Department of Land (DoL)[50], the Department of Land Use Planning and Development (DoLUPaD)[51] and the Land Policy and Land Use Inspection Department (LPLUID)[52].

❒ The *Water Resources and Environment Administration* (WREA) was created in 2007 and has the overall responsibility of implementing government policy related to water resources and environment[53]. Its two main departments are the Department of Environment (DoE)[54] and the Department of Water Resources (DoWR), which includes the Lao National Mekong Committee (LNMC). The Biodiversity Centre under its Water and Environment Research Institute (WERI) was responsible until recently to fulfill the commitments of Lao PDR related to the CBD. The DoE is responsible for environmental management including ESIA, issuing environmental compliance certificates for projects, environmental awareness creation[55] and related research. It also includes the Climate Change Office, which deals with all climate related issues. The DG of WREA is member of the Governing Board of the ASEAN Centre for Biodiversity[56].

❒ The *Ministry of Planning and Investment* (MPI) and especially its Department of Planning (DoP) is responsible for the elaboration of 5-year NSEDP's at all administrative levels. MPI is assigned to coordinate with ministries, other sectors and local authorities in monitoring socio-economic development and preparing periodic reports including the NSEDP and the Public Investment Programs. MPI's tasks include measures to improve processes of government policy formulation, coordination, monitoring, evaluation and refinement.

27. Beside this *high level government organizations* such as the National Science Council and the National Leading Committee on Rural Development and Poverty Reduction under the Prime Minister's Office (PMO), as well as the Lao National Front of Construction and relevant *mass organization* (such as the Lao Women Union) are of interest in this context. There are also a number of *International Non Government Organizations* (INGO's)[57], local *user groups*, as well as *private local and foreign investors* that have a stake in agro-biodiversity – in a direct or indirect way.

[47] Especially its Division of Forest Conservation.
[48] Beside this they are responsible to develop/ suggest sector specific legislation, to implement/ monitor sectoral plans and relevant initiatives.
[49] In accordance to Articles 9 and 10 of the Land Law.
[50] Is responsible for land registration – including private, communal and state land.
[51] Is in charge of land use master planning from national down to the district level.
[52] Has the primary mandate to develop land policies, inspect land uses and related development and land conflict investigation and resolution.
[53] Its creation merges the environment functions of the former Science Technology and Environment Agency (STEA), the Water Resources Coordination Committee (WRCC) and the Lao National Mekong Committee Secretariat (LNMCS).

[55] in cooperation with mass-organizations and the Ministry of Information and Culture.
[56] As such Lao PDR participates in a number of ASEAN-wide initiatives on biodiversity conservation, including policy development and capacity building activities.
[57] Local NGO's are still scarce, but the new Association Decree now provides a legal basis for such, their number may increase and they may gain more importance in the future.

28. Lao PDR is split administratively into one municipality and sixteen provinces, which are further divided into 140 districts, under which there are about 10,300 villages. Villages have been assigned to *kumban* or village clusters for purposes of land-use planning but *kumbans* are not part of the legally established administrative structure. At the local level, the Provinces and Municipalities are the main decision makers on agriculture and natural resources' management. There has been a history of decentralization in Lao, with Provincial Governors, although being centrally appointed, they have significant autonomy, and as they appoint the heads of the District offices there may be a lack of accountability[58]. UNDP has been supporting the Lao civil service and specifically pilot provinces to more effectively deliver services to citizens through the Governance and Public Administration Reform (GPAR).

1.6 Threats to biodiversity in agro ecosystems and Impacts

29. The global biodiversity values of Lao PDR's agro-ecosystems are under threat from a number of anthropogenic actions. These include the following:

30. ***Replacement of traditional varieties by high yielding and commercial varieties***: Farming households are replacing traditional crop varieties with high yielding 'modern' varieties and mono-cropping. This has resulted in a decrease in the proportion of rice production in Lao PDR made up of indigenous varieties, with possible losses in some indigenous varieties, as improved cultivars and introduced varieties have become more common and have been promoted by agricultural extension agencies and donor projects. This has been particularly true for lowland farming areas along the Mekong River, and fewer lowland local rice varieties are used. In 1993, it was estimated that less than a tenth of rain-fed lowland area was growing improved varieties. By 2000 more than 70% of the area in some provinces along the Mekong River Valley was planted with improved varieties59, and all of the dry season irrigated rice was composed of introduced or improved varieties. Large areas have been impacted - it is estimated that most of the local varieties of Savannakhet Province are now only available in ex-situ seed banks. Most cash crops such as maize or sugar cane are grown from materials originating from abroad60. The share of indigenous vegetables being grown is diminishing and is increasingly restricted to home consumption and local market. Fruit trees from Thailand are being introduced to respond to consumer preferences61. Indigenous livestock are being crossbred with hybrid varieties from Thailand and Vietnam. There are programmes that are introducing livestock varieties, such as a Brahmin-Thai, and there is local demand for such hybrids62.

31. ***The intensification of agriculture is also linked to increased inputs and stabilization of swidden agricultur***e: The culturally and ethnically diverse Lao population has been actively engaged in crop domestication and hybridization efforts to suit local tastes, preferred grain quality attributes, harvest characteristics, and to deal with the varieties of climate and geo-physical conditions, for hundreds of years. Traditional knowledge of these agro-biodiversity systems remains scattered with farmers in different localities, and cultivation practices are strongly related to the cultures of different ethnic groups. With changes in culture and land use much of this knowledge is currently being lost. Use of new approaches, higher yielding crop varieties and establishment of plantations often require increased resource inputs such as agrochemicals and larger plots of land. Pesticide and chemical fertilizer use is now increasing as agricultural practices change. Agrochemical use is estimated to still be lower than most other countries in the region, but there are signs that they are having some impacts on aquatic environment. Bio-monitoring surveys of the lower Mekong and selected tributaries has

[58] Martinez-Vasquez, (2008). Reigning in Provincial Fiscal 'Owners': Decentralization in Lao PDR
[59] ADB (2009b)
[60] The indigenous variety of sugar cane (with a dark cane) is mostly confined to home gardens for its medicinal properties.
[61] Conversation with staff at Had Dokkeo Horticultural Research from NAFRI.
[62] Millar & Phoakoun (2008) Livestock development and poverty alleviation: revolution or evolution in Lao PDR

highlighted a negative trend in ecological health of these aquatic systems due to human disturbance, degradation of habitats and reduced water quality63. The government policies to stop swidden agriculture and to promote sedentary or shorter-rotation farming cycle in a limited allocated land area, is expected to reduce crop variety. Traditional farming practices in the uplands are based on swidden cultivation with a ten to 15 year rotation cycle between fallow and cultivation. In some instances, shortening of the swidden cycle is leading to increased pressure on the soil biodiversity, reduced crop yields and greater use by farmers of non-timber forest products.

32. ***Overharvesting of products from natural habitats that are within the wider agro-ecosystem landscapes***: Local communities widely use biological resources in and around the agricultural landscapes for their own food, fuel and shelter and this is a fundamental part of the livelihood strategies of most rural people. Farmers benefit greatly from utilization of wild species both on their farms, mainly aquatic species, and in the surrounding landscape, and have up to now tended to harvest wild species without adequate management measures: "mining" them in effect. Over-exploitation is especially marked where there is a commercial market, but is apparent even when the harvest is just for subsistence. Population densities of small birds and mammals used for food, in areas surrounding farms are much lower than the carrying capacity of these areas. Additionally, for some species, exploitation is often done by outside contractors or entrepreneurs who may pay local farmers to collect. For example, orchids of several species were harvested so heavily in Phonexay District of Luang Prabang Province for export in 2008 (64 tonnes reported, and this is probably an under-estimate), that orchids have disappeared from many areas and regeneration is considered unlikely. Shortly after the salamander *Paramesotriton laoensis* was discovered in Laos it was fetching good prices in the Japanese pet trade and continues to be collected in large and potentially unsustainable quantities. Commercial markets and increased access to markets have led to massive declines in much sought after wild species such as pangolins (*Manis pentadactyla*) and there has been an escalation in the number of non-timber forest products traded commercially.

33. ***Conversion from natural ecosystems to less diverse agro-ecosystem***s: Between 1990 and 2005 6.8 percent of the country's forests were converted to other land uses. The rest was reported to be cultivated swidden fields or "hai" (2.2%), permanently farmed land (5.0%), grassland (2.4%) and urban areas (0.6%). The percentage of agriculture of all land uses increased from 7.5% of land area in 1992 to 11% in 2002. So far there is still lack of clear statistical data concerning land conversion and no studies in Laos of the causes behind conversion of land from one use to another64. It is clear though that there has been significant change at an ecosystems level, including specific conversion from natural to agro-ecosystems. This rapid conversion from natural to agricultural systems has significant implications for biodiversity loss and represents a direct loss of ecosystem diversity, which implies specific threat to biodiversity that relied on those ecosystem habitats. Conversion of natural habitats, including forest and long-abandoned fallow65, to agriculture can lead to replacement of many species with few species (a mono-culture rubber plantation is an extreme example), disruption of energy, nutrient and water storage and cycling, fragmentation of habitats, and disruption of fire and flood regimes. Some such conversion takes place when farmers are denied access to traditional swidden land following the establishment of plantations. Land clearance, or conversion, is in general a greater threat to biodiversity than that of intensification, but some forms of intensification can be particularly damaging to biodiversity both on-site and off-site, and they can have severe negative feed-back on agriculture itself.

[63] MRC (2010) Report on the 2008 biomonitoring survey of he lower Mekong and selected tributaries. MRC Technical Paper 27.
[64] Lund, C. (2010). Study on Urbanization and Land Conversion in Vientiane, Lao PDR. Land policy study 14 under LMRP. Roskilde University, March 2010.
[65] In Laos much of the secondary forest has been cultivated in the past and it still provides habitat for many native species and basic ecological processes are still intact. Such land is regarded as natural habitat when considering the impacts of conversion to intensive agriculture, including tree crop plantations.

34. **Vulnerability to invasive alien species and climate change impacts:** With the increased disturbance to the ecosystems, from intensive and extensive agriculture combined with more roads and transport, there is an increased vulnerability of the systems to be impacted by invasive alien species. There are measures in policy to control deliberate import, but implementation is weak. Exotic rice varieties are being introduced, including one from Brazil. There are existing management problems concerning alien invasive species such as the Argentine Golden Apple Snail (*Pomacea canaliculata)*, Water Hyacinth (*Eichhornia crassipes*) and other plants, including *Fusarium fujikoroi, Echinochloa colonum* (Graminae), *Echinochloa crus-galli* (Graminae), *Minisa invisa* (Leguminosae), and *Mimosa pigra* (Leguminosae). Poisoning of the Apple Snail pollutes water and creates health risks. Any increase in invasive alien species poses a direct threat to in-situ conservation and as such needs to be considered in any agro-biodiversity management. The economic impacts of introduced species can be significant and where possible prevention is far more effective than cure. It is expected that global climate change related to increased greenhouse gases in the atmosphere will also affect Lao PDR's agro-ecosystems.

1.7 Long-term solution and barriers to achieving the solution

35. The long term solution that the project will contribute to is "**conservation and sustainable use of biodiversity resources in agro-ecosystems in Lao PDR for the attainment of food security and sustainable economic development and adaptation to climate change impacts".**

36. To achieve this long term solution, the multiple values of conserving Lao PDR's biodiversity endowment have to be mainstreamed into government policies and incentives and capacities in order to mainstream biodiversity, especially agro-biodiversity, successfully at the community, District, Provincial and National levels.

37. Loss of crop and domestic animal diversity, crop-associated biodiversity and other biodiversity within agro-ecosystems and degradation of ecosystems are being caused through a number of direct and indirect threats, which are discussed below. Land use practices are placing greater pressures on biodiversity and agro-biodiversity, and affecting the ecological functioning of these agro-ecosystems. The changes to agro-ecosystems may have significant impacts: reduced resilience, a loss of ecosystem services and reduced adaptive capacity for agriculture. This is of further concern in consideration of global climate changes. Key barriers to achieving the long term solutions include:

- Biodiversity considerations not properly integrated into national policy and institutional frameworks related to agriculture, land management
- Weak capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community levels

38. These are discussed in detail below.

39. <u>Biodiversity considerations not properly integrated into national policy and institutional frameworks related to agriculture, land management:</u> These can be further classified into policy and legal weaknesses, low institutional capacities to promote conservation into agro-ecosystems,

40. *Policy and legal weaknesses*: As noted earlier in the document, government agricultural policies in Lao PDR are geared towards the reduction of poverty, and linked into the National Growth and Poverty Eradication Strategy (NGPES). To date, the concept of agro-biodiversity has not been integrated into policy documents. Even the National Biodiversity Strategy and Action Plan (NBSAP) does not detail any action plan for agro-biodiversity conservation. In December 2004, MAF endorsed

the Lao PDR NABP, as a framework for the use, development and conservation of agro-biodiversity, and in 2006, Lao PDR acceded to the International Treaty on Plant Genetic Resources for Food and Agriculture. The 6th (2005-2010) and draft 7th (2011-2015) National Socio-economic Development Plans (NSEDP) for the Lao PDR however are largely focused on increasing levels of agricultural productivity, rather than the conservation and sustainable use of agro-biodiversity. The Agriculture Law is also out of date and does not have a strong emphasis on biodiversity, including agro-biodiversity. Furthermore with rapidly increasing commercial land-use, biodiversity related criteria needs to be integrated into Environmental Social Impact Assessment (ESIA) guidelines – particularly in their relevance to foreign investment into commercial farms and plantations. This process had been initiated during the FAO/FNPP implementation of the NABP.

41. One key area of poor biodiversity conservation is in the Land Use Planning and Land Allocation Law (LUP/LA, 2003), which was instituted by the Lao government to encourage farmers to protect land and use it more effectively through delineating land-use areas and village boundaries. The law, however, has not been effectively implemented or enforced in a majority of villages. One aspect of the law, which stipulates that land left fallow for more than three years reverts to community ownership, has resulted in farmers planting rubber on the land, whether it is suitable or not, simply to retain the land-use rights. No substantive controls have been placed on the areas under rubber cultivation. In general the distribution of the benefits, which are created in these commercial arrangements is not clear, and this also applies to the long-term implications for poverty reduction, sustainability of farming practices, and incentives for planters, farmers and labourers alike to consider biodiversity in their decision-making. This is further compounded by the lack of resources to support agro-biodiversity management: understanding incentives and motivators for agro-biodiversity management, education, training, extension services based on such knowledge. There is a severe lack of capacity to support the development of agricultural systems that are agro-biodiversity "friendly". Although the small-scale and subsistence agriculture that characterizes much of Lao PDR depends to a large extent on agro-biodiversity and wild plants, the national extension service currently lacks the capacity to provide practical support to farmers to maintain or improve productivity in agro-biodiversity rich farming systems as an alternative to external-input dependant agriculture. National policies and training and development programmes instead focus on the "modernization" and "transformation" of the agricultural sector. The potential impact of this situation is all the greater when considered in the light of climate change and homogenization of crops. Both trends increase the vulnerability of farmers to crop failure, which affects not only food security at a local level, but also the economic productivity of the sector.

42. *Low institutional capacities to mainstream biodiversity into sectoral policies and plans and to coordinate actions related to planning, monitoring and implementing actions related to biodiversity conservation in agro-ecosystems*: The key institution with the mandate to promote effective agro ecosystem management is the Ministry of Agriculture and Forestry. This institution does not have the requisite skills to mainstream biodiversity conservation into its plans and policies as well as to influence other sectoral plans and policies that impact on biodiversity on agro-ecosystems. The National Capacity Self Assessment (NCSA) has identified a number of weaknesses in the implementation of CBD, which are also directly relevant to agro-biodiversity and mainstreaming biodiversity into the agriculture sector. These include, at the national level- lack of clear direction and effective plan to mobilise support and proceed with the implementation of the NBSAP; policies, strategies and action plans on research, study and public awareness on biodiversity conservation and sustainable use are not well defined and their implementation is not effective. At institutional level, key issues include limited staff numbers, especially those with technical knowledge, capacity and experience on mainstreaming biodiversity or managing agro-biodiversity, insufficient resources to a) train staff in PA management techniques and b) work with local communities to promote sustainable use of biodiversity; and ineffective mechanisms to coordinate training issues and needs between key

sectors – and between centre and provincial levels. Responsibility for CBD implementation was recently passed from WREA to the Department of Forestry in MAF. The CBD requires Lao PDR to act to conserve its biodiversity. Preliminary discussions on UNDP Capacity Scorecard has also indicated that MAF has shown that mainstreaming biodiversity into its plans and actions have not been strongly championed within the organization, and that the institution does not have adequate skills for planning and management related to agro-biodiversity conservation. Furthermore, there are insufficient internal mechanisms for monitoring, evaluation, reporting and learning.

43. *Limited available tools support decision-making and to enhance incorporation of agro biodiversity into stakeholder actions*: Existing use of training, extension, communication and mapping are not geared towards promoting conservation of biodiversity in agroecosystems and they are not widely available for use by wider stakeholder groups such as senior policy makers, NGOs or local communities to raise awareness or capacities to enable them to mainstream biodiversity into their work. Information to assist in strategically planning land use for allocation of commercial land to areas of lower biodiversity, including agro-biodiversity, is not available. There is a current lack of environmental indicators, which in turn impacts available data for decision-making. In regards to the Millennium Development Goals for Lao PDR, the 2008 MDG progress report specifically refers to the lack of biodiversity indicators. Although specific strategies to increase forest cover exist and could be used as indicators for biodiversity, the definitions of forest cover include plantations and as such might distort the data. At provincial and district levels there is also a lack of indicators not just for biodiversity but also the implementation of many other policies. This is considered as a considerable threat: so long as there is a lack of clear indicators for biodiversity there is less responsibility and accountability in managing biodiversity and mitigating the loss of biodiversity.

44. *Weak capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community levels*

45. *Low capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community levels*: Translation of national policies and laws to local plans and actions has been weak in Lao PDR, primarily as capacities at local levels have been extremely weak. Provincial and district agriculture plans and programmes have no focus on agro-biodiversity or promoting biodiverse agro-ecosystems. There are limited direct incentives for provincial and district agriculture staff to promote any mainstreaming of biodiversity in their actions, no ongoing formal capacity building actions or mechanisms to monitor and reward good work. The focus on economic growth and agricultural productivity increases alone makes conservation friendly farming or maintenance of agro biodiversity in-situ less attractive to local agencies to promote.

46. *Weak community involvement in land use decision making*: One of the constraining influences on long term planning by local communities is some farmers' lack of confidence that the land they live on and the resources they are interested in will remain under their control for long enough for them to benefit from their management of resources, and from any management measures they invest in. This is particularly the case when people find themselves not fully informed or consulted about development proposals. Decisions on land-use, both conversion and intensification, affect biodiversity but the costs of the loss of biodiversity are not always borne by those deciding whether or not to conserve as well as to use it sustainably. Hence, local officials and individual farmers often have insufficient incentives to take these costs into account when making their land-use decisions. The result is that both farmers themselves and government programmes systematically undervalue the benefits of biodiversity conservation and sustainable use, and the costs of the unsustainable extraction and loss of biodiversity. The issue of limited community participation is hampered by multiple languages and traditional practices, in policy development and existing gender inequality. In particular women in Lao, including ethnic minorities, are typically assigned key tasks related to food

production, but they are less engaged in decisions, especially policies, that impact food production. The lack of community natural resource management and insecurity over land tenure directly contributes to increased exploitation and reduced management.

47. *Limited direct incentives to maintain agro-biodiversity*: Maintenance of diversity of habitats, species and varieties in the agricultural landscape protects against disease, pests, climatic variations, and facilitates pollination and maintenance of soil fertility, and also safeguards vital resources for local livelihoods. However, even though a portion of these benefits will accrue back to an individual farmer, the incentive to change practices is often insufficient unless there is a framework of cooperation to support it. Benefits that accrue to downstream communities as a result of land-use changes undertaken at some cost by individual farmers, are even harder for them to "internalize" into their decision-making. Agro-biodiversity is an impure public good that has both public (e.g. genetic base) and private (e.g. farmer utility) characteristics. It therefore follows that strong policy with financial and operational support is required to ensure its conservation. This includes the need for an explicit recognition of the important role of both farmer and wild varieties in national food security and economic growth, accompanied by the development of farmer extension services that are capable of providing practical support to farmers to maintain or improve the productivity of agro-biodiversity as a complement to modern external input-dependent agriculture. While agricultural intensification is being promoted there is a lack of incentives for the maintenance of agro-biodiversity.

48. *Market failure in valuing agro-biodiversity*: Agro-biodiversity resources in Lao PDR are particularly important in food security and household nutrition and furthermore provide many options for the agricultural sector. These important values are not easily monetized and are typically not included in conventional economic cost-benefit analysis they are often termed as externalities. There is a general market failure. The market does not capture financial returns associated with the benefits of maintaining the agro-biodiversity of Lao PDR, be these benefits accrued at an international or local level. However, there are severe capacity constraints to overcome market failures for promotion of agro-biodiversity conservation through market mechanisms. Already many local varieties have disappeared from in situ cultivation, and farmers will find it hard to refuse the improved (high yield) varieties that are likely to be developed in the near future for use in the uplands. This is occurring despite the knowledge that biodiversity-rich farming systems can be high-yielding and sustainable and that the adoption of farming practices that utilize and conserve biodiversity contribute positively to both environmental quality and household nutrition.

49. *Poor involvement of private sector in promoting conservation friendly farming*: Government and donor-funded development projects in Lao PDR have started to increase consideration on biodiversity conservation in their policy and projects, though it is far from adequate currently. In addition, a growing number of companies are taking measures for biodiversity conservation and using it for marketing purposes, taking advantage of consumers growing interest in "natural products". Organic Agriculture, Fair Trade, Ecotourism, Domestication of NTFPs and Home gardens have been discussed as market opportunities to mainstreaming biodiversity in farm landscapes as well as providing improved income for the farmers. They have demonstrated their ability/capability to not only produce commodities but also to "produce" biodiversity at all levels. However, activities are still small-scale and not particularly well understood, coordinated or known. They are not yet integrated into a huge portion of all agricultural practices in Lao PDR. These market-based opportunities should be considered as a starting point: providing an introduction to the topic, to generate discussions, and to inspire to further research about biodiversity in the farmlands of Lao PDR.

50. There is currently a strong market demand for rubber and the Government of Lao PDR has been promoting rubber and other cash crops as alternatives to shifting cultivation. In addition private investors from Vietnam, China, and Thailand have been provided large-scale concessions in all areas

of the country (in some southern provinces more than 25,000ha) with long-term leases. For the most part, areas designated for rubber planting are degraded forest area and fallow land, however, in the North, the greatest amount of biodiversity is found in these same upland fallows, and, in most instances, such areas play a vital role in villagers' food security. The rising number and diversity of contract and concession farming schemes in recent years requires new 'modes of operation' and engagement with a multitude of private and public sector stakeholders[66]. Infrastructure (e.g. roads, irrigation, housing, shops) built to support large scale agricultural production efforts also affect biodiversity directly and indirectly. Simply opening up an area with a road can have far reaching impacts on the surrounding land and its biodiversity. As evidenced through study of aerial photographs over time, it is very significant how the establishment of roads is a precursor to land conversion[67]. These commercial and infrastructure activities could be made to be more biodiversity friendly through better biodiversity understanding, mapping, land use planning, incentives and legislation[68].

1.8 Stakeholder Analysis

51. At the national level, ***main responsibility*** for the management and conservation of biodiversity in agricultural landscapes are with MAF, especially after the responsibility to implement CBD related commitments has been recently transferred to the Department of Planning at MAF. Beside this a range of other technical line ministries, institutions and organisations, are concerned with mainstreaming of the conservation and sustainable use of biodiversity into agricultural landscapes. The following Table 2 identifies some of the key stakeholders:

[66] FAO-IPM (2010) Lao National IPM Programme
[67] Lund, C. (2010). Study on Urbanization and Land Conversion in Vientiane, Lao PDR. Land policy study 14 under LMRP. Roskilde University, March 2010.
[68] Gambling on Laos –draft (2010). BBC Earth Report documentary.

Table 2: Key project stakeholders

Stakeholders	Role in biodiversity/ agro biodiversity conservation	Involvement in project
Ministry of Agriculture and Forestry (MAF)	MAF is responsible for all aspects related to agriculture and forestry. Almost all of its departments[69] are relevant to the conservation and sustainable use of biodiversity in agricultural landscapes. MAF is also responsible to fulfill commitments under the CBD.	MAF is directly responsible for project implementation. They are the executive of the project board and will assign staff to be the National Project Director to guide and support project implementation.
MAF–Department of Planning **(DoP)**	Has the overall responsibility for the elaboration of ANR sector plans (e.g. in the context of NSEDP's) and policies, based on the contributions from the different technical departments[70].	Take the overall lead role in guiding, coordinating and implementing the project, especially policy level work under Component 1.
MAF–Department of Forestry Inspection **(DoFI)**	Has overall responsibility for forestry and includes management of the Nature Conservation areas. Forestry is directly responsible to fulfill commitments under the CBD.	Contribute to Component 1 policy development and provide guidance for Component 2. implementation. Management and monitoring of biodiversity and support agro-ecosystem planning in and adjacent to protected areas. Assistance in developing in-situ conservation of agro-biodiversity.
MAF-National Agriculture and Forestry Research Institute **(NAFRI)**	NAFRI has four main functions including: carrying out adaptive research, developing methods, tools and information packages, providing policy feedback, and coordinating and managing research. They have mainly been responsible to implement the National Agricultural Biodiversity Programme developed in cooperation with FAO.	Contribute to Component 1 policy development and provide guidance for Component 2. Will take a lead role in Agro-biodiversity related research for policy development and to guide management considerations such as in-situ and on-farm conservation.
MAF–National Agriculture and Forestry Extension Service **(NAFES)**	Government Extension services organize training and provides advice on a wide range of subjects: crops, livestock, soils, forestry and irrigation. The staff at District level are generalists who support the Village Extension System (VES) and are supported by specialists at the Provincial level.	Contribute to Component 1 policy development and provide guidance for Component 2. Direct involvement through the development of agro-biodiversity extension materials, services and packages and use of these materials by PAFO and DAFO in the pilot sites. Linkages with Lao Extension in Agriculture Project.
MAF-Department of Agriculture **(DoA)**	Control, inspect and develop national plant	Contribute to Component 1 policy development and provide guidance

[69] 7 departments: Department of Planning, Department of Inspection, Department of Agriculture, Department of Livestock and Fisheries, Department of Forestry, Department of Irrigation, Department of Forestry Inspection), NAFES and NAFRI.
[70] Beside this they are responsible to develop/ suggest sector specific legislation, to implement/ monitor sectoral plans and relevant initiatives.

	protection activities including their harmonization with those of neighbouring countries. Create and develop relevant information systems on agriculture and propagate and deliver these systematically at the village and village cluster level, provide capacity building and training for technical officials in the agriculture sector and cooperate with national and international agencies to develop best practices in agriculture.	for Component 2. Direct involvement through the development of biodiversity friendly agriculture, the development of value chains for agricultural products.
MAF-Department of Livestock and Fisheries **(DLF)**	DLF's mandate is "Developing and implementing policies, strategies, work plans concerning livestock and fisheries management and related to veterinary medicine, producing information material, provide monitorin and evaluation, evaluate and implement regulations, decrees, instructions and technical advice concerning livestock and fisheries as well as veterinary medicine."	Contribute to Component 1 policy development and provide guidance for Component 2. Direct involvement in assessment and management of animal genetic resources.
MAF–Provincial Agriculture & Forestry Office and the District Agriculture & Forestry Office **(PAFO and DAFO)**	Implementation of MAF activities at Provincial and District levels. This includes staff assigned to agriculture, forestry, extension and protected areas.	Direct involvement through training and engagement of staff to conduct agro-biodiversity related activities in the field, including monitoring, extension and planning.
Pilot Communities	Strong interrelation between biodiversity and quality of life, many in subsistence situations relying on collection of natural resources and may be engaged in enhancing or losing agro-biodiversity based on decisions.	Direct involvement through training and engagement of community members to conduct agro-biodiversity related activities in the field, including monitoring, extension, planning and demonstration.
The National Land Management Authority (NLMA/ PMO)	Main functions include the coordination of land management across sectors, land management and administration tasks for land – including registration, valuation, survey, allocation, zoning, land use planning, lease and concession, issuing of Land Survey Certificate and Land Title; collecting statistical data on land and inspecting land use.	Involvement in mainstreaming biodiversity into planning and assistance with participatory land use planning process and implementation.
Ministry of Planning and Investment (MPI)	Responsible for the elaboration of 5-year NSEDP's at all administrative levels. MPI is assigned to coordinate with ministries, other sectors and local authorities in monitoring socio-economic development	Making linkages between agro-biodiversity and the NSEDP. Seeking opportunities to incorporate agro-biodiversity into public investment programs.

	and preparing periodic reports including the NSEDP and the Public Investment Programs.	
The Water Resources and Environment Authority (WREA)	Overall responsibility of implementing government policy related to water resources and environment[71]. Its two main departments are the Department of Environment (DoE)[72], and the Department of Water Resources (DoWR), which includes the Lao National Mekong Committee (LNMC).	Making linkages between agro-biodiversity and policies related to water resources (watershed and water quality) and environment (ESIA and climate change adaptation). Assist in the development of indicators for agro-biodiversity.
The Ministry of Education (MoE)	Direct influence to students based on the information they share about biodiversity and agro-biodiversity conservation.	Potential linkages to extension and public information campaigns
Universities and training institutions	Direct influence to students based on the information they share about biodiversity and agro-biodiversity conservation.	Potential linkages through the extension and public information campaigns. Potential direct linkage with agro-biodiversity curricula for the Luang Prabang Agriculture and Forestry College.
ODA and NGO's	Direct influence to through the activities they choose and the level to which biodiversity and agro-biodiversity conservation considerations are incorporated.	Many potential linkages throughout the proposed project activities, specifically through coordination and mainstreaming of agro-biodiversity
Mass Media	Direct influence to general public and decision-makers based on the news they share about biodiversity and agro-biodiversity conservation.	Linkages to public information campaign. Press releases and potentially journalist training.
Private sector	Direct involvement in commodification of biodiversity and agro-biodiversity and could mitigate or exaggerate biodiversity loss based on their decisions and planning.	Potential to integrate agro-biodiversity into private sector plans. Potential market links with private sector through value chains for community agro-biodiversity products.

1.9 Baseline Analysis

52. The currently limited work on agro-biodiversity conservation and sustainable use focuses on species of primarily national as opposed to global values. Work on agro-biodiversity conservation focuses on locations that are more accessible and not necessarily on locations of global importance. Furthermore, there is no adequate focus on conservation of other globally important wild species that occur in agro-ecosystems. The importance of agricultural landscapes to provide both biodiversity refuges from wider development pressures, and corridors between areas of high global biodiversity significance should not be underestimated.

[71] Its creation merges the environment functions of the former Science Technology and Environment Agency (STEA), the Water Resources Coordination Committee (WRCC) and the Lao National Mekong Committee Secretariat (LNMCS).
[72] The department also acts as the secretariat to the coordinating National Environment Committee (NEC) and climate change.

53. Under the baseline, the Government's work on refining policies, laws and other legal instruments will not provide adequate importance to mainstreaming biodiversity, and specifically agro-biodiversity, into its agriculture, land use or into ESIA guidelines. Without this project's support, there may well be very little urgency to update these to respond to existing urgent challenges and to anticipate future challenges to agro-biodiversity.

54. Any refinement or updating of such policies, laws and legal instruments will not be built on global best practices and there may be low stakeholder consultation and "pre-testing" of such policies on the ground to make them really workable and effective. Moreover, the challenges of translating national policies, plans and laws to effective implementation at provincial to local levels will remain. This may mean that whilst national policies and plans mainstream biodiversity (including agro-biodiversity), the provincial plans and programmes may not provide equal emphasis – thereby leading to low impacts on the ground.

55. With national interest on conservation and sustainable use of agro-biodiversity in Lao PDR, there is support from many agencies for agro-biodiversity work. Although envisaged in the National Agricultural Biodiversity Programme, activities remain poorly coordinated and with no significant policy or capacity building impacts. The cross-sectoral "buy in" on the importance of biodiversity will remain weak and there will be very weak linkages to current ongoing initiatives around the country to inform related policy and legal reforms. The government's field promotion of participatory village land use planning will continue without strong incorporation of biodiversity conservation agenda. Under the baseline situation, poor coordination between different government agencies whose actions impact on biodiversity in agro-ecosystems will continue, thereby hampering conservation outcomes. In addition, any good work being done by government agencies, local communities and others may be undermined unwittingly by another agency that maybe promoting programmes that negatively affect local biodiversity.

56. The government agency responsible for agriculture and forestry (MAF) will continue to have low capacities to promote biodiversity (and specifically agro-biodiversity) through their own programmes and to effectively engage as an agency to further mainstream these agenda in other government agencies' plans and programmes as well as in local government actions. They will not have the tools and information available to them to identify priority areas, agro-biodiversity species and to identify and promote innovative actions on the ground to wider geographical areas. Furthermore, this will not lead to effective prioritization and targeting of thematic and geographic locations for external support that maybe forthcoming for biodiversity (and agro-biodiversity) conservation.

57. Market forces and unsustainable agricultural "development" threatens such biodiversity occurring in agro-ecosystems and globally significant genetic resources of crops and their wild relatives risk being lost. Local community involvement in promoting agro-biodiversity and general biodiversity conservation will remain low. Opportunities for local communities to safeguard their agro-biodiversity in face of increased globalization and economic pressures will remain and they may not be able to realize effective benefits of their interests for maintaining a diverse agro-ecosystem. This in turn, may make them more vulnerable to any seasonal or long-term climate change impacts that affect their crop production.

58. In the absence of positive market forces the Government will need to consider guidelines to assist the private sector in mitigating their impacts, but at present this role is not functioning. The private sector's involvement in ensuring better environmental outcomes of their actions will remain weak and they will not be encouraged to have environmentally and socially responsible and sustainable actions.

2. PROJECT STRATEGY

2.1 Project Rationale

59. 58. Agriculture, including crops, plantations and livestock, plays a significant role in the Gross Domestic Product for Lao PDR, and even more significant role in providing food and livelihoods for a majority of the population. In spite of the significance of this sector policy and management mechanisms have been somewhat ad-hoc and there has been a lack of attention placed on the management of agro-ecosystems and agro-biodiversity.

60. GEF under this project will add global biodiversity benefits to ongoing national efforts, which is providing mainly focused on poverty alleviation and conservation of agro-biodiversity for food security and sustainable economic development. It will address impacts of agriculture on biodiversity both on-site and off-site, with an emphasis on species of global significance, and will consider biodiversity at the wider landscape scale within agro-ecosystems.

61. The aforementioned barriers to achieving the solution can be broadly grouped under capacity and incentives. The rationale of this project is to respond to these barriers. Supporting capacity to not only mainstream agro-biodiversity into policy but the coordination, skills, understanding and tools to support good policies and strong implementation from the national levels, through the provinces and districts to the community. This will further be supported through incentives for agro-biodiversity from increased understanding, agro-biodiversity extension, participation of communities in land use planning, marketing agro-biodiversity products and working with the public and private sector.

62. GEF investment in this project will lead to strengthened policy, a coordinated and strategic investment in biodiversity conservation in agro-ecosystems with long-term national capacity building in Lao PDR. Mainstreaming increases wider awareness and support to ensure agro-biodiversity is considered across different sectors and builds capacity for management and sustainable use. Alternatives of creating protected agricultural landscapes, or developing regulations and incentives for agro-biodiversity would be ineffective without underpinning by a wide appreciation of these values. The project is well timed to strengthen and support improvements in relation for capacity and incentives for agro-biodiversity.

2.2 Policy conformity

63. The project strategy is consistent with Lao PDR's five-year National Socio-Economic Development Plan (NSEDP) for 2006-2010, which integrates the National Growth and Poverty Eradication Strategy (NGPES) and the National Biodiversity Strategy and Action Plan (NBSAP), the Strategic Vision for Agriculture Sector (2000-2020). Lao PDR acceded to the Convention on Biological Diversity in 1995, and the NBSAP was approved in 2004 with the objective to "maintain the diverse biodiversity as one key to poverty alleviation and protect the current asset base of the poor". One of its strategic principles is that "cultivated areas should remain diverse and productivity should be increased, through protection, conservation and the sustainable use of land resources".

64. In 2004, with the assistance of FAO and UNDP, the National Agricultural Biodiversity Programme in Lao PDR (NABP) was prepared to provide a long-term strategy for implementing a coordinated approach to better using, developing and conserving agricultural biodiversity in the country. The NABP aims to support two main development priorities for Lao PDR: i) achieve food security for improving the livelihoods of the rural communities; and ii) enhance the Government's capacity to ensure the sustainable use of natural resources. Under the most recent policies of the Ministry of Agriculture and Forestry, four targets are identified – i) Ensuring food security, ii) Commercialization

of agriculture production, iii) Shifting cultivation stabilization for poverty reduction, iv) Sustainable forest management. Because of the importance of biodiversity in agricultural landscapes for food and nutrition of rural people, the conservation and sustainable use of agricultural biodiversity would be considered under the first and fourth of these targets. 13 measures to achieve these targets have been identified including improving planning and land use surveying methods, establishing technical support at the village cluster level, and capacity building.

65. As outlined at the cover page of this project document, this project is also consistent with UNDP's global and national strategic plans. The relevant Lao PDR's UNDAF Outcome is UNDAF Outcome 1: By 2011, the livelihoods of poor, vulnerable and food insecure populations are enhanced through sustainable development (within the MDG framework).

66. Lao PDR ratified the Convention on Biological Diversity on 9/20/96, and submitted its first Biodiversity Country Report (BCR) in 2004 and thus is eligible for GEF funding for biodiversity conservation. The focus of the project is in conformity with the GEF Biodiversity Focal Area Strategic Objective 2 "To mainstream biodiversity in production landscapes/seascapes and sectors" and Strategic Program 4 "Strengthening the policy and regulatory framework for mainstreaming biodiversity". The expected Outcome is "Policy and regulatory frameworks governing sectors outside the environment sector incorporate measures to conserve biodiversity", and the Indicator is "The degree to which polices and regulations governing sectoral activities include measures to conserve and sustainably use biodiversity as measured through GEF tracking tool." As per SP 4, the project will "remove critical knowledge barriers, develop institutional capacities, and establish the policies, and the legislative and regulatory frameworks required to integrate biodiversity conservation and sustainable use objectives into the actions of the production sectors" – focusing on agricultural and land use planning sectors.

67. Holistically this project will also contribute toward the Climate Change and Land Degradation Focal areas. The project is also consistent with the Climate Change Focal Area Strategy, in particular Strategic Priority: Piloting an Operational Approach to Adaptation. Specifically, "to support pilot and demonstration projects that both address local adaptation needs and generate global environmental benefits in the focal areas in which the GEF works: biodiversity, climate change, international waters, land degradation, and persistent organic pollutants (POPS)." Agro-biodiversity should also be a key consideration in the National Action Plan for Climate Change Adaptation (NAPA), as the maintenance of agro-biodiversity assists adaptive capacity for agriculture. The recent strategic report on Climate Change73 also links to agro-biodiversity, promoting the need for policies and practices to mainstream climate change into the agriculture sector, enhancing conservation agriculture and in-situ and ex-situ gene pool conservation.

68. Under the Land Degradation Focal Area, it will contribute: "To develop an enabling environment that will place Sustainable Land Management in the mainstream of development policy and practices at the regional, national and local levels" and also to "To upscale Sustainable Land Management investments that generate mutual benefits for the global environment and local livelihoods".

2.3 Country Ownership & Drivers

69. The project concept was identified as a priority for Lao PDR with the GEF and the government submitted an endorsement letter through its Operational Focal Point national to the GEF in support of this project as per GEF policy. As noted in the section above, the project is highly relevant to national

[73] Strategy on Climate Change of the Lao PDR (2010)

priorities and was developed through extensive stakeholders' consultations including two national stakeholders' workshops and several informal meetings.

70. Furthermore, the project document was reviewed by a formal Local Project Appraisal Committee (LPAC) consisting of government representatives, implementing agencies and other stakeholders to ensure country ownership and strong coordination amongst existing initiatives. The minutes of the meeting are attached as Annex 1. The Government of Lao PDR has also provided co-financing for this project as an indication of their support to the project and national ownership.

71. To further ensure strong national ownership, this project will be nationally implemented under UNDP's National Implementation Modality (NIM). While there will be international support, the project will be locally driven by a national team. The focal team for this national implementation is to be done through the Ministry of Agriculture and Forestry and specifically the newly established Department of Planning. The national implementation of the project promotes more responsiveness and integration of project activities with Lao PDR directions.

72. There have been clear requests from government for support in coordination of donor assistance in the conservation and sustainable use of biodiversity. Donor coordination in the ANR sector is done through the overarching Agriculture and Natural Resource Sector Working Group including a number of sub-sector working groups. Donor coordination in the Biodiversity sector will most probably be addressed through the creation of a new sub-sector working group or by enlarging the mandate of the existing Forestry sub-sector working group. The NBSAP will be the key GoL's strategy for the coordination of development partner support in terms of agro-biodiversity conservation and sustainable use. The effort at alignment and harmonization will include the forestry, agriculture, environment and land sectors.

2.4 Design principles and strategic considerations

73. In addition to conformity with national priorities, GEF strategy, UN's work globally and in Lao PDR and national ownership, a number of other strategic considerations have played a role in this project's formulation. These include gender equity, coordination with relevant initiatives, UNDP's and FAO's comparative advantages, and balance between national policy and local actions which are discussed below. The additional considerations for cost effectiveness, sustainability and replicability are discussed later in the document.

Gender considerations

74. Swiss Agency for Development and Cooperation (SDC) research in 2007 focused on Agro-biodiversity and Local Knowledge Issues for Luang Prabang and Xieng Khouang Provinces, has noted that "women are playing more significant roles on house work such as cooking, weaving, cleaning and babysitting while men are mainly perceived to be responsible for demanding physical labour such as construction of the home, building weaving equipment, rearing livestock and hunting for exotic foods." Women are typically given key responsibility for food security in the family and as such are intrinsically linked to resource choices for family consumption. However, there is a noted bias toward men in decision-making positions in Lao PDR, so specific measures are required to encourage and support the engagement of women in decision-making related to land use planning as well as in equitable benefit sharing from land use decisions. Additionally, women farmer's voice must also be promoted in affecting policy changes envisages under this project. As this project will seek to show a link between agro-biodiversity and food security women will be key stakeholders. Significantly, there is no simple tool to integrate gender considerations across the country. The most important consideration is that each community should be seen as being unique and that the project

will need to orient activities in a way that promotes gender equity while acknowledging and respecting the cultural-ethnic roles of gender.

Strong coordination and partnerships with relevant initiatives

75. One of the main strategies of the project is to take advantage of the considerable body of work completed and in progress in agricultural development on many sites throughout Lao PDR, and to feed these results back to policy making and agricultural development with biodiversity concerns robustly and effectively taken into account. The GEF project will also form partnerships with a number of other agencies, projects and programmes active in the fields of agricultural development and the conservation and sustainable use of biodiversity.

76. Strong partnerships with TABI, district and provincial government agencies, the private sector and local communities will lead to significant contributions to agro-biodiversity conservation and sustainable use; this would be a more cost-effective and sustainable approach than a solely government, bilateral, or GEF-funded programme. With effective national and ground level actions to conserve agro-biodiversity and other globally important biodiversity, occurring in agro-ecosystems, expensive remedial future actions to conserve biodiversity will be avoided.

77. Potential partners identified so far include the Poverty and Environment Initiative (UNDP), Support for an Effective Lao PDR National Assembly (SELNA), Sustainable Forestry and Rural Development Project (SUFORD), Pha Tad Ke Botanic Garden74, Sustainable Natural Resources Management and Productivity Enhancement Project, IUCN, WCS, WWF, and the Lao Biodiversity Association. There will be partnerships with GEF too, through the Climate Change in Agriculture in Lao PDR project, the GEF Small Grants Programme, and the WB/GEF/GoL project75 Lao PDR: Protected Area Management Models for Lao PDR: Learning and Disseminating Lessons from Nam Et-Phou Louey. Additionally, the project will also benefit from coordination and learning from other projects such as the on-going experience in the Bolovene Plateau (South of Laos) where locally and organically-grown mountain coffee is promoted by Geographical Indications (a label promoting the origin of the production) and Fair Trade with French cooperation support and even with follow up activities involving skills training, of the trans-national project BMZ NAREN (Sustainable management of resources in agriculture: Agro-biodiversity).

78. The project will ensure strong coordination and collaboration with important actors in the biodiversity conservation and agriculture sectors in Lao PDR e.g. collaborating especially with the SDC funded agro-biodiversity projects and with other organisations e.g. ADB, World Bank, IUCN, MRC, SNV, Helvetas, DED, IRRI, WWF and AVRDC. NAFRI has been working with IRRI to ensure that indigenous rice biodiversity and associated farmer knowledge are conserved, documented and better used. Extensive collections of rice samples have been stored in the country, with duplicates kept in the IRRI gene bank in Manila. Other organisations such as SNV, IUCN and WWF have NTFP-oriented programmes, which involve sustainable use and domestication. The project will also ensure strong coordination and cooperation with the World Bank-GEF project Protected Area Management Models for Lao PDR: Learning and Disseminating Lessons from Nam Et-Phou Louey. The project's implementation structure has been set up to promote such partnerships and coordinated actions.

Building on UNDP's comparative advantages as lead UN agency for this project

[74] http://www.pha-tad-ke.com/english/downloads/Pha-tad-ke-pressfile.pdf
[75] Medium Sized Project PIF approved MSP under preparation

79. UNDP's strengths come from its mandate to manage environment for sustainable development and achievement of the Millennium Development Goals, and from its strong country presence in the Lao PDR. It emphasizes mainstreaming of environment concerns into national development strategies and plans. Its biodiversity and ecosystem services have a wide portfolio for mainstreaming biodiversity into national and global policies, and for developing the capacity of local governments, communities and indigenous groups to conserve and use biodiversity sustainably. UNDP Lao was responsible for developing the NBSAP, for the Mekong Wetlands Biodiversity Programme and for strengthening government capacity for MEAs, including the CBD. It has an ongoing environment portfolio managed by a dedicated unit in partnership with UNEP, and it is working with the Government on the Poverty-Environment Initiative (UNDP-UNEP), NSEDP and the donor round-table process, giving it a unique position to mainstream key issues in national policies, strategies and plans. UNDP's current work to strengthen local governance and service delivery offer other opportunities to promote key issues at provincial and district levels. UNDP will be the lead agency as GEF Implementing Agency for this project.

2.5 Project objective, outcomes, outputs/activities

80. The objective of this project is: to provide farmers with the necessary incentives, capabilities and supporting institutional framework to conserve agricultural biodiversity within farming systems of Lao PDR. To achieve this, the multiple values of conserving Lao PDR's biodiversity endowment have to be mainstreamed into government policies, and productivity and food security at the household level must be improved whilst simultaneously securing the conservation of important agro-biodiversity. There are inadequate capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community level. The project is split into two overarching components, the first having a more national policy focus and the second having a more provincial, district and village level action focus. Within these components the following section identifies the project outputs and indicative activities to fulfil these outputs. The project will work very closely with TABI using the Phonexay, Phoukout (and subsequently additional) field sites to test the implications of the pilot demonstrations for policy and vice-versa. GEF will also fund long term mentoring of the District Agriculture and Forestry staff in Phonexay and Phoukout with project staff in daily contact with villagers. TABI has a permanent presence at Provincial level (PAFO): the GEF project will complement the TABI structure by supporting DAFOs through District Project Assistants.

81. Component 1 in collaboration with Outcomes 1 and 5 of TABI will have a nationwide focus, with its aim of creating a nationwide enabling environment for mainstreaming; however staff working on this component will also carry out activities specific to the two pilot provinces, particularly in relation to the coordination of activities and the development of tools to support agro-biodiversity through extension, training and awareness. Significantly the project staff will be based in MAF offices and where possible specifically with the TABI team so as to facilitate coordination.

82. At the field level the proposed GEF project will evaluate the likely impacts of market and policy incentives through close work on the various sustainable farming approaches to be piloted. By working closely with TABI, and sharing information, collaboration arrangements and project sites, both TABI and the UNDP-GEF project will maximize impacts and avoid redundant duplication. This UNDP-GEF project will bring complimentary biodiversity expertise to the partnership, strengthening attention to on-site and off-site impacts of development options and to globally significant aspects of biodiversity, with TABI sharing information, and providing their expertise, as well as already established avenues to policy making through its extensive network of sector focal points. This is a particularly cost-effective approach.

83. The project's Outcomes and Outputs are described below.

Outcome/Component 1. National policy and institutional frameworks for sustainable use and *in-situ* conservation of biodiversity in agro-ecosystems.

84. This component will involve the mainstreaming of agro-biodiversity considerations into national legislation, including the development and promotion of policies, incentives and capacities that encourage and support the active in situ conservation of agro-biodiversity in agricultural landscapes. In support of this outcome four outputs will be pursued focused on key thematic areas: 1) Integrating agro-biodiversity into policies, 2) Promoting the coordination of the plans, policies and people's actions that affect the sustainable use and conservation of agro-biodiversity, 3) Enhancing institutional capacity for agro-biodiversity, and 4) Increased understanding among key stakeholders of agro-biodiversity and its significance.

Output 1.1: Biodiversity conservation, including agro-biodiversity, incorporated into Government policies, laws and other legal instruments.

85. By the end of the project in-situ biodiversity conservation and sustainable use, including agro-biodiversity, will be incorporated into key government policies. There are proposed to be specific inputs on policy through dialogues and resource materials obtained through research activities through this project and its partners, and the coordination process will be supported by and linked to the institutional coordination mechanisms (Output 1.2). Policy relevant research will be undertaken by national and international experts, and there may be opportunities for decision-makers to visit relevant demonstration sites in Lao PDR and field test policy ideas through relevant existing government and/or partner programs. National workshops will be conducted to share recommendations and gather feedback on policies both at national and sub-national levels. The sub-national feedback on proposed changes in policies will be coordinated through other relevant initiatives. An assessment of key policies, laws and legal instruments that need to be updated during the project preparation phase has identified the needs as:

- 8th NSEDP (2016-2020) and MAF master plan and budget allocations
- National biodiversity strategy and action plan itself needs stronger focus on agro-biodiversity and conservation of biodiversity in agro-ecosystems
- Land use policies also require strong incorporation of biodiversity concerns into them
- The agriculture law needs revisions
- Social and Environmental Impacts Assessment tools need strong incorporation of biodiversity (including agro-biodiversity).

86. The project will also build on the work being undertaken through the UNEP-UNDP partnership entitled "Poverty and Environment Initiative", where both organizations are working with the Ministry of Planning and Investment (MPI) to ensure that there are policies, incentives and procedures in place to ensure environmentally sustainable and pro-poor investment in the country by foreign investors.

Output 1.2: Institutional coordination of agro-biodiversity enhanced at national level.

87. Institutional coordination will be enhanced through project activities. A specific agro-biodiversity technical working group will be established and support will provided to its functioning. Terms of

reference will be developed for the working group including: specific involvement, key responsibilities, sharing lessons, identify linkages with policy development and suggest collective actions. Resources will be made available for the technical working group to follow up on priority areas, funding research or actions on gap areas. Resources will also be available in support of cross-cutting themes such as gender and climate change. Interrelated institutional capacity issues such as climate change adaptation related to agro- biodiversity will be identified and efforts made to coordinate. Relationships will be developed and lessons shared through provincial field visits to sites demonstrating positive agro-biodiversity initiatives.

Output 1.3: Institutional capacity of MAF to plan for, implement and effectively communicate on agro-biodiversity enhanced at national level.

88. The project will result in improvements in the institutional capacities of MAF to plan for, implement and effectively communicate on in-situ conservation of biodiversity in agro ecosystems, and especially *in situ* conservation of agro-biodiversity. The capacity activities will focus on coordinating Department of Planning, Department of Forestry Investigation, NAFRI and NAFES in efforts toward agro-biodiversity management. Activities for mainstreaming agro-biodiversity into farming systems and land use planning will be designed and integrated into the national agricultural extension system[76]. Information systems to monitor activities related to agro-biodiversity around the country will be developed and integrated into MAF reporting. Linkages with national systems such as the proposed Agricultural census will be investigated and engaged with to integrate agro-biodiversity considerations. A public information and involvement campaign will be designed with MAF to be conducted on agro-biodiversity understanding for a wider audience. Significantly national and provincial workshops will be held to identify, discuss and develop strategies for scaling-up project lessons on agro-biodiversity nationally and promoting linkages with cross-cutting issues such as gender and climate change.

89. Agricultural extension is a key strategy to achieve Agriculture and Natural Resource development objectives. The aim of this strategy is to have better qualified extension workers who are better enabled to provide adequate services to farmers[77]. The reform aims to produce graduates that have better social, marketing, economic and micro-enterprise development skills. Main providers of qualified staff for extension are five agricultural colleges under MAF[78] and the overall objective is to 'develop skilled human resources for market-based development in the agricultural sector' through improving the quality of teaching and learning in the technical education at these colleges. Key components include: linking training to the extension system and the labor market; linking training to agro-enterprise development; skills-based curriculum building; training of teachers; improve educational management; upgrade infrastructure. The project will strengthen this as a part of its project actions. A key action of capacity building of MAF will relate to improving its understanding and analysis on the role of incentives – economic and others – to mainstreaming biodiversity into the actions of provincial governments, local communities and the private sector.

Output 1.4: Key stakeholders understanding and capacity to respond to agro-biodiversity enhanced.

[76] These activities include diversifying the seed supply system and using the agricultural censuses in assessing threats to local biodiversity, potentially with a global significance, as well as identifying niche products for export, activities which will be performed under outputs 2.2 and 2.3.

[77] Having more appropriate technical and social skills, also including participation and facilitation.

[78] Including: Luang Prabang Agriculture and Forestry College, Pak Seuang; Thangone Irrigation College, VTE; Bolikhamxay Agriculture and Forestry College, Meuang Mai; Savannakhet Agriculture and Forestry College, Na Kae; Champasack Agriculture and Forestry College, Km 7 Pakse.

90. Empowering the public with information is an essential aspect of mainstreaming. Facilitation of dialogue, and finding novel and effective ways for the target groups themselves to pass on the message within their own ranks is more important than one way information dissemination. This output will build upon and complement TABI's component 5 focusing on information and knowledge gathering and sharing.

91. Diverse approaches will be used to enhance key stakeholder understanding of and capacity for agro-biodiversity mainstreaming across other sectors. Research will be conducted to identify incentives & motivators of priority audiences for agro-biodiversity conservation and sustainable use. The results of this research will be utilised in the development of specific resources for key stakeholders. Learning dialogues on agro-biodiversity will be conducted with, related ministries and projects, members of the National Assembly, Lao Women's Union, Lao Youth Organization, the Lao Patriotic Front for Reconstruction, Non-Government Organisations and International Organisations. Teaching resources will be developed on agro-biodiversity with the Luang Prabang Agriculture & Forestry College and replicated to other agricultural colleges. An agro-biodiversity resource and information pack will be developed for journalists and stakeholders. Display materials on agro-biodiversity relevant issues will be developed with the soon to be opened Luang Prabang Botanical Garden. Particular emphasis will be given to work with private sector actors and their networks to better understand what incentives would be appropriate for them to mainstream environmental concerns – and especially biodiversity concerns into their actions.

Outcome/Component 2. Capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community levels

92. Lao PDR is split administratively into one Municipality and sixteen Provinces, which in turn are divided into 140 districts. The two proposed provinces that component 2 will focus on are Luang Prabang Province and Xieng Khouang Province. The country is commonly divided into three administrative regions, with Luang Prabang falling in the Northern Region and Xieng Khouang in the Central Region, no pilot site has been proposed for the Southern Region at this time but ongoing consideration should be given to this. Of the 17 Provinces (including Vientiane), provincial poverty estimates, where one is the poorest, rated Luang Prabang as number six and Xieng Khouang as number ten[79].

93. Luang Prabang province covers an area of 16,875 km^2 and in 2004 the population was estimated at 408,800. Luang Prabang is a historical point of significance and as such has higher population. Luang Prabang's capital, has been granted World Heritage Status as a site of cultural significance and specifically for its architecture and living heritage. This status has drawn significant tourism and in turn the population of Luang Prabang city has grown. Within Luang Prabang Province, there are eleven districts and the project will focus on Phonxay District, which has a population of over 35,000 across 62 villages. Only five of the villages have formal land forest allocation. The approximated land area for Phonxay is 1,500 km^2.

94. The population of Xieng Khouang was estimated at over 260,000 in 2004, across an area of 15,880 km^2. Xieng Khouang has a significant history in Lao PDR from the civil war. An ongoing issue from the Vietnam/American War is Unexploded Ordinance (UXOs), and is a serious and ongoing problem for the local populations. Historically there has been opium poppy cultivation in the area and government and donor projects, such as the IFAD Agricultural Development Project, have been involved in providing alternative livelihoods. Within the Xieng Khouang Province, there are eight

[79] The Geography or Poverty and Inequality in Lao PDR. (2008). NCCR, IFPRI

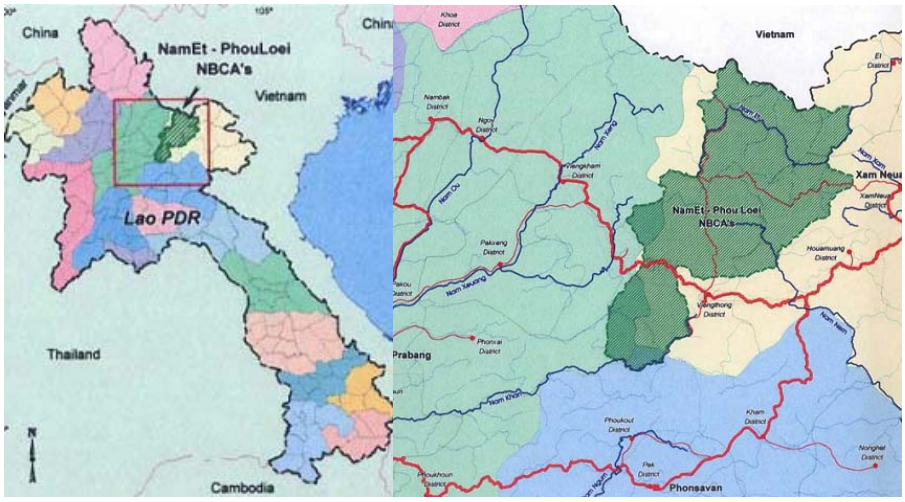
districts and the project will focus on Phoukout District. The approximated land area for Phoukout is 2,000 km^2.

95. These districts have some poverty issues and significant ethnic diversity. Some of the villages are quite remote and quite poor by economic standards. Many wild species are found in the area but larger animals or globally significant species seem hard to find near villages. Their main activities are upland rice, livestock and cropping. NTFPs are significant as sources of income, food, medicine and materials for local families and poor people. Although much wild meat is consumed within the villages or district, there is also an illegal trade of live animals and animal parts into neighboring countries. As wildlife populations decline the value of wild products is increasing.

96. A major consideration in the selection of the pilot sites has been the linkage with relevant activities. As requested by the Government the proposed sites for GEF actions are within the current MAF/SDC: The Agro-Biodiversity Initiative target area. TABI has conducted an Agro-Ecosystems Analysis identifying 4 distinct agro-ecosystem zones. In order to compliment the TABI approach there will be ongoing discussion about which zones to work in. Initial discussions have focused on what has been designated as Zone 4, which borders the Nam Et/Phou Louey (NEPL) National Biodiversity Conservation Areas.

97. Aside from TABI several other activities have been conducted in the area including:

- The UNDP Governance and Public Administration Reform (GPAR) has been piloting activities in both of the proposed provinces.
- In Xieng Khouang Province the Department of Information and Culture, with support from UNDP has established Laos' first community radio station: Khoun Community Radio for Development. The station has been on air since October 2007, and is community-led, and operated by volunteers.
- FAO has conducted Livestock improvement programs and IPM in Luang Prabang and is currently conducting IPM in Xieng Khouang.
- FAO has recently undertaken preparatory work on performing an Agricultural Census in Laos together with MAF and the Department of Statistics at (DoS) of MPI.
- The swidden agriculture systems have also been researched by organizations such as the Regional Community Forestry Training Centre (RECOFTC).
- Other programs are also in planning
- The proposed districts are also chosen for their proximity to the NEPL National Biodiversity Conservation Areas (or National Protected Areas).



Map 2: NEPL National Biodiversity Conservation Areas

98. NEPL was included as part of an assessment of the protected areas of Lao PDR conducted by IUCN[80], which highlighted the following information about the communities living around the protected area:

- Hilly mountainous area
- Mixed ecosystems including: old growth and secondary mixed deciduous forest, mountainous evergreen forest, bamboo and shrub land
- Highest faunal biodiversity of any protected area in Lao PDR
- Cash crop limitations – market access, quality and profit
- Significant non-rice crops – mostly maize but also including: peanuts, soybeans, sesame, vegetables, tree crops and fruits, including mango, tamarind, plums and bananas;
- Livestock importance – poultry, pigs, buffalo and cattle.

99. This component will involve the development of incentives and capacity for agro-biodiversity with a focus on Community, District and Provincial levels. In support of this outcome six outputs will be pursued focused on key thematic areas: 1) Strengthening the capacity of PAFO and DAFO to promote sustainable agro-biodiversity management and to adapt extension packages and services, 2) Conducting Participatory Land Use Planning including the development and implementation of Participatory Natural Resources Management plans at village level, 3) Establishing in-situ conservation areas for agro-biodiversity, 4) Promotion of biodiversity-friendly farming approaches in two pilot sites, 5) Identification and development of market incentives for agro-biodiversity, and 6) Linking with the private and public sector through agro-biodiversity planning agreements.

Output 2.1: Capacity and accountability of Provincial and District Government to mainstream biodiversity into agriculture increased for two pilot sites.

100. The project will result in improvements in the institutional capacities of PAFO and DAFO to mainstream biodiversity into agriculture, facilitating the role of biodiversity in enhancing livelihoods at village, district and provincial levels in Luang Prabang and Xieng Khouang Provinces. An initial Capacity Needs Assessment, including capacity scorecard, will be conducted with PAFO and DAFO staff to provide capacity priorities and a baseline for improvement. Training supported by practical learning by doing activities with the pilot villages will be used to support capacity development of

[80] IUCN, 2002. Nam Et-Phou Loei NBCA: A case study of economic and development linkages.

PAFO/DAFO on land use planning and Participatory Natural Resource Management. PAFO and DAFO staff will be actively involved in the design of national extension materials, packages and services and will provide direct support to this process by pre-testing and use of them in the field. Indicators will be established with PAFO and DAFO to monitor and enforce policies related to agro-biodiversity in the pilot provinces. Long-term strategies and institutional capacity for agro-biodiversity will be mainstreamed into policies and plans at provincial level, including 8th SEDP (provincial and district level) and corresponding agricultural planning and budget addressing agro-biodiversity conservation and sustainable use at two pilot sites.

Output 2.2: Participatory land use plans integrating agro-biodiversity developed in two pilot sites.

101. In order for communities to be able to manage and conserve their lands in a sustainable manner, it is necessary for them to enjoy security of tenure and use rights and as such there will be a focus on implementing land registration for these sights. At the local level the project will conduct Participatory Land Use Planning (PLUP), which integrates agro-biodiversity considerations into local planning and Participatory Natural Resource Management for at least two pilot sites. The PLUP preparation process will be linked to the extension materials and potentially community visits to demonstration sites for agro-biodiversity positive activities. Data collection will focus on participatory processes. Mapping of different land uses and the development and implementation of corresponding village Natural Resource Management will link community land use plans, with provincial district and village level zoning plans, digitizing the community maps so that they can be integrated into the formal land use mapping. Resources and support will also be provided for implementation of the PLUP, including support for actions, development of monitoring indicators & simple reporting formats for evaluation.

Output 2.3: *In-situ* conservation for important agro-biodiversity established over 100,000 ha.

102. There will be establishment of systems for and an increase in *in-situ* conservation for important agro-biodiversity sites in Lao PDR. Simple methods to rapidly identify areas of agro-biodiversity significance will be developed with PAFO and DAFO, with strategic links to the agricultural census. Delineation of new *in-situ* conservation areas will be developed under a variety of protected area frameworks, including nature conservation areas, provincial, district and village level protected areas through the participation of farmers, taking into special consideration the special role of women and the ethnic mosaic. The agricultural censuses performed by FAO in conjunction with the DoS of MPI will be used in assessing threats to biodiversity at village level. By the end of the project at least 100,000ha of significant agro-biodiversity will be under *in-situ* conservation management. Efforts will also be made to integrate *in-situ* agro-biodiversity considerations into non-formal areas of protection such as Pagodas, spirit forests, city open spaces, botanical gardens and even home gardens. Of particular focus of conservation in the sites will be rice varieties, bananas, beans, and job's tears – whose centre of origin and domestication includes Lao PDR and these are currently cultivated in-situ by farmers. Additionally, bamboo and other natural products from agro-ecosystems will also be identified for conservation and sustainable use.

Output 2.4: Farmers in two pilot sites with the skills, knowledge and incentives necessary to undertake biodiversity-friendly farming

103. The project will promote skills development and incentives for biodiversity-friendly farming at the two pilot sites. Farmers' groups will be established to promote and share traditional knowledge on agro-biodiversity and biodiversity-friendly farming approaches. Extension materials and tools will be

utilized to develop biodiversity-friendly livelihoods. Farmers' field schools will be supported to link theory to practice and special attention will be given to women farmers.

104. One of the key incentives for biodiversity friendly farming will be through the promotion of organic farming. The project will promote local products that can receive premium as organic products through marketing of such products through formation of farmers' groups – such as organic rice, and vegetables. The project will support organization of exhibitions and participation of organic producers in them to collectively market their biodiversity-friendly products. As the two demonstration sites are close to the famous tourist city of Luang Prabhang, products will be especially targeted to tourism related businesses.

105. In Lao PDR, some products are organic by default: as inorganic pesticide and fertilizer usages remain low nationally. Many farmers are also adopting organic farming, as organic products have some price advantages over non-organic products – particularly for rice and vegetables. Work by local companies such as Lao Arrowny Co. Ltd. shows that organic farmers are able to sell their rice at 20% higher prices than conventional farmers. According to the company, benefits from organic production are not limited to price incentives, but also include higher yields. Yield increases are probably due to higher efficiency of organic production, where farmers have better access to seeds, organic fertilizers and technical assistance. Additionally, a study by the Economic Policy Research Unit of the Agriculture and Forestry Policy Research Centre of NAFR shows that some organic vegetable growers obtain higher returns than inorganic ones. The project will build on existing initiatives and links will also be fostered between such farmer groups and private sector / NGOs that are helping to market organic products. For example, Center for Human Ecology Study of Highlands (CHESH LAO – an NGO) is promoting certification and marketing of vegetables in Luang Prabang area and the Sustainable Agriculture & Environment Development Association is promoting organic vegetables in Xiengkhouang Province. There are also a number of fair trade organizations promoting organic rice production – such as LFP-Bapro operating in Laos.

Output 2.5: Value-chain research used to identify, process, pack and market agro-biodiversity products

106. The project will build on the strategy proposed by the International Food Policy Research Institute (IFPRI) for successful commercialization of underutilized species through the expansion of demand; improved efficiency of production and special marketing channels and supply control mechanisms. The main objectives of this will be to strengthen local farmers' incomes from local farmer varieties and landraces to act as incentives for their maintenance in-situ. This strategy is concerned with efficiency gains and equity considerations for the distribution of revenues / income / 'rent' across actors and time. The project will seek to support farmers to maintain and increase area under local traditional varieties; establish entrepreneurship; develop strong and fair partnerships between producers, dealers, consumers and other stakeholders in the production to consumption chain through a participatory integrated learning approach by all partners. It will also build on the Market Analysis and Development approach81, which is a participatory methodology designed to assist local people in developing income-generating enterprises, while conserving tree and forest resources.

107. A key characteristic of the communities that depend on agro biodiversity is their high levels of poverty and their inability to access credit or technical support. As in other parts of the world, smallholder farmers in rural Lao PDR do not have capacities for effective production, processing and marketing to promote their products locally, nationally or internationally nor to influence equitable

[81] http://www.fao.org/forestry/enterprises/25492/en/

distribution of profit margins. The project will tackle these problems through the formation of farmer groups, which will be used to institutionalize market operations. These groups will be formed based on local needs and opportunities – and may include farmers from a number of nearby villages in one group. In addition, specific product-oriented groups will be formed for harvesting, processing and marketing of selected products. Farmer groups will provide the institutional set up required to access financial institutions, and to ensure timely payback. The groups' capacities will be built based on capacity needs assessment. On production, the project will adopt two distinct strategies: i) skills and technologies promotion for improved cultivar selection, and for i) improved agronomic practices. A gender analysis will also be undertaken to ensure that farmers groups include women farmers and that there is fair participation in decision making and in distribution of benefits between the youth, men and women. Linkages with the private sector, local markets and newly developing certification systems at the local and national levels will also be promoted.

108. Based on the assessment undertaken during the project preparation phase, a number of important crops (which have origins and domestication centre in Lao PDR) have already been shown to have good marketing potentials. Jobs' tears continue to expand rapidly in the North and north-central Laos. Demand for this crop is primarily from Thailand, where it is processed and exported to Taiwan. Similarly, cassava is mostly cultivated for export (Vietnam), with some used locally for animal feed. Some communities are also capitalizing on niche markets – such as of wild tea, such as "400 years old wild tea" from Phongsaly is favoured by Chinese tea connoisseurs. There are also strong community interests to promote sesame and native pig farming. The project will build on such interests and successful cases to ensure that there are increased local benefits. Additionally, a survey done by Forest Research Center of NAFRI in 2008 recorded 11 items as cultivation NTFPs in Lao PDR. At the project demonstration sites, at least two species are known to be important. They include paper mulberry (*Broussonetia papyrifera*) and broom grass (*Thysanolaema maxima*). The project will work to support their processing and marketing with the farmers' groups as well.

Output 2.6: Private and public sector agreements to mainstream agro-biodiversity into their plans

109. Engagement of the private and public sector in mainstreaming agro-biodiversity will be enhanced through formal and/or informal agreements. Project stakeholders will be involved in the identification of potential partnerships with the private and public sector. Linkages will be made with partners through value chains for community agro-biodiversity products. Case studies and potential partners will be offered opportunities to discuss, observe and learn about positive private and public sector planning that is underway. Provincial level workshops will be used to bring together private and public sector with other stakeholders to discuss opportunities for mainstreaming agro-biodiversity in their plans. Agreements will be developed with willing private and public sector partners to mainstream agro-biodiversity in their plans.

Outcome 3: Effective Project Management

110. The purpose of this outcome is to ensure that the project is implemented in a timely manner and is cost effective. The main concern is that the project should be managed according to the principles of adaptative management, whereby lessons learnt during its implementation as well as lessons from other relevant initiatives are fed into refining project implementation. An additional issue here is that since Lao PDR has generally weak capacities for project/ programme implementation, this should also be considered as a part of overall national capacity building. There is only one Output under this component, which is described below.

Output 3.1: Improved capacity of IP for integrated planning, management, monitoring and evaluation of programmes

111. Under this, systems will be put in place for effective planning, management and monitoring and evaluation of the project through the recruitment of qualified staff as well as through the involvement of government staff assigned by the Government to the project. There will be ongoing mentoring and coaching provided by implementing agency UNDP on required systems for financial management, project management as well as on reporting. Cross-learning from other projects and programmes will also be encouraged. The project will utilize independent external evaluations at midterm to strengthen its adaptative management.

2.6 Key Indicators, risks and assumptions

112. The Box below shows how the project seeks to meet the project objective through indicators, which are linked to the outcomes. This highlights some basic variables that are designed to indicate the impacts of the project. It will be impossible to attribute all changes in these "indicators" to the GEF project but it will be feasible to demonstrate some causality.

110. Key risks and mitigation measures for them are tabulated below.

Table 3: Risks, ratings and mitigation strategies

Risk	Risk rating	Risk Mitigation Strategy

Senior government policy makers of Lao PDR do not see agro-biodiversity as making a significant contribution to the primary objective of poverty reduction and national development and partners pursue narrow institutional targets rather than working together	Medium	The project will demonstrate the importance and value of agro-biodiversity through practical demonstrations, socio-economic valuations and the development of guidance to show how the conservation and sustainable use of agro-biodiversity can be managed effectively. A communications strategy will be put in place to ensure such messages reach the appropriate audiences. Senior policy makers have been identified as key target groups for communication under Outcome 1 (Output 1.4), including members of the National Assembly, ministries and other stakeholders. The project's strong focus on institutional coordination and partnerships are expected to lead to better involvement, support and contributions of other government institutions and projects in mainstreaming biodiversity into agriculture related and land use related plans and policies.
Land ownership and access rights will continue to be unclear and land allocation will be slow.	Low	Though the formal mechanism of land allocation in Lao PDR started in last decade, informally there has been a strong local tenure system in place. The project is supporting the implementation of participatory land planning and land allocation in pilot sites under Outcome 2 to ensure strong local tenure over their resources.
Sustainable use of agro-biodiversity does not lead to sufficient economic gains or incentives for households at the project site to make them economically attractive compared to other high yielding varieties	High	The project will address this risk by developing new products and developing markets for these products under Outcome 2. The focus will be to develop a whole new "value-chain"- from producers to marketing to retailers and buyers for these products so that there will be enough benefits to poor farmers. Lao PDR has experience in developing such chains for traditional handicrafts and this experience will be used for the promotion of traditional crop varieties. Since focus on only one commodity or approach may not bring about significant economic gains, the project will support diversified approaches. However, despite some economic and cultural benefits from cultivation of diverse local crop varieties, some farmers may still opt to replace traditional farmer varieties with high yielding varieties because of a number of factors – such as higher yield per unit of land or effort.
Commercial farmers and the private sector companies promoting such farming will not be interested in implementing biodiversity friendly practices.	Low to Medium	The potential for export from smallholder agriculture is large, since only 40% of Lao farms are currently producing for the market and less than 50% for exports. The cost of many raw materials in Lao PDR is lower than in competing countries, which may be attractive to commercial farmers and the private sector. There is a need to find niches products, which have high potential for export to neighbouring countries, EU, Japan, and elsewhere. The project will support both formal measures (legal – under Component 1) to ensure that private sector is responsible in its commercial farming activities and will also foster other informal agreements (under Outcome 2) to encourage responsible behaviour.
Developers do not have "carrots or	Medium	The project will work with the regulatory authorities to bring

sticks" to identify and mitigate agro-biodiversity losses resulting from large land use change		agro-biodiversity requirements into EIAs and EMPs, and show how to mitigate losses in agro-biodiversity from land use changes.

2.7 Expected global benefits

113. Proposed new policies, regulations and institutional mechanisms provide tools and lessons to enable policy makers and land users to incorporate conservation into agriculture and land use policies and practices. Demonstration work will lead to valuable lessons for national and international replication of work. Globally significant biodiversity at the at least two demonstration sites over 10000 ha impacted directly and the whole nation indirectly. The principal global benefits would be derived from in-situ conservation of globally important crop genetic diversity in the centre of origin and domestication such as rice, mangos, banana, bread fruit and legumes. Maintaining crop genetic diversity in the centre of origin and domestication *in-situ* will be important in terms of agricultural sector adaptation under conditions of climate change (the maintenance of more resilient genetic stock that can be used in agriculture) and hence provide additional global benefits.

114. The second direct benefits from the project would be through the conservation of threatened species that rely on diverse agro ecosystems for their survival. Amongst the globally important species, of the 18 critically endangered species found in Lao PDR, 5 are found in agro-ecosystems and 7 species are threatened by agriculture related activities. Of 26 endangered species found in Lao, 1 is found in agro-ecosystems and 6 are threatened by agriculture related activities; and of 54 vulnerable species found, 8 occur in agro-ecosystems and 26 are threatened by agriculture related activities[82].

115. The proposed demonstration sites were also two of the three sites where endemic salamander (*Paramesotriton laoensis*) was first described as a new species to science in 2002. The proposed districts are also chosen for their proximity to the NEPL National Biodiversity Conservation Areas. NEPL provide a wide range of birds, mammals and reptiles, many of which are threatened or have special conservation significance[83]. With high conservation value, it is considered to harbor among the highest faunal biodiversity of any protected area in northern Lao PDR, including tigers and 17 other significant mammal species[84]. Particularly interesting is the occurrence of sizeable numbers of ruminants including Gaur (*Bos gaurus*), Banteng (*Bos javanicus*), and a black goat-like new species of muntjac. The area also supports a population of tigers and medium size cats such as Golden cat (*Catopuma temmincki)* and Clouded Leopard (*Neofelis nebulosa*). Significant species of bears, primates and bats have also been recorded from the park area. Nearly 300 bird species have been recorded, 35 of which are key species of conservation concern. It is expected that the conservation awareness raised amongst the local stakeholders will help in promoting biodiversity friendly landuse practices and livelihood practices in areas adjacent to the National Biodiversity Conservation Areas will also help in the maintenance of global biodiversity values of the protected area.

2.8 Financial modality

116. The GEF funds will be provided as a grant. Government of Lao PDR will contribute in staff time, meeting room and office hire, and transport to an estimated value of 556,200 USD. UNDP co-finance is split – 213,000 USD in cash to fund activities, and 321,900 USD in-kind contribution of staff time for senior and junior management and intern (UN Volunteer). FAO co-financing (in-kind) consists of

[82] www.redlist.org

[83] ICEM, 2003. Lao PDR National Report on Protected Areas and Development.
[84] MAF and IUCN 1998, WCS 1998.

staff time for both technical input and project management (345,772 USD). Significant co-finance (3,000,000 USD) will be provided from SDC through TABI.

2.9 Cost effectiveness

117. The project approach of mainstreaming biodiversity into agriculture and land use policies and plans to conserve globally significant biodiversity in agro ecosystems *in-situ* is considered more cost-effective than the alternative approach of *ex-situ* conservation. Ex-situ conservation of the vast repository of Lao PDR's agro-biodiversity would require higher government and international investment compared to in-situ conservation that is based largely on farmers' interests and their investment. Secondly, ex-situ conservation will not be able to allow crops to develop adaptation characteristics to changing climate in a complex context and mimicking such a context in-situ would be very expensive. The project is also considered cost effective because its strong role in coordinating agro-biodiversity related investment in Lao PDR minimizes duplication of efforts and encourages lesson-learning and this avoids unnecessary expenses. Strong partnerships with local government, private sector and local communities will lead to significant contributions to agro-biodiversity conservation; this would be a more cost-effective and sustainable approach than a solely government or GEF-funded programme. With effective national and ground level actions to conserve agro-biodiversity and other globally important biodiversity, occurring in agro-ecosystems, expensive remedial future actions to conserve biodiversity will be avoided.

118. One of the key approaches of the project to work closely with TABI has led to considerable cost-effectiveness. This will allow international expertise to be incorporated into project plans and implementation at a reasonable cost in relation to the total budget. This is also expected to contribute to project supported actions' sustainability.

2.10 Sustainability

119. The project's strong focus on building institutional capacities and systems are expected to lead to both strong sustainability and replicability of project supported actions. Whilst specific policy development will be one-off support by the project, capacity building of MAF to lead this post-project policy reform process has been built strongly into the project. Key elements of sustainability built into this project include the following:

- The project was identified as a national priority and fits with national policies and plans
- Strong partnership and coordination has been built into the project - especially with TABI
- There is a strong focus on formulating enabling policy and legal environment, encouraging institutional coordination and capacity building of stakeholders, which are essential for sustaining activities during project implementation period and beyond.
- Establishing partnerships between public-private-local communities thereby focusing on sustaining project activities.

120. Institutional sustainability: The project builds upon existing institutional structures of thegovernment and the only new mechanism proposed – a working group – is not expected to be costly to maintain in the long run.

121. Financial sustainability: The project's actions on raising awareness amongst senior policy makers is expected to strengthen the support for biodiversity conservation – with possible increased allocation of government resources in the medium and long run. The project's capacity building will also include fund raising for any extra funds that may be required. The work project will support on value

chains promotion at community level are expected to lead to increased financial flows to communities and are expected to be sustainable.

122. Social sustainability: The capacity building activities, networking and continuous field-level presence by the management agencies (state, private and civil society) will help achieve social sustainability of the project. The build up of trust through dialogues and stakeholder consultations and stakeholder mobilization done through capacity building by the project will assist in achieving this long-term objective. The strong focus on building on local knowledge, capacities and incentives – as well as strong project focus on ensuring gender equity through its work are expected to lead to social sustainability.

123. Environmental Sustainability: The project's focus on better conservation outcomes for agro biodiversity as well as on other biodiversity within agro ecosystems are expected to lead to better environmental sustainability. However, the project will also ensure that better conservation efforts within agrocosystems do not lead to displacement of threats to biodiversity outside the agroecosystems managed by communities or the private sector.

2.11 Replicability

124. The project's work, especially the demonstration work under Outcome 2, are designed to be replicable. The project's work on capacity building of DAFO/PAFO staff can be replicated easily through government's own work. Much of the replication will also be promoted through national policy, legal and institutional strengthening under Outcome 1. The project will build the capacity of the MAF, PAFO and DAFO staff that will be directly engaged in replicating the approaches to other villages, districts and ultimately Provinces.

125. The farmer to farmer approaches under Outcome2 will bring the farmers to the centre of the project and as such promote avenues for direct and indirect replication. As farmers see incentives for agro-biodiversity approaches they will be attracted to replicating these approaches, especially when there is support through Government extension materials. Public decision-making and action in the TABI field sites can be replicated elsewhere under TABI. This has been already planned under the TABI approach to be included in future activities.

3. PROJECT RESULTS FRAMEWORK

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: Outcome 1: Improved and equitable access to land, markets and social and economic services, environmentally sustainable utilization of natural resources Output 1.2: The role of biodiversity, agro-biodiversity, land management and environment in general in the livelihoods improvements and poverty reduction strengthened through enhanced knowledge and management capacity; Output 1.3: Enhanced management capacity of the Government in meeting its international environmental obligations through strengthened implementation of multi-lateral environmental agreements and related national policies and legislation.					
Country Programme Outcome Indicators: Capacities of government at central level and in selected provinces strengthened for conserving and managing sustainably agricultural biodiversity and mainstreaming agro-biodiversity conservation and sustainable use into the attainment of food security and livelihoods improvement					
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy OR 2. Catalyzing environmental finance OR 3. Promote climate change adaptation OR 4. Expanding access to environmental and energy services for the poor.					
Applicable GEF Strategic Objective and Program: SO2: To Mainstream Biodiversity in Production Landscapes/Seascapes and Sectors SP 4: Strengthening the Policy and Regulatory Framework for Mainstreaming Biodiversity					
Applicable GEF Expected Outcomes: Policy and regulatory frameworks governing sectors outside the environment sector incorporate measures to conserve and sustainably use biodiversity					
Applicable GEF Outcome Indicators: The degree to which policies and regulations governing sectoral activities include measures to conserve and sustainably use biodiversity as measured through the GEF tracking tool					
	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Objective: To provide farmers with the necessary incentives, capabilities and supporting institutional framework to conserve agro-biodiversity within the farming systems of Lao PDR					
Outcome 1: National policy and institutional frameworks for sustainable use, and *in-situ* conservation of biodiversity in agro-ecosystems	Number of national plans, policies, laws, and guidelines (identified) incorporating biodiversity, and especially agro-biodiversity	• Land use policies and legal instruments do not include focus on biodiversity (especially agro biodiversity) • Emphasis on agro-biodiversity in BD strategy and action plan (i.e. NABP) is weak • Agriculture Law does not incorporate emphasis on biodiversity, including agro-biodiversity • Integration of biodiversity related criteria into ESIA guidelines are poor	8th NSEDP (2016-2020) and MAF master plan and budget allocations, as well as Land use policies, agricultural law, biodiversity strategy, and strategic social and environmental assessment guidelines and environmental and social impacts assessment guidelines incorporate biodiversity conservation in agro-ecosystems, and especially agro-biodiversity	Policy documents Policy support documents	Senior government policy makers of Lao PDR do not see agro-biodiversity as making a significant contribution to the primary objective of poverty reduction and national development and partners pursue narrow institutional targets rather than working together
	Capacity of key government agencies that will continue to champion mainstreaming of biodiversity in agriculture and land use policies, plans and programmes Presence of inter-sectoral coordination mechanism to mainstream biodiversity on sectors impacting on agro-ecosystems and agro-biodiversity	Institutional and staff capacities of MAF to mainstream biodiversity into agriculture and land use policies are low. Currently, there is no formal coordination mechanism for agro biodiversity conservation	Agro-biodiversity conservation and sustainable use included in national extension strategy, materials, packages and services Enhanced institutional competence of MAF to plan, monitor and implement actions to safeguard agro biodiversity: functional and funded agro-biodiversity programme or sub-programme within MAF	Capacity scorecard, training materials, extension strategy, services and packages Coordination meeting minutes	

	Number of tools developed to support and enhance incorporation of agro-biodiversity into national and institutional frameworks	Existing tools such as training, extension, communication and mapping are not adequately used for wider stakeholder awareness or capacities to enable them to mainstream biodiversity into their work	Stakeholders (including NGOs, private sector and academia) are able to use training, extension, communication and mapping to enable them to mainstream biodiversity into their work	Monitoring reports Extension materials Campaign materials Media reports	
Outcome 2: Capacities and incentives to mainstream biodiversity, especially agro-biodiversity, at the Provincial, District and community levels	Capacities to mainstream biodiversity at Provincial level	Existing strategies and capacity building for 2 target Provinces' agriculture landuse do not incorporate biodiversity conservation	• Long-term strategies and institutional capacity for agro-biodiversity to be mainstreamed into policies and plans at provincial level, including 8th SEDP (provincial and district level) and corresponding agricultural planning and budget addressing agro-biodiversity conservation and sustainable use at two pilot sites of around 3,275,500 ha of two pilot provinces.	Strategies Capacity scorecard Training materials, packages and services	
	Agro ecosystem area under conservation friendly management through development of participatory landuse and NRM plans	Existing area with participatory land use plans and participatory NRM plans are low and do not include agro-biodiversity conservation	Land use and NRM plans developed and implemented in two pilot sites jointly by communities and government and that include agricultural biodiversity conservation	Land use maps & plans NRM plans, minutes of NRM Committee meetings Demarcation of boundaries Village Land titles	
	Area of land allocated for in-situ conservation of agro-biodiversity as part of NRM management plans	Currently there are no existing allocation of land for in-situ conservation of agro-biodiversity	*In-situ* conservation for important agro-biodiversity established over 100,000 ha	NRM Management plans Demarcation of boundaries	Land ownership and access rights will continue to be unclear and land allocation will be slow.

	Number of tools being utilised to support and enhance incorporation of agro-biodivesity into local planning Number of farmers adopting skills and techniques promoted through demonstration farms and during farmer field schools Percentage of women targeted by the extension programme	Existing tools such as training, extension, communication and mapping do not incorporate biodiversity conservation issues	Tools such as training, extension, communication and mapping incorporate biodiversity conservation issues and are being used by pilot site communities (men and women) for conservation friendly land use and livelihood practices At least 50% of farming households adopt skills and techniques promoted by the project at pilot sites Extension programme target at least 50% of its clients as women and incorporate their knowledge and requirements at pilot sites	Training & extension reports. Demonstration of activities Monitoring or evaluation reports (farmer field schools)	
	Number of profitable products identified, processed, packed and marketed for local or international markets. Targeted gender sensitive value chain promotion	Existing market for agro-biodiversity and biodiversity friendly products are ineffective in promoting biodiversity friendly agro-ecosystems management	At least five profitable products identified, processed, packed and marketed for local or international markets. Value chain research activities focused (at least 70%) on products already marketed by women or women groups	Reports Products Financial records Commercial agreements	Sustainable use of agro-biodiversity does not lead to sufficient economic gains or incentives for households at the project site to make them economically attractive
	Number of private and public sector agreements (covering different types of agro-biodiversity) with government to mainstream biodiversity considerations into their agricultural plans	Private and public sector's involvement and inceptives for biodiversity conservation are extremely limited	At least 3 private and public sector agreements (covering different types of agro-biodiversity) with government to mainstream biodiversity considerations into their agricultural plans	Agreements Business / Investment plans	Commercial farmers and the private sector companies promoting such farming will not be interested in implementing biodiversity friendly practices. Developers do not have "carrots or sticks"to identify and mitigate agro-biodiversity losses resulting from large land use change

Outcome 3: Effective project management	Capacities for effective project management	Lack of programme management capacity in general and integrated programmatic approach in particular	Effective management structure in place (MAF), including relevant staffing, revised organogram, plans, budgets, M&E indicators and reporting formats, to support integrated programmatic planning, management, monitoring and evaluation	Annual PIR Ratings on management capacities MAF Master plan, budget, and organogram	Lack of donor coordination, not allowing programmatic approach
Outputs: Output 1.1: Biodiversity conservation, including agro-biodiversity, incorporated into Government policies by year 5 Output 1.2: Institutional coordination of agro-biodiversity enhanced at national level by year 5 Output 1.3: Institutional capacity of MAF to plan for, implement and effectively communicate on agro-biodiversity enhanced at national level by year 5 Output 1.4: Key stakeholders understanding and capacity to respond to agro-biodiversity conservation and sustainable use enhanced by year 5					
Output 2.1: Capacity and accountability of Provincial and District Government to mainstream biodiversity into agriculture increased for two pilot sites. Output 2.2: Participatory land use plans and natural resources management plans and activities integrating agro-biodiversity developed in two pilot sites. Output 2.3: *In-situ* conservation for important agro-biodiversity established over 100,000 ha. Output 2.4: Farmers in two pilot sites with the skills, knowledge and incentives necessary to undertake biodiversity-friendly farming. Output 2.5: Value-chain research used to identify, process, pack and market agro-biodiversity and biodiversity friendly community products Output 2.6: Private and public sector agreements to mainstream agro-biodiversity into their plans.					
Output 3.1: Improved capacity of IP for integrated planning, management, monitoring and evaluation of programmes					

3.1 Total budget and work plan

Award ID:	00060069	**Project ID:**	00075435
Award Title:	Lao PDR		
Business Unit:	*Energy and Environment*		
Project Title:	Mainstreaming Biodiversity in Lao PDR's Agricultural and Land Management Policies, Plans and Programmes		
PIMS no.	2903		
Implementing Partner (Executing Agency)	Ministry of Agriculture		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD) 2010 Q4	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD) 2015 Q3		Total (USD)	Budget notes
Component 1: National policy and institutional frameworks for sustainable use, and in-situ conservation of biodiversity in agroecosystems	Lao PDR	62000	GEF	71200	International Consultants	54,000	54,000	36,000	18,000	18,000		180,000	1
				71600	Travel	30,000	30,000	30,000	30,000	30,000		150,000	2
				72100	Contractual Services - Companies	80,000	80,000	80,000	80,000	80,000		400,000	3
				74500	Miscellaneous	35,420	35,420	35,420	35,420	35,420		177,100	4
					Sub-total GEF	**199,420**	**199,420**	**181,420**	**163,420**	**163,420**		**907,100**	
			GOL/SDC/ FAO/UNDP co-financing in kind		International Consultants	59,040	59,040	59,040	59,040	59,040		295,200	5
					Local Consultants	17,140	17,140	17,140	17,140	17,140		85,700	6
					Travel	6,000	6,000	6,000	6,000	6,000		30,000	7
					Contractual Services - Companies	309,151	309,151	309,151	309,151	309,151		1,545,753	8
					Miscellaneous	11,040	11,040	11,040	11,040	11,040		55,200	9
					Sub-total Co-financing	**402,371**	**402,371**	**402,371**	**402,371**	**402,371**		**2,011,853**	
					Total Component 1	**601,791**	**601,791**	**583,791**	**565,791**	**565,791**		**2,918,953**	
Component 2: Capacities and incentives to mainstream biodiversity , especially agrodiversity, at the Provincial, District and community levels	Lao PDR	62000	GEF	71200	International Consultants	67,500	67,500	45,000	22,500	22,500		225,000	10
				71300	Local Consultants	6,000	6,000	6,000	6,000	6,000		30,000	11
				71600	Travel	18,000	18,000	18,000	18,000	18,000		90,000	12
				72100	Contractual Services - Companies	120,000	120,000	120,000	120,000	120,000		600,000	13
				72300	Materials and Goods	4,000	4,000	4,000	4,000	4,000		20,000	14
				74500	Miscellaneous	33,900	33,900	33,900	33,900	33,900		169,500	15
					Sub-total GEF	**249,400**	**249,400**	**226,900**	**204,400**	**204,400**		**1,134,500**	
			GOL/SDC/ FAO/UNDP co-financing in kind		International Consultants	43,564	43,564	43,564	43,564	43,566		217,822	16
					Local Consultants	47,280	47,280	47,280	47,280	47,280		236,400	17

					Travel	6,000	6,000	6,000	6,000	6,000		30,000	18
					Contractual Services - Companies	290,848	290,848	290,848	290,848	290,848		1,454,238	19
					Miscellaneous	9,600	9,600	9,600	9,600	9,600		48,000	20
					Sub-total Co-financing	**397,292**	**397,292**	**397,292**	**397,292**	**397,294**		**1,986,460**	
					Total Component 2	**646,692**	**646,692**	**624,192**	**601,692**	**601,694**		**3,120,960**	
Component 3: Effective Project Management	Lao PDR	62000	GEF	71200	International Consultants	13,500	13,500	9,000	4,500	4,500		45,000	21
				71300	Local Consultants	9,600	9,600	9,600	9,600	9,600		48,000	22
				71600	Travel	6,000	6,000	6,000	6,000	6,000		30,000	23
				72300	Materials and Goods	7,600	7,600	7,600	7,600	7,600		38,000	24
				74500	Miscellaneous	12,480	12,480	12,480	12,480	12,480		62,400	25
					Sub-total GEF	**49,180**	**49,180**	**44,680**	**40,180**	**40,180**		**223,400**	
			M&E - UNDP Track funds Cash	71200	International Consultants	14,000	14,000	48,000	14,000	48,000		138,000	26
				71300	Local Consultants	-	2,000	7,000	2,000	7,000		18,000	27
				71600	Travel	6,000	3,000	9,000	3,000	9,000		30,000	28
				72100	Contractual Services - Companies	2,000	2,000	2,000	2,000	2,000		10,000	29
				72300	Materials and Goods	2,000	1,000	2,000	1,000	2,000		8,000	30
				74500	Miscellaneous	3,000	1,000	2,000	1,000	2,000		9,000	31
					Sub-total Co-financing	**27,000**	**23,000**	**70,000**	**23,000**	**70,000**		**213,000**	
			GOL/SDC/ FAO/UNDP co-financing in kind		International Consultants	22,110	22,110	22,110	22,110	22,110		110,550	32
					Materials and Goods	13,200	13,200	13,200	13,200	13,200		66,000	33
					Miscellaneous	9,800	9,800	9,800	9,800	9,800		49,000	34
					Sub-total Co-financing	**45,110**	**45,110**	**45,110**	**45,110**	**45,110**		**225,550**	
					Total Component 3	**94,290**	**94,290**	**89,790**	**85,290**	**85,290**		**661,950**	

TOTAL BUDGET SUMMARY

Source	Year 1	Year 2	Year 3	Year 4	Year 5		Total
GEF	498,000	498,000	453,000	408,000	408,000		2,265,000
UNDP in kind	64,380	64,380	64,380	64,380	64,380		321,900
UNDP in cash	27,000	23,000	70,000	23,000	70,000		213,000
FAO in kind	69,154	69,154	69,154	69,154	69,154		345,772
MAF in kind	111,240	111,240	111,240	111,240	111,240		556,200
SDC in kind	600,000	600,000	600,000	600,000	600,000		3,000,000

3.2 Budget Notes

GEF funding is used for funding through a range of items including: International consulting, National Consulting, Travel, Contractual Services, Materials and Goods, and Miscellaneous.

Key GEF-funded outputs under outcomes 1 & 2 will be contracted, as packages, through direct or competitive bidding, and will therefore be accounted for under Atlas budget line 72100 (Contractual Services – Companies). The breakdowns between budget items, shown below, are therefore indicative as they will depend on the breakdowns proposed in the winning bids). The details for these activities are also to be discussed during the inception phase so as to ensure maximum synergy with TABI.

General Cost Factors:

Long-term national consultants are budgeted at $125 - $375 per week, according to level and responsibilities. This is based on local rates.

Long term international consultants are budgeted at $2500 - $3750 per week. Short term international consultants are not included in the general GEF budget but may be recruited under the contractual services packages.

The major international consultation is from the CTA, which is proposed to cover 30 months over the project, to be broken into staggered inputs (9 months in years 1 & 2, 6 months in year 3 and 3 months in years 4 & 5)

Component 1:

1. International Consultant: $180,000 has been budgeted for the CTA, consisting of 15months of long term consultant support at the rate of $12,000/month, for travel and per diem budgets, see travel budget.

2. **Travel:** $150,000 has been budgeted for travel under this outcome, allocated as follows:

- **$60,000 for** economy class travel for international consultants to undertake the required advisory and training support. Consultants would need to travel to Vientiane where relevant Government agencies are located, as well as to the field sites.
- **$90,000** for international per diems based on 6 months per year at $3,000/month

3. Contractual services. $400,000 has been budgeted for contractual services, to be allocated as follows:

- Output 1.1 Policy work - $100,000: Under this, legal experts will examine key gaps in policy and legal arrangements in Lao PDR and help draft appropriate changes in close consultation with national stakeholders. The expert should have clear expertise in designing legal and policy that are easily implementable in Lao PDR's context.
- Output 1.2 Coordination - $50,000: This resource will be used by the inter-institutional coordination body to identify joint priority work for them to undertake. This is meant as an initial investment to provide some concrete work for the coordinating body to commission in order to see the benefits of coordination.
- Output 1.3 National Capacity - $150,000: to develop implementable capacity development strategy that the project can implement, as well as something that the government can continue beyond project end.

Output 1.4 Awareness - $100,000: develop a national communications strategy as well as to design appropriate audio-visual materials in close cooperation with government and private sector media.

4. **Miscellaneous:** $177,100 has been budgeted for publishing reports and materials and office equipments

Items to be co-funded are as follows:

5. International Consultants: $295,200 is budgeted for International Consultants consisting of UNDP staff with direct linkages to project implementation, including: UNDP staff: Environment Unit Chief, Programme Officer, and UNV ($295,200).

6. **Local Consultants:** $85,700 has been budgeted for UNDP and MAF staff with direct linkages to project implementation.

7. **Travel:** $30,000 has been budgeted for travel under this outcome, allocated as follows:

$30,000 from MAF for part –time project vehicle use in Vientiane.

8. Contractual services. $ 1,545,753 has been budgeted for contractual services, significantly reflecting the TABI co-financing, and to be allocated as follows:

9. **Miscellaneous:** $55,200 has been budgeted for miscellaneous through MAF co-financing for: Communications ($18,000) and for Government attendance and engagement ($37,200)

Component 2:

Items funded by GEF are as follows:

10. International Consultant: $225,000 has been budgeted for the CTA, consisting of 18months of long term consultant support at the rate of $12,000/month, for travel and per diem budgets, see travel budget.

11. **Local Consultants:** $30,000 has been allocated for employment of the Field Programme Assistant/s

12. **Travel:** $90,000 has been budgeted for travel under this outcome, allocated as follows:

$60,000 for local per diems for national consultants to attend meetings and workshops in the field and field staff to attend meetings and workshops in Vientiane.

$30,000 for the purchase of a diesel four wheel drive for field work, and running and fuel costs.

13. Contractual services. $600,000 has been budgeted for contractual services, to be allocated as follows:

- Output 2.1 PAFO/DAFO Capacity - $100,000: to enable capacity building of DAFO and PAFO staff to work effectively with private sector and local communities through the development and implementation of capacity development plans.
- Output 2.2 PLUP - $150,000: To facilitate development of participatory community landuse plans and for community institutional arrangements to enforce such plans
- Output 2.3 In-situ conservation - $200,000: to develop incentive mechanisms to promote in-situ conservation
- Output 2.4 Community Capacity - $50,000: to enable community capacity plans and their implementation, including pilot communities to promote peer lessons to other communities
- Output 2.5 Market approaches - $70,000: to undertake market analysis and development for agro biodiversity and other biodiversity friendly agricultural products
- Output 2.6 Private sector agreements - $30,000: to enable private sector awareness, capacities and incentives for biodiversity friendly businesses

14. **Materials & Goods:** $20,000 has been budgeted for materials and goods. (This includes operational equipment to support field work – such as GPS, Mapping systems, radios etc)

15. **Miscellaneous:** $169,500 has been budgeted for miscellaneous ($150,000 has been budgeted for communications, $12,000 for office utilities and $7,500 has been budgeted for contingency)

Items to be co-funded are as follows:

16. International Consultants: $217,822 is budgeted for International Consultants consisting of FAO staff with direct linkages to project implementation (NRM Officer, Communications Officer).

17. **Local Consultants:** $236,400 has been budgeted for FAO and MAF staff with direct linkages to project implementation.

18. **Travel:** $30,000 has been budgeted for travel under this outcome, allocated as follows:

$30,000 for part – time vehicle use in the field.

19. Contractual services: $1,454,238 has been budgeted for contractual services, significantly reflecting the TABI co-financing

20. **Miscellaneous:** $48,000 has been budgeted for miscellaneous including: Ex-situ operation and maintenance ($30,000), and communications ($18,000).

Component 3 (project management):

Items funded by GEF are as follows:

21. International Consultants: $45,000 has been budgeted for 3.75 months of the CTA contract, at the rate of $12,000/month, for travel and per diem budgets, see travel budget)

22. **Local Consultants:** $48,000 has been budgeted for a full time National Programme Assistant (60 months at $800/month)

23. **Travel:** $30,000 has been budgeted for travel under this outcome, allocated as follows:

$30,000 for local travel by local and international staff from Vientiane to the field sites.

24. Materials and Goods: $38,000 has been budgeted for materials and goods (Office supplies $18,000 and Office Equipment $20,000)

25. **Miscellaneous:** $62,400 has been budgeted for miscellaneous ($2,400 for Office Utilities, $30,000 for communications and $30,000 for an audit.

Items to be co-funded are as follows:

26. International Consultants: $138,000 has been budgeted for international consulting

27. **Local consultants:** $18,000 will be in kind local technical support

28. **Travel**: $30,000 government and other related travels co funded

29. **Contractual services**: $10,000

30. **Materials & Goods:** $8,000 has been budgeted for materials and goods, including: Office Supplies and Office Space

31. **Miscellaneous:** $ 9,000

32. **International Consultant:** Cofunding for international inputs from FAO $ 110,550
33. **Materials and goods:** $ 66,000 from different co-funders
34. **Miscellaneous:** $ 49000

3.3 Annual Work Plan Year 1

Year: 2010, Quarter 4 (Starting date: 1th of October 2010)
Project Number:
Project Title: Mainstreaming Biodiversity in Lao PDR's Agricultural and Land Management Policies, Plans and Programmes
Component/Outcome 3: Effective Project Management

EXPECTED OUTPUTS	PLANNED ACTIVITIES	2010				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4		Funding Source	Budget Description	Amount
Output 3.1: Improved capacity of IP for integrated planning, management, monitoring and evaluation of programmes									
Target: IP applies results based management to more integrated and multi-sectoral programmes **Baseline**: Lack of programme management capacity in general and integrated programmatic approach in particular **Indicator**: Effective management structure in place (MAF) to support integrated programmatic planning, management, monitoring and evaluation	**Activity Result 1**: **Project management structure established**								
	- Action 1.1: Nominate project executive and project senior beneficiaries and establish Project Board				X	MAF(With Assistance of UNDP and FAO CO)	-	-	-
	- Action 1.2: Conduct first Project Board meeting to identify and nominate PM and to plan and organize Project Inception Workshop				X	MAF(With Assistance of UNDP and FAO CO)	UNDP Co-financing in cash	74500 Miscellaneous	1,000
	Activity Results 2: a) Final M&E framework and develop communication and gender mainstreaming strategy, b) Annual Work Plan and budget for 2011 including training, communication and gender mainstreaming activities, c) ToRs for Members of Project Support Team: CTA, NPA and DPA								
	- Action 2.1: Organization of Project Inception Workshop				X	PM, MAF (With Assistance of UNDP and FAO)	UNDP Co-financing in Cash	71200 International consultants	8,000
							UNDP Co-financing in Cash	71600 Travel	6,000
							UNDP Co-financing in Cash	72100 Contractual services	2,000
							UNDP Co-financing in Cash	74500 Miscellaneous	1,000
	Activity results 3: Project Support team and project office established								
	-Action 3.1: Recruitment of project support team office (CTA, NPA and 2 DPAs)				X	FAO	-	-	-

	- Action 3.3: Establishment of project management office at central level				X	PM (With Assistance of UNDP and FAO)	UNDP Co-financing in Cash	72300 Materials and goods	2,000
							UNDP Co-financing in Cash	74500 Miscellaneous.	1,000
GRAND TOTAL									**USD 21,000**

4. PROJECT MANAGEMENT ARRANGEMENTS

4.1 Institutional Coordination and Support

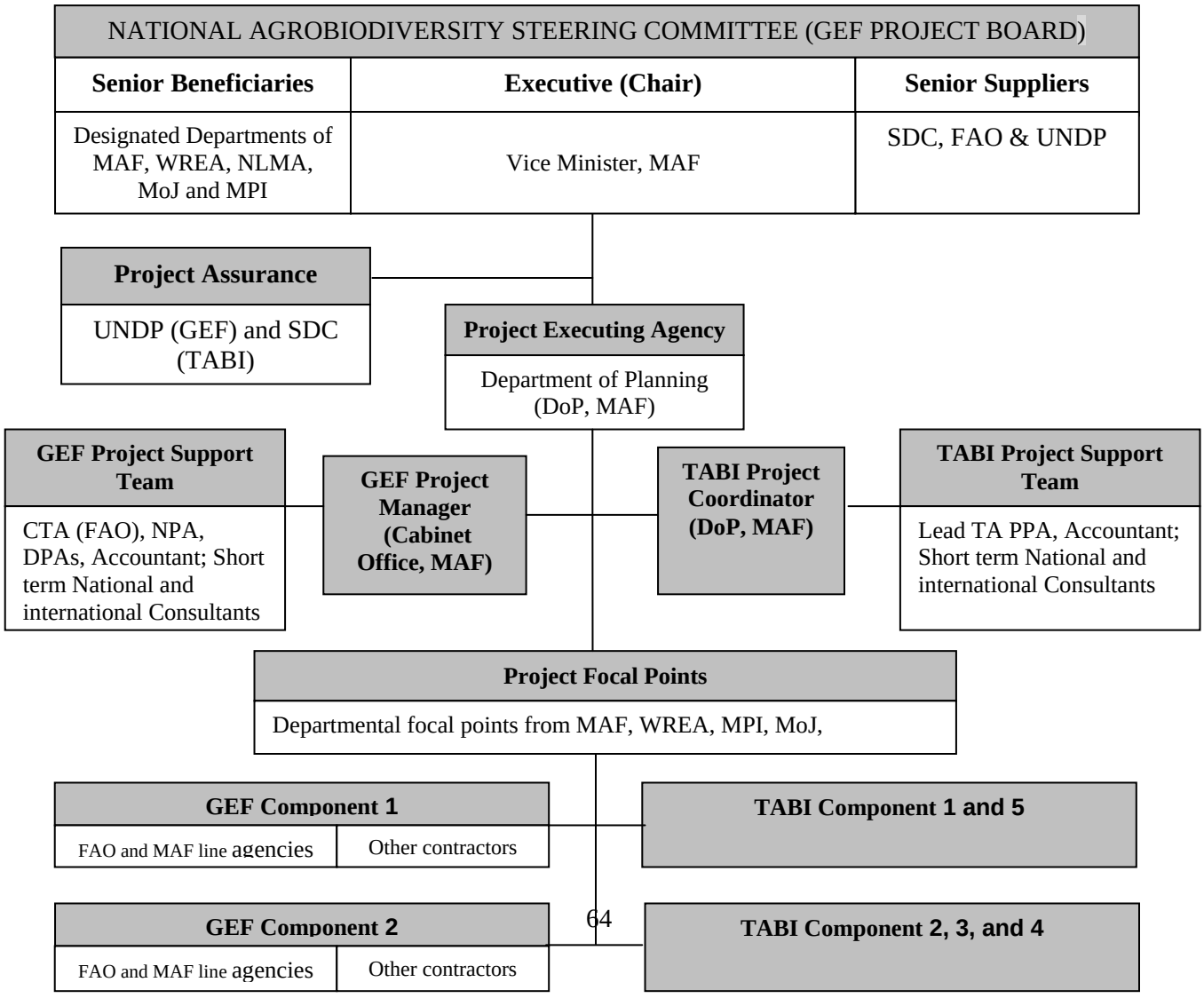
INSTITUTIONAL ARRANGEMENT:

UNDP will be the sole GEF implementing agency of the project.

PROJECT IMPLEMENTATION ARRANGEMENT:

The project will be implemented under the UNDP National Implementation Modality (NIM), which for GEF corresponds to national execution of the project by the Government. Specifically MAF will act as the Implementing Partner (IP) given its formal role as lead institution in the biodiversity sector for Lao PDR. The project is co-financed and as such will also include major participation from FAO and SDC. The GEF Project Board will be merged with the TABI National Steering Committee into an overall Agro-Biodiversity Steering Committee chaired by the Vice Minister of MAF. This will promote technical collaboration and allow UNDP, FAO and SDC to provide integrated managerial support to both projects. UNDP and SDC will provide project assurance support to their respective projects or components of the overall government's Agro-biodiversity "programme".

COMBINED GEF-TABI PROJECT ORGANOGRAM:



THE PROJECT BOARD:

Overall responsibilities[85]: The Project Board is the group responsible for making by consensus management decisions for the project when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance to standards[86] that shall ensure best value to money, fairness, integrity transparency and effective international competition. In case a consensus cannot be reached, final decision related to the GEF project shall rest with UNDP. Project reviews by this group are made at designated decision points during the running of the project, or as necessary when raised by the Project Manager. This Board is consulted by the Project Manager (through the Project Executing Agency) for decisions when PM tolerances (normally in terms of time and budget) have been exceeded. The GEF Project Board will be merged with the TABI National Steering Committee into an overall Agro-Biodiversity Steering Committee chaired by the Vice Minister of MAF.

Based on the approved annual work plan (AWP), the Project Board may review and approve project quarterly plans when required and authorizes any major deviation from these agreed quarterly plans. It is the authority that signs off the completion of each quarterly plan as well as authorizes the start of the next quarterly plan. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems between the project and external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities.

The project board will consist of the following members:

1) **One Executive or Chair**: The GEF Project Board will be merged with the TABI National Steering Committee into an overall Agro-Biodiversity Steering Committee chaired by the Vice Minister of MAF.
2) **Three representatives of the Senior Supplier**: representing the interests of the parties concerned which provide funding and/or technical expertise to the project (SDC, FAO and UNDP). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. This role will include representation from SDC, FAO and UNDP.
3) **Senior Beneficiaries**: representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. This role will include representatives from relevant Departments within the following administrations:

    - Ministry of Agriculture and Forestry (MAF)
    - Water Resources and Environment Administration (WREA)
    - National Land Management Authority (NLMA)
    - Ministry of Planning and Investment (MPI)

[85] Source: Guidelines on UNDP Implementation of UNDAF Annual Review Process

[86] UNDP Financial Rules and Regulations: Chapter E, Regulation 16.05: a) The administration by executing entities or, under the harmonized operational modalities, implementing partners, of resources obtained from or through UNDP shall be carried out under their respective financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. b) Where the financial governance of an executing entity or, under the harmonized operational modalities, implementing partner, does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, that of UNDP shall apply.

- Ministry of Justice (MoJ)

Specific responsibilities:

Initiating the project

- Agree on Project Manager's responsibilities, as well as the responsibilities of the other members of the Project Management team;
- Delegate any Project Assurance function as appropriate;
- Review the Progress Report for the Initiation Stage (if an Initiation Plan was required);
- Review and appraise detailed Project Plan and AWP, including Atlas reports covering activity definition, quality criteria, issue log, updated risk log and the monitoring and communication plan.

Running the project

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the Project Manager;
- Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- Agree on Project Manager's tolerances in the Annual Work Plan and quarterly plans when required;
- Conduct regular meetings to review the Project Quarterly Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans.
- Review Combined Delivery Reports (CDR) prior to certification by the Implementing Partner;
- Appraise the Project Annual Review Report, make recommendations for the next AWP, and inform the Outcome Board about the results of the review.
- Review and approve end project report, make recommendations for follow-on actions;
- Provide ad-hoc direction and advice for exception situations when project manager's tolerances are exceeded;
- Assess and decide on project changes through revisions;

Closing the project

- Assure that all Project deliverables have been produced satisfactorily;
- Review and approve the Final Project Review Report, including Lessons-learned;
- Make recommendations for follow-on actions to be submitted to the Outcome Board;
- Commission project evaluation (only when required by partnership agreement)
- Notify operational completion of the project to the Outcome Board.

THE EXECUTIVE (CHAIR):

The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The Executive has to ensure that the project gives value for money, ensuring a cost-conscious approach to the project, balancing the demands of beneficiary and supplier.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organisation structure and logical set of plans
- Set tolerances in the AWP and other plans as required for the Project Manager
- Monitor and control the progress of the project at a strategic level
- Ensure that risks are being tracked and mitigated as effectively as possible
- Brief Outcome Board and relevant stakeholders about project progress
- Organise and chair Project Board meetings

THE SENIOR BENEFICIARIES:

The Senior Beneficiaries are responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The role represents the interests of all those who will benefit from the project, or those for whom the deliverables resulting from activities will achieve specific output targets. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Ensure the expected output(s) and related activities of the project are well defined
- Make sure that progress towards the outputs required by the beneficiaries remains consistent from the beneficiary perspective
- Promote and maintain focus on the expected project output(s)
- Prioritise and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes
- Resolve priority conflicts

The assurance responsibilities of the Senior Beneficiary are to check that:

- Specification of the Beneficiary's needs is accurate, complete and unambiguous
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target
- Impact of potential changes is evaluated from the beneficiary point of view
- Risks to the beneficiaries are frequently monitored

Where the project's size, complexity or importance warrants it, the Senior Beneficiary may delegate the responsibility and authority for some of the assurance responsibilities (see also the section below)

THE SENIOR SUPPLIERS:

The Senior Suppliers represents the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Make sure that progress towards the outputs remains consistent from the supplier perspective
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management
- Ensure that the supplier resources required for the project are made available
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts

The supplier assurance role responsibilities are to:

- Advise on the selection of strategy, design and methods to carry out project activities
- Ensure that any standards defined for the project are met and used to good effect
- Monitor potential changes and their impact on the quality of deliverables from a supplier perspective
- Monitor any risks in the implementation aspects of the project

If warranted, some of this assurance responsibility may be delegated (see also the section below)

THE PROJECT ASSURANCE:

Overall responsibility of project assurance: Project Assurance is the responsibility of each Project Board member, however the role can be delegated. The Project Assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project Assurance has to be independent of the Project Manager; therefore the Project Board cannot delegate any of its assurance responsibilities to the Project Manager. A Programme Officer from the UNDP will hold the Project Assurance role. The following list includes the key suggested aspects that need to be checked by the Project Assurance throughout the project as part of ensuring that it remains relevant, follows the approved plans and continues to meet the planned targets with quality.

- Maintenance of thorough liaison throughout the project between the members of the Project Board.
- Beneficiary needs and expectations are being met or managed
- Risks are being controlled
- Adherence to the Project Justification (Business Case)
- Projects fit with the overall Country Programme
- The right people are being involved
- An acceptable solution is being developed
- The project remains viable
- The scope of the project is not “creeping upwards” unnoticed
- Internal and external communications are working
- Applicable UNDP rules and regulations are being observed
- Any legislative constraints are being observed
- Adherence to RMG monitoring and reporting requirements and standards
- Quality management procedures are properly followed
- Project Board’s decisions are followed and revisions are managed in line with the required procedures

Specific responsibilities include:

Running a project

- Ensure that funds are made available to the project;
- Ensure that risks and issues are properly managed, and that the logs in Atlas are regularly updated;
- Ensure that critical project information is monitored and updated in Atlas, using the Activity Quality log in particular;
- Ensure that Project Quarterly Progress Reports are prepared and submitted on time, and according to standards in terms of format and content quality;
- Ensure that CDRs and FACE are prepared and submitted to the Project Board and Outcome Board;
- Perform oversight activities, such as periodic monitoring visits and "spot checks".
- Ensure that the Project Data Quality Dashboard remains "green"

Closing a project

- Ensure that the project is operationally closed in Atlas;
- Ensure that all financial transactions are in Atlas based on final accounting of expenditures;
- Ensure that project accounts are closed and status set in Atlas accordingly.

THE PROJECT EXECUTING AGENCY:

Department of Planning of MAF will be acting as the Executing Agency on behalf of the Project Board. The Executive will nominate a number of staff from the Department of Planning with the **overall responsibility** to act as a secretariat of the Board and to facilitate the tasks of the Executive.

THE PROJECT MANAGER:

Overall responsibilities: The Project Manager will be a dedicated staff from the Department of Planning of MAF staff whose salary will be covered by MAF. The PM has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The PM is responsible for day-to-day management and decision-making for the project. The PM's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. MAF appoints the PM, who should be different from the Implementing Partner's representatives in the Board.

Specific responsibilities include:

Overall project management:

- Manage the realization of project outputs through activities;
- Provide direction and guidance to her/his National Project Assistant and District Project Assistants, project team(s)/ responsible party (ies);
- Liaise (through the Project Executing Agency) with the Project Board and Project Assurance roles to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;

- Responsible for general project oversight and administration;
- Coordinate with project stakeholders
- Liaise with any suppliers;
- Prepare and submit regular project reports
- May also perform Team Manager and Project Support roles;

Running a project

- Plan the activities of the project and monitor progress against the initial quality criteria.
- Mobilize goods and services to initiative activities, including drafting TORs and work specifications;
- Monitor events as determined in the Monitoring & Communication Plan, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures);
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports;
- Manage and monitor the project risks as initially identified in the Project Brief appraised by the LPAC, submit new risks to the Project Board (through the Project Executing Agency) for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log;
- Be responsible for managing issues and requests for change by maintaining an Issues Log.
- Prepare the Project Quarterly Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance through the Project Executing Agency;
- Prepare the Annual review Report, and submit the report through the Project Executing Agency to the Project Board;
- Based on the review, prepare the AWP for the following year, as well as Quarterly Plans if required.

Closing a Project

- Prepare Final Project Review Reports to be submitted through the Project Executing Agency to the Project Board;
- Identify follow-on actions and submit them (through the Project Executive Agency) for consideration to the Project Board;
- Manage the transfer of project deliverables, documents, files, equipment and materials to national beneficiaries;
- Prepare final CDR/FACE for signature by UNDP and the Implementing Partner.

THE PROJECT FOCAL POINTS:

The PM will identify a number of Project Focal Points within Departments (Central and Provincial) of all Line Ministries involved in the project. MAF focal points for GEF component 1 will be from the Cabinet Office and for GEF component 2 from the Department of Planning. The **main responsibilities** of Project Focal Points will be to coordinate and/or implement specific project activities for each project component under the overall responsibility of the PM.

THE PROJECT SUPPORT:

The Project Manager will be supported by a Project Support Team:

- Chief Technical Advisor (CTA)
- Short-term National and International consultants
- National Project Assistant (NPA)
- Accountant
- Two District Project Assistants (DPA)

The Chief Technical Advisor

The CTA will be recruited by FAO, and require endorsement from the Project Board. The CTA will be employed part time (9 months in Y1 and Y2, 6 months in Y3 and 3 months in Y4 and Y5) by FAO on an annual basis. Extension of contracts shall be proposed by FAO for approval by the project board. The CTA will provide technical and managerial support to the Project Manager and reports to the PM. Personal progress and technical reports of the CTA will require prior clearance from FAO HQ. The ToR of the FAO CTA will complement the ToR of the TABI Lead Technical Advisor (TA).

The National Project Assistant

The National Project Assistant (NPA) will be recruited and employed full time by the project and can therefore not be government staff. The NPA will provide central level support to the PM. His/her ToR will complement the ToR of the FAO CTA and TABI Lead TA and will focus on providing project management support.

The District Project Assistants

Two District Project Assistants (DPA) will be recruited and employed full time by the project and can therefore not be government staff. DPAs will provide district level managerial support and will be based in DAFO offices. DPAs complement provincial level management support structures established by TABI.

The Overall responsibilities of the Project Support Team are:

Provision of technical support services

- Provide technical advice
- Review technical reports
- Monitor technical activities carried out by responsible parties

Provision of administrative services:

- Set up and maintain project files
- Collect project related information data
- Update plans
- Administer the quality review process
- Administer Project Board meetings

Project documentation management:

- Administer project revision control
- Establish document control procedures
- Compile, copy and distribute all project reports

Financial Management, Monitoring and reporting

- Assist in the financial management tasks under the responsibility of the Project Manager
- Provide support in the use of Atlas for monitoring and reporting

CONTRACTORS:

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The implementation of Components 1-2 of the project will be supported by contractors, which will be selected through processes of direct contracting (FAO and MAF line agencies) and competitive bidding (other contractors). Confirmation of direct contracting will need to comply with criteria, such as comparative advantage, timing, budgeting and quality. If direct contracting criteria cannot be met the activity will be open to competitive bidding.

4.2 Audit arrangements

Audit will be conducted in accordance with the UNDP NIM Audit policies and procedures, and based on UN Harmonised Approach to Cash Transfer (HACT) policy framework. Annual audit of the financial statements relating to the status of UNDP (including GEF) funds will be undertaken according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by a special and certified audit firm. UNDP will be responsible for making audit arrangements for the project in communication with the Project Implementing Partner. UNDP and the project Implementing Partner will provide audit management responses and the Project Manager and project support team will address audit recommendations. As a part of its oversight function, UNDP will conduct audit spot checks at least two times a year.

4.3 Logos

In order to accord proper acknowledgement to UNDP and GEF for providing funding, a GEF and UNDP logo should appear on all relevant project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF and Co-financing organizations.

4.4 UNDP Support Services

As per the Letter of Agreement (LOA) between the Government of Lao PDR and UNDP with respect to the provision of support services by the UNDP Country Office for nationally implemented programmes and projects, the UNDP Country Office may provide, at the request of the Implementing Partner, the following support services for the activities of this project, and recover the actual direct and indirect costs incurred by the Country Office in delivering such services as stipulated in the LOA:

a. Payments, disbursements and other financial transactions
b. Recruitment of staff, project personnel, and consultants
c. Procurement of services and equipment, including disposals
d. Organization of training activities, conferences, and workshops, including fellowships
e. Travel authorization, Government clearances ticketing, and travel arrangements

f. Shipment, custom clearance, and vehicle registration

4.5 Intellectual property rights

These will be retrained by the employing organization of the personnel who develops intellectual products, either Government or UN/UNDP in accordance with respectively national and UN/UNDP policies and procedures.

5. MONITORING FRAMEWORK & EVALUATION

UNDP corporate tools are to be used in project monitoring and evaluation:

- ERBM, *which is linked to ATLAS*
- UNDP Evaluation Resource Centre

The M&E plan of the project will be closely aligned and harmonized with that of The Agro-biodiversity Initiative (TABI). The M&E budget is provided in the table below.

5.1 Project start

An Inception Workshop will be held between one and two months into the project to present the details of project management and implementation. The Inception Workshop should address a number of key issues including:

- Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO, FAO UNDP RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. Ensure effective coordination with TABI and other relevant programs, including discussion and confirmation on the specific geographical focus.
- Assist the partners to understand capacity gaps and needs at provincial and district level and how the project could promote capacity development to government agencies to produce project results.
- Based on the project results framework and the relevant GEF Tracking Tool if appropriate, review the results framework and the annual work plan 2011
- Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned.
- Discuss and review project M&E framework in line with M&E framework of TABI.
- Review and discuss about communication strategy and gender mainstreaming strategy of the project.

5.2 Quarterly

Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform. Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical). Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot. This will be coordinated with the FAO Oracle system. Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard. Again, these will be coordinated with the FAO Oracle system.

5.3 Annually

Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

5.4 Periodic Monitoring through site visits

UNDP and FAO, the UNDP Regional Coordination Unit (RCU) will conduct visits to project sites (based on the agreed schedule in the project's Inception Report/Annual Work Plan) to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the UNDP CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

5.5 Mid-term of project cycle

The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (June 2013). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-

term evaluation will be prepared by the UNDP CO and FAO based on guidance from the UNDP RCU and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

5.6 End of Project

An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP, FAO and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO and FAO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response, which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

5.7 Learning and knowledge sharing

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

5.8 Monitoring & Evaluation work plan and budget

Type of M&E activity	**Responsible Parties**	**Budget US$** *Excluding project team staff time*	**Time frame**
Inception Workshop and Report	Project Manager UNDP CO, FAO, UNDP-RCU, UNDP- GEF	US$ 8,000	Within first two months of project start up
Measurement of Means of Verification of project results.	UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to	US$ 40,000	Start, mid and end of project (during evaluation cycle) and annually when required.

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
	relevant team members.		
Measurement of Means of Verification for Project Progress on *output and implementation*	Oversight by Project Manager Project team	US$ 53,000	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	Project manager and team UNDP Country Office UNDP Regional Technical Adviser UNDP EEG FAO	None	Annually
Periodic status/ progress reports	Project manager and team Technical backstopping	None US$ 20,000	Quarterly Random
Mid-term Evaluation	Project manager and team UNDP Country Office UNDP Regional Coordination Unit FAO External Consultants (i.e. evaluation team)	US$ 40,000	At the mid-point of project implementation.
Final Evaluation	Project manager and team, UNDP Country Office UNDP Regional Coordination Unit FAO External Consultants (i.e. evaluation team)	US$ 40,000	At least three months before the end of project implementation
Project Terminal Report	Project manager and team UNDP Country Office FAO Local consultant	None	At least three months before the end of the project
Audit	UNDP Country Office FAO Project manager and team	US$ 2,000 per year = US$12,000	Yearly
Visits to field sites	UNDP CO, FAO UNDP RCU (as appropriate) Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP and FAO staff and travel expenses		US$ 213,000	

6. LEGAL CONTEXT

This document together with the CPAP signed by the Government of the Lao PDR and UNDP on 28 March 2007, which is incorporated by reference, constitutes a Project Document as referred to in the Standard Basic Assistance Agreement (SBAA) of 10 October 1988. All CPAP provisions apply to this document.

Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.
The implementing partner shall:

a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;

b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

7. ANNEXES

1/ Minutes of the PAC meeting

2/ Co-financing letters (in separated pdf. file)

3/ Tracking tool

Annex 1: Minutes of Local Project Appraisal Committee (LPAC) Meeting on the new UNDP Project proposal for:

"MAINSTREAMING BIODIVERSITY IN LAO PDR'S AGRICULTURAL AND LAND
MANAGEMENT POLICIES, PLANS AND PROGRAMMES"
9:00 a.m. to 10.30 a.m.
Friday, 11 June 2010
UNDP Lao PDR Country Office Conference Room

ATTACHMENTS:

1. Meeting agenda
2. List of participants

1 Background.

During GEF3, from 2004 to 2006, Lao PDR and UNDP developed a medium sized project on agrobiodiversity but this proposal was not submitted for evaluation. In January 2007 the Government of Lao PDR (GoL) through the Water Resources and Environment Administration (WREA) reiterated their interest to submit the project to GEF-SEC under GEF4. PIF and PPG were submitted to GEFSEC in May 2008 as a joint GOL-UNDP-FAO project. The GEF Council approved the PIF in April 2009. The project preparation for the project Mainstreaming Biodiversity into Lao PDR's Agricultural and Land Management Policies, Programmes, and Plans (MBLALMPPP) started in 2009, extending into 2010.

2. Introduction and presentation

UNDP Lao PDR Deputy Resident Representative a.i. Mr. Dirk Wagener, Chair of the meeting thanked all the participants for their attendance in the meeting, especially Dr. Phouang Parisak Pravongviengkham, Director General of the Department of Planning (DoP) of the Ministry of Agriculture and Forestry (MAF). Mr. Wagener reiterated that agriculture is a very important sector, and that this project would contribute to the conservation and sustainable use of agricultural biodiversity in Lao PDR, and that it is a complimentary project to the ongoing TABI initiative. The chair confirmed project development had been done in a strong participatory manner with the involvement of MAF, FAO, SDC/TABI Project and UNDP. A pre-PAC meeting was organized on 28 May 2010 with all relevant stakeholders.

The Chair passed the floor to UNDP Head of Environment Unit Mr. Bruno Cammaert who introduced the background, formulation process and concept of the MBLALMPPP proposal. Mr. Cammaert briefly explained the background that lead to the formulation process for this proposal, and how this project compliments the existing Lao PDR government programme, The Agro-biodiversity Initiative (TABI), supported by SDC by giving the programme a complementary focus on globally significant biodiversity and agricultural biodiversity and policy development. The project will benefit from the global and regional perspective and technical and policy related expertise of the UN network and will provide additional resources, more ideas and perspectives and renewed strategic approaches. Mr Cammaert then presented the GEF project objective of "providing farmers with the necessary incentives, capabilities and supporting institutional

framework to conserve agricultural biodiversity within farming systems of Lao PDR", and the project outcomes: 1) National Policy and Institutional Frameworks for Sustainable Use, In-Situ Conservation of Biodiversity in Agro-ecosystems, 2) Capacities and Incentives to Mainstream Biodiversity, especially Agricultural Biodiversity, at Provincial, District and Community levels, and 3) Effective project management.
Mr Cammaert then reviewed the different outputs under the 3 project outcomes
1.1 Biodiversity conservation, including agro-biodiversity, incorporated into Government policies, laws and other legal instruments.
1.2 Institutional coordination of agro-biodiversity enhanced at national level.
1.3 Institutional capacity of MAF to plan for, implement and effectively communicate on agro-biodiversity enhanced at national level.
1.4 Key stakeholders understanding and capacity to respond to agro-biodiversity enhanced.
2.1 Capacity and accountability of Provincial and District Government to mainstream biodiversity into agriculture increased for two pilot sites.
2.2 Participatory land use plans integrating agro-biodiversity developed in two pilot sites.
2.3 *In-situ* conservation for important agro-biodiversity established over 100,000 ha.
2.4 Farmers in two pilot sites with the skills, knowledge and incentives necessary to undertake biodiversity-friendly farming.
2.5 Value-chain research used to identify, process, pack and market agro-biodiversity and biodiversity friendly community products
2.6 Private and public sector agreements to mainstream agro-biodiversity into their plans.
3.1 Project Management Capacity

Mr. Cammaert mentioned the selected project field sites which are Phonexay and Phoukout Districts of Luang Prabang and Xieng Khouang Provinces. Project field sites are therefore located in the same TABI target districts but the GEF project will concentrate on different village clusters, focusing on transition areas between agriculture and protected area boundaries, i.e. the Nam Et Phou Louey Protected Area but also Provincial and District Protected Areas. The project will be implemented over a period of five years, from 2010 Q4 to 2015 Q3 and will be managed through UNDP National Implementation Modality (NIM). The Project Board will be identical to TABI's steering committee and will include senior beneficiaries from MAF line departments and WREA. The Project Board Executive will be a senior representative from MAF. The Project Manager (PM) will be a staff from the Planning Department (MAF) and therefore employed by MAF. The Project Support Team will include a Chief Technical Advisor recruited by FAO, a National Project Assistant and two District Project Assistants hired by the project. The management structure and project support team are supposed to reinforce the existing TABI management structure and complement its provincial level project assistance. Project Offices at national and district levels will be integrated into MAF structures.

Mr. Cammaert also described the GEF Grant budget allocations per outcome and the different sources of co-financing in kind or in cash. He then described the next steps starting with the incorporation of PAC meeting comments into the final Project Document. He also pointed out that a number of annexes to the project document and CEO Endorsement Document still had to be completed before the 1st of July submission deadline. These annexes include the necessary co-financing letters from Government, SDC, FAO and UNDP. All documents required for the submission to the GEF SEC would be sent to FAO HQ for final review and to UNDP New York for final clearance and submission. If the project is approved the expected starting date would be October 2010.

3. Comments and points of discussion

3.1 Dr. Parisak (DG DoP MAF), mentioned that the project document had reached the necessary maturity level but that UNDP had to make final adjustments before submitting it formally to

MAF/MPI in the following days. Concerning the management and institutional arrangements he mentioned that the board has to be extended to reflect the full multi-disciplinarity of the project. Senior Beneficiaries on the Board should therefore include all relevant MAF line departments and representatives from WREA and MPI. The executive should be a representative of the Legal Affairs Division of the Cabinet Office (MAF) to enable the executive to play a coordinating role. Dr. Parisak mentioned that MAF will provide the necessary comments on project board composition and management structure to UNDP in writing, after officially receiving the project document from UNDP.

3.2 Mr. Morakot Vongxay (DIC, MPI) asked to further clarify project management roles and implementing partners. DIC also mentioned that there seems to be some confusion concerning the titles used. He noted the use of Project Manager where in the past it used to be a National Project Director (NPD). In this particular case the PM should be called a National Project Coordinator since his/her role will be to coordinate work across departments. DIC also suggested the project formulation team (UNDP CO and RCB and FAO CO) to make final revisions in order to be consistent throughout the document with regard to starting and ending dates of the project.

3.3 Mr. Ilari Sohlo (FAO) commented that like for any project, some implementation details would have to be clarified during the inception phase. He also mentioned that this project was in line with the original PIF but also with priorities mentioned in the current draft of the 7th NSEDP. The project will help identify markets for niche products in addition to raising awareness and conserving agro-biodiversity.

3.4 Mr. Iori Kato (UNDP CO, PMSU) congratulated the UNDP Environment unit and the project formulation team for drafting a project document on this initiative which has been long awaited. The project tries to address an important development need to mainstream biodiversity concerns into the agricultural sector in Lao PDR. Its desired results makes eminent development sense - to provide farmers with the necessary incentives, capabilities and support for institutional framework to conserve agro-biodiversity within the farming systems of Lao PDR, with support from the central to the community level, through a joint programme, by tapping into GEF resources.

Since the initial draft was shared, PMSU provided a series of detailed comments many of which have been incorporated or addressed already in the revised document and today's presentation by the UNDP Environment Unit. With this said, PMSU pointed some areas where further improvements and more clarity are needed, which include the following:

- **The results framework** needs to be revisited and improved. Some outputs still do not read as outputs, more like outcomes (e.g. how you'd like to measure "enhanced coordination"). And targets are missing; if the indicator is number, it needs to mention "*how many*," for instance.
- **Gender mainstreaming and gender equality** is not only a local concern here in Laos but a global priority for UN & UNDP. In this regard, it is unfortunate to see no gender-responsive indicator and target in the results framework, or mentioned in the presentation today. This needs to be sorted out before attempting at obtaining a formal approval of the proposal.
- **Consultative process** and partner mapping – from the document, it is not very clear as to what kind of consultative process with the partners and stakeholders has been undertaken to date, to map out who is already doing or planning to do what in this country. With that indication, it will become clearer how this initiative is going to complement and supplement the existing initiatives other than TABI, in the context of UNDAF and the next NSEDP.

- **National ownership** – from the document, it is not yet clear as to specifically which department of MAF (or perhaps WREA) is going to be the main focal point of this project, which is likely to provide the Project Manager (e.g. Planning Department). The beneficially list contains many departments within MAF, but it could just be MAF without specifying the department names. One the other hand, the Executive simply says MAF, but it should be more specific such as "Executive/National Programme Coordinator – Cabinet Secretary of MAF".
- **Component 3** (management and M&E) should be articulated more explicitly in the body text, which is missing from p. 40. On that point PMSU pointed out that most of the envisaged activities under Component 3 for management and M&E can be actually incorporated to either Component 1 or 3.

PMSU will continue working with the formulation team to further refine the document, if such an opportunity is provided before submission, if not during the implementation stage.

3.5 Mr. Ilari Sohlo (FAO) commented that all these comments were very helpful but that the project formulation team had to reflect the PIF and related comments from the GEF Council members. As many comments should be addressed keeping in mind the upcoming submission deadline of 1 July 2010. If this deadline is missed, Lao PDR will lose this possible budget allocation under GEF 4.

3.6 Dr. Parisak (DG, DoP, MAF) mentioned the limited capacity within MAF and WREA in relation to the implementation of the 3 Rio Conventions. The responsibility for implementing and reporting two (BD and CCD) of the three conventions have been passed on by WREA to MAF. This has added additional workload to MAF and in general human resources and skills are a luxury in Lao PDR. He mentioned that project formulation process has been slow and time consuming and that the project should not be a burden but an opportunity. This is why component 3 (effective project management) is very important to MAF. Government staff need these management skills. With regard to PMSU comments, these can be addressed during the inception phase. MAF has for example an excellent Gender Mainstreaming Unit and should be able to help address important gender issues and include gender related indicators during the inception phase. For MAF this project document can go through and should be approved.

3.7 Mr. Iori Kato (UNDP CO PMSU) clarified their previous comment. They did not suggest reducing the budget for component 3. Some activities/budgets under component 3 could be incorporated under Component 1 or 2 as they will contribute to the achievement of the two "technical" components.

3.8 Mr. Morakot Vongxay (DIC) commented that they would like to know which unit under MAF will be involved in this project, because it has not been clearly mentioned. He also commented that as the project title "Mainstreaming biodiversity in Lao PDR's Agricultural and Land Management policies, Plans and programmes", we should include more activities in the field of land management. Currently only one activity is mentioned in the Prodoc. The National Land Management Authority (NLMA) should also be included in the list of beneficiaries.

3.9 Mr. Ilari Sohlo (FAO) commented that when the first group of consultants were here the title of the project was considered carefully, and at one point it was suggested that "land management" would be omitted from the project title, but that then it was decided to keep it in there because it was also included in the PIF. The current project document does in fact touch to land management in many ways: PLUP and Participatory Natural Resources Management, Protected Areas and in-situ conservation.

4. Decisions and Recommendations:

There is an overall support from all parties. Therefore, the Chair has concluded that the project document be approved. The meeting however recommended to further clarify management

arrangements, project targets and indicators and to clearly identify government agencies/departments for the different management roles. An updated project document will be officially submitted to MAF/MPI during the week following the PAC meeting and MAF will provide the necessary feedback to clarify project board composition and management structure.

5. Conclusion

The meeting has been undertaken in an effective way and it's objectives have been achieved as planned. The participants (MAF/TABI, FAO and UNDP) attending the meeting represented a majority of the project stakeholders. The Chair thanked all the participants for their attendance.
The meeting adjourned at 10:00 A.M

Date: 11 June 2010
Approved

Dirk Wagener
UNDP Lao PDR DRR a.i.

AGENDA

1. Welcome and introduction (Chair UNDP)
2. Overview of the project and next steps (UNDP)
3. Comments by participants
4. Summary and closing (Chair UNDP)

LIST OF PARTICIPANTS

No.	Project/Programme/Agency	Contact details			
		Full names	Position	Email	Tel.
1	Department of International Cooperation/MPI	Mr. Morakot Vongxay	Director of UN System Division	k_vongxay@hotmail.com	218274
2	Department of Planning/MAF	Dr. Phouang Parisak Pravongviengkham	Director General	ppravongviengkham@yahoo.com	415363
3	Department of Planning/MAF	Mr. Oukham Phiathep	Director of Planning Division	oukham_phth@yahoo.com	55409371
4	NAFRI/MAF	Mr. Vongvilai Vongkhamsao	Deputy Head of Planning Division	vongvilay_v@nafri.org.la	55604759
5	Department of Environment/WREA	Mr. Lonekham Atsanavong	Director of Planning Division	lonekhama@yahoo.com	55725915
6	FAO	Ms. Celia Hitzges	Research and Policy Intern	celia.hitzges@fao.org	413205
7	FAO	Mr. Ilari Sohlo	Natural Resource Management Advisor	ilari.sohlo@fao.org	413205 ext113
8	UNDP CO DRR a.i.	Dirk Wagener	Head of Governance unit	dirk.wagener@undp.org	
9	UNDP CO Environment Unit	Mr. Bruno Cammaert	Head of Environment Unit	bruno.cammaert@undp.org	267710
10	UNDP CO PMSU	Mr. Iori Kato	Head of PMSU Unit	iori.kato@undp.org	267704
11	UNDP CO Environment Unit	Ms. Silvia Jundt	Environment Specialist	silvia.jundt@undp.org	267659
12	UNDP CO Environment Unit	Mr. Singha Ounniyom	Programme Analyst	singha.ounniyom@undp.org	267711
13	UNDP CO PMSU	Mr. Jonathan Zigrand	Programme Analyst, M&E Officer	jonathan.zigrand@undp.org	267734

Annex 3: GEF Tracking Tools in GEF-4

Note: Given changes in the GEF's biodiversity strategy in GEF-4, a slightly modified Tracking Tool for this strategic objective has been developed. Please use this tool for all GEF-4 funded projects that fall under this strategic objective.

Objective: To measure progress in achieving the impacts and outcomes established at the portfolio level under the biodiversity focal area. The following targets and indicators are being tracked for all GEF-4 projects submitted under Strategic Objective Two and the associated Strategic Programs

Impact and Outcome Indicators for Strategic Objective Two and Associated Strategic Programs

Strategic Objective	**Expected Long-Term Impacts**	**Indicators**
To mainstream biodiversity conservation in production landscapes/ seascapes and sectors	Conservation and sustainable use of biodiversity incorporated in the productive landscape and seascape	• Number of hectares in production landscapes/seascapes under sustainable management but not yet certified[87] • Number of hectares/production systems under certified production practices that meet sustainability and biodiversity standards • Extent (coverage: hectares, payments generated) of payment for environmental service schemes
Strategic Programs for GEF-4 under Strategic Objective Two	**Expected Outcomes**	**Indicators**
4. Strengthening the policy and regulatory framework for mainstreaming biodiversity	• Policy and regulatory frameworks governing sectors outside the environment sector incorporate measures to conserve and sustainably use biodiversity	• The degree to which polices and regulations governing sectoral activities include measures to conserve and sustainably use biodiversity as measured through the GEF tracking tool
Strategic Programs for GEF-4 under Strategic Objective Two	**Expected Outcomes**	**Indicators**

[87] This indicator will measure the coverage of management systems in production landscapes and seascapes that are in a transition process to certified production practices.

5. Fostering markets for biodiversity goods and services	• Markets created for environmental services • Global certification systems for goods produced in agriculture, fisheries, forestry, and other sectors include technically rigorous biodiversity standards	• Number and extent (coverage: hectares, payments generated) of new payments for environmental service schemes created • Published certification systems that include technically rigorous biodiversity standards

Rationale: Project data from the GEF-4 project cohort will be aggregated for analysis of directional trends and patterns at a portfolio-wide level to inform the development of future GEF strategies and to report to GEF Council on portfolio-level performance in the biodiversity focal area.

Structure of Tracking Tool: Each tracking tool requests background and coverage information on the project and specific information required to track the indicator sets listed above.

Guidance in Applying the Tracking Tool: The tracking tools are applied three times: at CEO endorsement[88], at project mid-term, and at project completion.

In GEF-4, we expect that projects which fall clearly within Strategic Objectives and support specific Strategic Programs under each Strategic Objective hence only one tracking tool will need to be completed.

On *very rare occasions*, projects make substantive contributions to more than one strategic objective. In these instances, the tracking tools for the relevant strategic objectives should be applied. It is important to keep in mind that the objective is to capture the full range of a project's contributions to delivering on the targets set for each of the strategic priorities. The GEF Implementing Agency/Executing Agency will guide the project teams in the choice of the tracking tools. Please submit all information on a single project as one package (even where more than one tracking tool is applied).

Multi-country projects may face unique circumstances in applying the tracking tools. The GEF requests that multi-country projects complete one tracking tool per country involved in the project, based on the project circumstances and activities in each respective country. The completed forms for each country should then be submitted as one package to the GEF. Global projects which do not have a country focus, but for which the tracking tool is applicable, should complete the tracking tool as comprehensively as possible.

The tracking tool does not substitute or replace project level M&E processes, or GEF Implementing Agencies'/Executing Agencies' own monitoring processes. Project proponents and managers will likely be the most appropriate individuals to complete the Tracking Tool, in collaboration with the project team, since they would be most knowledgeable about the project. Staff and consultants already working in the field could also provide assistance in filling out the Tracking Tool.

[88] For Medium Sized Projects when they are submitted for CEO approval.

Submission: The finalized tracking tool will be cleared by the GEF Implementing Agencies and Executing Agencies before submission. The tracking tool is to be submitted to the GEF Secretariat at three points:

1.) With the project document at CEO endorsement[89];
2.) Within 3 months of completion of the project's mid-term evaluation or report; and
3.) With the project's terminal evaluation or final completion report, and no later than 6 months after project closure.

[89] For Medium Sized Projects when they are submitted for CEO approval.

I. Project General Information

1. Project Name: **Mainstreaming Biodiversity in Lao PDR's Agricultural and Land Management Policies, Plans and Programmes**
2. Project Type (MSP or FSP): **FSP**
3. Project ID (GEF): **2416**
4. Project ID (IA): **2903**
5. Implementing Agency: **UNDP**
6. Country(ies): **Lao PDR**

Name of reviewers completing tracking tool and completion dates:

	Name	**Title**	**Agency**
Work Program Inclusion	**Bruno Cammaert**	**Head, Environment Unit**	**UNDP Lao PDR**
Project Mid-term			
Final Evaluation/project completion			

7. Project duration: ***Planned***___5____ years ***Actual*** _____ years

8. Lead Project Executing Agency (ies): **Ministry of Agriculture and Forestry**

9. GEF Strategic Program:
√ Strengthening the policy and regulatory framework for mainstreaming biodiversity (SP 4)

10. Production sectors and/or ecosystem services directly targeted by project:

10. a. Please identify the main production sectors involved in the project. Please put "**P**" for sectors that are primarily and directly targeted by the project, and "**S**" for those that are secondary or incidentally affected by the project.
Agriculture: ___**P**_____
Fisheries: _____
Forestry____**S**_____
Tourism_____
Mining_____
Oil_____
Transportation_____
Other (please specify)_____

II. Project Landscape/Seascape Coverage

11. a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components? An example is provided in the table below.

Targets and Timeframe **Project Coverage**	**Foreseen at project start**	**Achievement at Mid-term Evaluation of Project**	**Achievement at Final Evaluation of Project**
Landscape/seascape[90] area directly[91] covered by the project (ha)	Phoukout District(approx. 1,500km^2) Phonexay District(approx. 2,000km^2) = 3,500km^2		
Landscape/seascape area indirectly[92] covered by the project (ha)	Luang Prabang 16, 875 km^2 Xieng Khouang 15, 880 km^2 = 32,755 km^2		

Explanation for indirect coverage numbers:

Lessons learned from the two pilot sites, and materials developed for extension will be applicable for the whole two districts' areas._New knowledge and skills obtained from trainings and awareness raising activities will be applied and shared with local farmers and officials in both districts.

11. b. Are there Protected Areas within the landscape/seascape covered by the project? If so, names these PAs, their IUCN or national PA category, and their extent in hectares.

[90] For projects working in seascapes (large marine ecosystems, fisheries etc.) please provide coverage figures and include explanatory text as necessary if reporting in hectares is not applicable or feasible.

[91] Direct coverage refers to the area that is targeted by the project's site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

[92] Using the example in footnote 5 above, the same project may, for example, "indirectly" cover or influence the remaining 9,000 hectares of the floodplain through promoting learning exchanges and training at the project site as part of an awareness raising and capacity building strategy for the rest of the floodplain. Please explain the basis for extrapolation of indirect coverage when completing this part of the table.

	Name of Protected Areas	IUCN and/or national category of PA	Extent in hectares of PA
1.	Nam Et - Phou Leuy National Protected Area	IUCN Managed Resource Area category VI	The target area covers about 12% of total Nam Et-Phou Leuy NPA area: Luang Prabang c424 km2 (10%) and Xing Khouang 86 km2 (2%) of the protected area. (IUCN 2001)

11. c. Within the landscape/seascape covered by the project, is the project implementing payment for environmental service schemes? If so, please complete the table below. An example is provided. NA

III. Management Practices Applied

12.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices. Please also note if a certification system is being applied and identify the certification system being used. Note: this could range from farmers applying organic agricultural practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisherfolk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.

Specific management practices that integrate BD	Name of certification system being used (insert NA if no certification system is being applied)	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
Participatory Land Use Planning	NA	3500km^2 (without participatory land use planning)		

Sustainable NTFPs management	Eligible NTFP traders require formal permission from the Division of Forestry (PAFO, DAFOs) for verification of quota, then the formal permission from the Division of Import-Export (PICO, DICO). When agro-business companies ask for the trade permission, they mention the types of collecting products, not quality or quantity.	Louang Prabang and Xieng Khouang Provinces (broom grass, bitter bamboo, rattan and mulberry)		

IV. Market Transformation

13. **For those projects that have identified market transformation as a project objective**, please describe the project's ability to integrate biodiversity considerations into the mainstream economy by measuring the market changes to which the project contributed.

The sectors and subsectors and measures of impact in the table below **are illustrative examples, only**. Please complete per the objectives and specifics of the project.

Name of the market that the project seeks to affect (sector and sub-sector)	**Unit of measure of market impact**	**Market condition at the start of the project**	**Market condition at midterm evaluation of project**	**Market condition at final evaluation of the project**
Five marketing options including Organic Agriculture, Fair-trade, Eco-tourism, Domestication NTFPs with agro-forestry method, and Home gardens have been identified for potential	US$ of sales and % of revenue share in local market	Low competition		

V. Policy and Regulatory frameworks

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions*:* 14a, 14b, 14c.

An example for a project that focused on the agriculture sector is provided in 14 a, b, and c.

14. a. Please complete this table at **CEO endorsement for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector **Statement: Please answer YES or NO for each sector that is a focus of the project.**	**Agriculture**	**Land use**	**EIA/ SEA**
Biodiversity considerations are mentioned in sector policy	NO	NO	NO
Biodiversity considerations are mentioned in sector policy through specific legislation	NO	NO	NO
Regulations are in place to implement the legislation	NO	NO	NO
The regulations are under implementation	NO	NO	NO
The implementation of regulations is enforced	NO	NO	NO
Enforcement of regulations is monitored	NO	NO	NO

14. b . Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector **Statement: Please answer YES or NO for each sector that is a focus of the project.**	**Agriculture**	**Land Use**	**EIA/SEA**
Biodiversity considerations are mentioned in sector policy			
Biodiversity considerations are mentioned in sector policy through specific legislation			
Regulations are in place to implement the legislation			
The regulations are under implementation			
The implementation of regulations is enforced			
Enforcement of regulations is monitored			

14. c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector **Statement: Please answer YES or NO for each sector that is a focus of the project.**	**Agriculture**	**Land Use**	**SEA/ EIA**
Biodiversity considerations are mentioned in sector policy			
Biodiversity considerations are mentioned in sector policy through specific legislation			
Regulations are in place to implement the legislation			
The regulations are under implementation			
The implementation of regulations is enforced			
Enforcement of regulations is monitored			

All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:

14. d. Within the scope and objectives of the project, has the private sector undertaken voluntary measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.

An *example* of this could be a mining company minimizing the impacts on biodiversity by using low-impact exploration techniques and by developing plans for restoration of biodiversity after exploration as part of the site management plan.

_____
_____
_____
_____

VI. Other Impacts

16. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above.

_____
_____
_____
_____
_____