

*NAM THEUN 2 WATERSHED MANAGEMENT AND PROTECTION AUTHORITY*

**SOCIAL AND ENVIRONMENT MANAGEMENT  
FRAMEWORK AND OPERATIONAL PLAN (SEMFOP-1)**

[1<sup>st</sup> April 2005 to 30<sup>th</sup> September 2011]

**FOREWORD**

(JANUARY 2005)

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## **PREFACE**

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This document describes the Social and Environmental Management Framework and Operational Plan (SEMFOP) for the watershed catchment area of the Nam Theun 2 Hydropower Project. This watershed, with a total catchment area of 4,025 km<sup>2</sup>, comprises the middle and upper reaches of the Nam Theun River extending from high in the Annamite Mountains down to the Nakai plateau. It is composed entirely of legally Protected Areas, which are of national, regional and global significance. The Nakai Nam Theun National Protected Area and its two corridors lie entirely within the watershed and contain a range of critical habitats, which are home to numerous invertebrates, fish, amphibians, reptiles, birds and mammals, many of which are critically endangered and of global conservation concern.

The NT2 Watershed is also home to approximately 6,000 people living in some 31 NPA villages. This indigenous population is of diverse ethnic composition, comprising four main ethno-linguistic groupings of: Vietic, Brou, Tai-Kadai and Hmong backgrounds. The livelihoods of all these different groups rely heavily on the forest, wildlife and natural resources of the NT2 watershed. The area is also surrounded by a large and expanding human population undergoing rapid, and in places unsustainable, development, who are also, to varying degrees dependent on the watershed's natural resource base and its forests.

Thus, the purpose of the SEMFOP is to develop a management framework and operational plans to effectively protect the watershed, and its forests, habitats, wildlife and biodiversity values, and at the same time, safeguard the wellbeing, traditional livelihoods and culture of its human inhabitants. The primary objective of this document is to describe the setting, institutional arrangements and management plans for the sustainable development and protection of the watershed and its inhabitants. It also presents baseline data aimed at providing a better understanding of the NT2 watershed, its natural resource base and the people living within it.

This SEMFOP document is the culmination of a number of years work by many individuals of different backgrounds, from a wide range of organizations. It has benefited from comments and suggestions made by many people from government, NGOs, and the private sector. In particular, the World Bank has given encouragement, and provided invaluable advice and suggestions which are incorporated in the document. We would like to take this opportunity to thank all those involved in the production of this report and the earlier drafts from which it has evolved. Special appreciation for help must go to the Department of Forestry, the Lao National Committee for Energy, Provincial and District Authorities of Khamouane and Bolikhamxay provinces, NGOs and project personnel involved in conservation and development in Nakai Nam Theun and elsewhere in the Lao PDR. In particular, we would like to extend our special thanks to the communities and people living in and around the watershed, who have patiently and good-naturedly given their time to provide much invaluable information based on their unique experience and local knowledge of the area.

We trust that the material presented in this document is informative and useful. We welcome comments and suggestions which will be used to amend plans and improve the social and environmental quality of the NT2 Watershed for the benefit of local, national and international stakeholders in the future.

Chairman of the NT2- WMPA Board of Directors

Dr. Siene SAPHANGTHONG  
Minister of Agriculture and Forestry

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## LIST OF ACRONYMS

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AIT	Asian Institute of Technology
BOD	Board of Directors [WMPA]
BPKP	Bolisat Phathana Khet Phoudoi
CCM	Council of Ministers [Decree]
CD	Community Development
CDC	Community Development Centre
CDD	Community Driven Development
CITES	Convention on International Trade in Endangered Species
CLCF	Central Lao Conservation Fund
COCA	Community Outreach and Community Awareness [Programs]
COD	Commercial Operation Date
CPAWM	Centre for Protected Areas and Watershed Management
CPCD	Completion of Preliminary Construction Date
CUZ	Controlled Use Zone [within an NPA]
DAFO	District Agriculture and Forestry Office
DFRC	Division of Forest Resources Conservation [of DOF]
DOF	Department of Forestry
DSA	Daily Subsistence Allowance
DSPOE	Dam Safety Panel of Experts [WB]
DUDCP	District Upland Development and Conservation Project (WB LII)
EAMP	Environmental Assessment and Management Plan
EMDP	Ethnic Minorities Development Plan
EMO	Environmental Management Office [NT2]
EMU	Environment Management Unit
ESMOP	Environmental and Social Management Operational Plan [of May 2000]
ESMP	Environmental and Social Management Plan [of 1998]
ExSec	Executive Secretariat [of the WMPA]
FC	Financial Closure
FINNIDA	Finnish International Development Agency
FIPC	Forest Inventory Planning Centre
FL	Forest Law
FLUPAM	Forest and Land Use Planning and Management
FMAC	Financial Management Adjustment Credit
FOMACOP	Forest Management and Conservation Project
GEF	Global Environment Facility
GIS	Geographic Information System
GOL	The Government of Lao PDR
IAG	International Advisory Group [WB]
ICAD	Integrated Conservation and Development
ICDP	Integrated Conservation and Development Project
ICRAF	International Centre for Research in Agro-forestry
IFC	International Finance Corporation

IK	Indigenous Knowledge
IMA	Independent Monitoring Agency
IUCN	The World Conservation Union
JSDF	Japan Social Development Fund
LARREC	Living Aquatic Resources Research Centre
LDC	Livelihood Development for Conservation
LECF	Lao Environment and Conservation Fund
LIL	Learning through Innovation Loan
LL	Land Law
LNFC	Lao National Front for Construction
LPRP	Lao Peoples Revolutionary Party
LSFP	Lao Swedish Forestry Program
LUP	Land Use Planning
LUPLA	Land Use Planning and Land Allocation
LWU	Lao Women's Union
MAF	Ministry of Agriculture and Forestry
MI&H	Ministry of Industry and Handicraft
MIS	Management Information System
MOD	Ministry of Defence
MOI	Ministry of Interior
NAFES	National Agriculture and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NCNP	Nam Chat-Nam Pan [Provincial Protected Area]
NGO	Non-Government Organization
NNT	Nakai Nam Theun [Protected Area]
NOFIP	National Office of Forest Inventory and Planning
NPA	National Protected Area
NRCA	Nakai Reservoir Coordination Authority
NT2	Nam Theun 2
NTEC	Nam Theun Electricity Consortium
NTECo	Nam Theun Electricity Consortium (Operating Company)
NTFP	Non-Timber Forest Products
NTPC	Nam Theun Power Company
NTSEP	Nam Theun Social and Environment Project, loan
NUOL	National University of Lao PDR
PA	Protected Area
PAFO	Provincial Agriculture and Forestry Office
PCD	Preliminary Construction Date [of the NT2 dam]
PCPP	Public Consultation and Participation Process
PHRD	Population and Human Resource Development [NTSEP]
PICAD	Participatory Integrated Conservation and Development
PIU	Project Implementation Unit [DUDCP]
PIZ	Peripheral Impact Zone
PMF	Probable Maximum Flood
PMO	Prime Minister's Office



PO	Project Office (DUDCP, Nakai)
POE	Panel of Experts [WB]
PPA	Provincial Protected Area
PPAM	Participatory Protected Area Management
PR&D	Participatory Research and Design
PRA	Participatory Rural Appraisal
RAP	Resettlement Action plan
RDC	Regional Development Committee [in Southern Lao provinces]
RMO	Resettlement Management Office
RMU	Resettlement Management Unit
RRA	Rapid Rural Appraisal
SALT	Sloping Agricultural Land Technology
SAP	Social Action Plan
SCA	Special Conservation Areas [of the NT2 Reservoir]
SEMFOP	Social and Environment Management Framework and Operational Plan
STEA	Science Technology and Environment Authority
STENO	Science Technology Environment Organization
T&V	Train and Visit
TLUC	Temporary Land Use Certificate
TPZ	Totally Protected Zone [within an NPA]
UNDP	United Nations Development Program
VCMU	Village Conservation Monitoring Units
VDC	Village Development Committee
VDF	Village Development Fund
VFLC	Village Forest and Land [Use Planning and Allocation] Committee
VFLMA	Village Forestry and Land-use Management Agreements
VICAD	Village Integrated Conservation and Development [Committee]
VRC	Village resettlement committee
WB	World Bank
WCDN	[Mini] Watershed Conservation and Development Networks
WCS	Wildlife Conservation Society
WMPA	Watershed Management and Protection Authority

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## **IV EXECUTIVE SUMMARY**

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### **I BACKGROUND**

#### **THE NT2 PROJECT AND CATCHMENT AREA**

The US\$ 1.1 billion Nam Theun 2 (NT2) project plans to dam the Nam Theun river, form a 450 km<sup>2</sup> reservoir (at maximum level), and divert water to the Xe Bang Fai river for power generation, mainly for sale to Thailand. The NT2 watershed comprises the middle and upper reaches of the Nam Theun river extending from high in the Annamite Mountains down to the Nakai Plateau.

The Nakai-Nam Theun National Protected Area (NNT NPA) lies almost entirely within the watershed and is the largest protected area in the Lao PDR. It is also judged to be one of the most important for biodiversity conservation in the South East Asia region, and is also of global significance. The NNT NPA has been extended by the inclusion of two forested corridors linking it to two other NPAs (Phou Hin Poun and Hin Nam Nor), and these three areas together are known as the NT2 Watershed. This Watershed is approximately nine times the size of the area on the Nakai Plateau to be converted into a reservoir, and contains 31 enclave villages, with nearly 6,000 inhabitants of diverse ethnic origin, whose livelihoods are all heavily reliant on forest resources. The reservoir would flood none of the NPA, and neither would it directly impact the villages within the NPA.

Initial studies on the NT2 project showed that the NNT NPA and the two adjacent corridors, which form the majority of the catchment area for the proposed dam, were progressively being degraded in terms of faunal and floral biodiversity values and of the forest cover due to poaching and other extractive activities by outsiders, and by swidden cultivation and forest extraction by enclave villagers. It was apparent that this degradation would continue and probably intensify unless appropriate controls and management measures were put in place with adequate funding and other resources.

Thus, this confluence of scenarios – a progressively degrading watershed in an important NPA, and a small part of this NPA being flooded by the NT2 reservoir - led the NT2 project sponsors<sup>1</sup> to the logical conclusion that the NT2 Project should ensure the long-term protection of the dam's watershed. Improved protection of the watershed made possible by the provision of funding to the WMPA for PA management would provide compensation for the loss and/or degradation of habitats caused by the project as well as ensure the integrity of the water resources necessary for power generation.

The SEMFOP-1 is the management plan for conservation of the NT2 watershed for the six year-period which precedes filling of the reservoir and the start of commercial operation. It was prepared by the Government of Lao PDR (GoL) and includes consideration of biodiversity conservation, social development, ethnic minorities, and institutional strengthening measures. The current version will be the basis for appraisal scheduled to take place in November 2004.<sup>1</sup> Results of these consultations will inform the preparation of a final version for approval by project sponsors and the GoL.

#### **THE LEGAL AND INSTITUTIONAL FRAMEWORK FOR BIODIVERSITY CONSERVATION IN THE NNT WATERSHED**

The first 18 protected areas in Lao PDR, including NNT NPA, were established by Prime Ministerial Decree 164, 1993. The broader Prime Ministerial Decree 193, 2000, defined the NT2 Watershed as the NPA plus two corridors linking the NPA with the Hin Nam Nor NPA to the south and with the Phou Hin Poun NPA to the west (Map 1B, Annex 6). The management of the Watershed is by a unique institution, the NT2 Watershed Management and Protection Authority (WMPA) established under Prime Ministerial Decree 25, 2001.

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<sup>1</sup> Three main safeguard documents have been produced for appraisal of the NT2 project. These documents are the Environment Assessment and Management Plan (EAMP), the Social Development Plan (SDP) and the Social and Environment Management Framework and Operational Plan (SEMFOP).

## II VISION FOR THE NAKAI NAM THEUN WATERSHED

As confirmed in Decree 25, 2001, the purpose of the Watershed is the conservation and protection of its natural riches and its many cultural groups, and the Vision foresees that any and all development activities within the Watershed should support this. In the short history of the management of Lao protected areas it has been found that problems of cooperation with local inhabitants, resource extraction by outsiders, enforcement of laws and regulations, capacity of staff, and inadequate budgets have constrained effective management. The SEMFOP-1 covers the first five-year phase of management of the Watershed, and responds to a shared vision for a future with secure forest, productive agriculture, secure land tenure, and positive human development.

The Vision recognizes that Watershed inhabitants have legitimate aspirations with respect to improvement of their living conditions and welfare. The SEMFOP seeks to balance conservation imperatives within the Watershed with development needs within and around it through an intensive, participatory planning process, emphasizing systematic negotiation and customary rights, adaptive approaches and the creation of incentives for Watershed inhabitants to participate in the conservation effort. This process will require consistent and long-term support. Activities in the Watershed will be driven by communities within and immediately adjacent to it. Activities should be executed in a way that recognizes that all the ethnic groups (and indeed all villages) are different in important ways. There is thus no short cut through the need for a time-consuming consultative planning and implementation process as a means to establishing a sustainable management plan that is recognized as a fair outcome by the principal stakeholders. It is recognized that, for Watershed inhabitants, certain livelihood options may be foregone or reduced as a result of the management of the Watershed and the measures to ensure conservation of its biodiversity values. Loss or restriction of access to natural resources will be mitigated through the design and implementation of alternative sustainable livelihood programs based on a participatory planning approach. As part of this approach, legal instruments will be used to provide secure land tenure and usufruct rights, recognizing the customary rights of local ethnic minorities<sup>2</sup>.

The Vision for the Watershed includes a system of zones with different categories of land use which reconcile conservation and community development objectives. A de facto zonation with development areas (villages and fields), forested land used by villages, and higher altitude (open access) land not claimed by villages already exists. A formal Zonation Plan, based on the above and incorporating biological values of different parts of the protected area, will be developed through village consultations and mapping, inventories and other methodologies.

The Vision holds that food security is a important issue in the Watershed. Thus efforts will be made to promote environmentally and socially sustainable growth of other crops where appropriate as part of a program of crop diversification with biological pest management to the degree possible. Agricultural development in the area has been a point of contention for some time, but it is now recognized that not all forest-based swidden is damaging although settled rice cultivation is preferred. In addition to agriculture, other forms of development will be encouraged and supported, as long as they are consistent with the conservation goal of the area. Their adoption as part of Watershed plans will depend, to a large extent, on the track record of enforcement activities related to proscribed activities. Conservation and social impact assessments will be conducted for all development activities planned within the Watershed.

The Vision holds that there should be no net decrease in the area of forested land within the Watershed. No commercial extractive activities, such as logging or mining, will be permitted within the Watershed at any time. The SEMFOP includes an access strategy which encourages entry to the Watershed through Nakai Town via controlled access points and relies significantly on aquatic means of transportation. This will reduce pressures originating from the periphery of the NPA while facilitating the necessary connections for Watershed inhabitants within the NPA and with services and markets not available within the Watershed. No improved road or water access will be developed that might lead to a net loss of natural resources. Access improvement would be permitted only after (i) studies demonstrate that benefits will genuinely accrue to Watershed inhabitants and are consistent with its conservation goals, and (ii) a solid track record of effective management of existing accesses and control of potential encroachment on biodiversity values has been demonstrated.

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<sup>2</sup> These rights will also be afforded to certain resettlers until their new livelihoods effectively negate any loss of income due to resettlement

Within the Vision, all wildlife will be afforded full protection from any exploitation except by watershed inhabitants within the controlled-use zones, for certain non-threatened species, consistent with the agreements made between the local communities and the WMPA in the development of village-level plans. The Watershed inhabitants will have the right and responsibility to report poaching of threatened species and other natural resources, and over-exploitation of non-threatened species, by inhabitants and outsiders. Villagers and militia will patrol the Watershed. Within the Controlled Use Zone, extraction and sale of non-timber forest products are likely to be permitted under agreed village management and monitoring plans. Lessons from the World Bank-financed District Upland Development and Conservation Project Learning and Innovation Loan and other projects within and outside Lao PDR have been incorporated in the proposed patrolling model. They point, for instance, to the need to develop suitable incentive systems to ensure that community members contribute to the enforcement effort. Transnational trafficking of wildlife currently represents an important threat to the integrity of the NPA. The WMPA will continue its dialogue with and among provincial and national authorities to progressively reduce these illegal activities, before the start of commercial operation and beyond, from the Watershed and surrounding protected areas. This will require strengthening the patrolling effort, as well as a continuous investment in cooperation with Vietnamese authorities.

Finally, the Vision includes the development of a sound institutional structure for WMPA to execute the SEMFOP efficiently and effectively, following international standards for accountability and transparency. The WMPA staff will comprise the best available individuals from within Lao PDR, supported initially by high-quality international TA, and that qualified conservation NGOs will partner in the activities. In addition, partnerships or twinning arrangements with conservation authorities from outside Lao PDR that have faced similar problems to those faced by the WMPA may be possible. As stated above, the existing legal framework empowers the WMPA to manage the Watershed. However, the Vision is that the basic instruments will be complemented by additional measures. For instance, explicit provincial-level judicial support for due process of those apprehended as offenders, meaningful but appropriate fines for convicted offenders, and chains of engagement at higher judicial levels, when appropriate and required, all need to be established.

Success of the plan will be wholly dependent on the understanding and active support of the local government of Bolikhamxay and Khammouane Provinces. The SEMFOP has been developed largely among a small group of interested stakeholders, comprised mostly the GoL and the project sponsors. The final stages of preparation of the SEMFOP will seek the backing and commitment of all institutional stakeholders and will be critical to test and further cement the necessary arrangements for effective management of the Watershed. Beyond plan preparation, however, a permanent effort of engagement, awareness raising, monitoring and evaluation, and adaptive planning will be required for the Vision to be ultimately achieved.

### **III THE SEMFOP**

#### **ORGANIZATION OF THE DOCUMENT**

The purpose of this document is to present the objectives, approach and institutional and management arrangements for the protection and sustainable development of the NT2 Watershed and its inhabitants. It comprises two volumes, the Main Report and a Folio of Annexures. The main report is organized in seven parts.

Part 1 – *Objectives and Principles* explains the purpose, objectives and strategy of SEMFOP and describes its operational area.

Part 2 – *Approaches and Methods* addresses the major elements of SEMFOP to be implemented under a Participatory Integrated Conservation and Development approach, including (i) Forest and Land Use Planning, (ii) Participatory Protected Area Management, and (iii) Livelihood Development. This part also describes the Public Consultation strategy that will be followed.

Part 3 - *Ethnic Minorities Development Plan* describes the measures put in place to ensure that the rights of indigenous peoples are fully addressed and catered for.

Part 4 - *Biodiversity Management and Conservation Framework* presents the measures to be put in place to protect (and enhance) biodiversity values in the NT2 Watershed/NPA.

Part 5 - *Resource Access Restriction Process Framework* focuses on the potential impact of natural resource management plans, regulations and processes on the livelihoods of local people.

Part 6 - *Institutional and Management Framework* presents a detailed description of the WMPA and the institutional and activity framework for the implementation of the SEMFOP.

Part 7 – *Operational Plan and Budget* presents the operational plan and budget for the first 7 years of the implementation of the SEMFOP-1 by the WMPA and its implementing partners.

## **PART 1: SEMFOP OBJECTIVES, PRINCIPLES AND STRATEGY**

The major objectives of the SEMFOP are:

- The protection and rehabilitation of forest cover in the watershed.
- Biodiversity conservation and, eventually, National Park development in the watershed./NPA.
- Livelihood development to shift resource use away from unsustainable exploitation, to alleviate poverty, and to create a sense ownership for conservation within enclave communities.
- Capacity building in WMPA staff to take on and manage the above tasks.
- Prudent management of funds received to support the offset for the NT2 Project. SEMFOP's

The SEMFOP is based on an approach to protected area management which is accepted as the most appropriate in the majority of protected areas in the Lao PDR. This approach focuses on the need to find a balance between regulation enforcement and community participation, between sustainable forest and land use planning and conservation and village development, and of building partnerships between local stakeholders in the management of protected areas. Thus SEMFOP's overall strategy is to create an effective watershed management authority that can work effectively with local communities to implement a range of programs to protect the watershed.

The geographical coverage and operational area of the SEMFOP includes the NT2 Watershed (as defined above – Background) as well as the Peripheral Impact Zone inhabited by villagers who enter, or use resources of, the NT2 Watershed. This PIZ is outside the legal authority of the WMPA and so the management of these areas will rely on a partnership between the local authorities and the WMPA.

The SEMFOP operational area does not include:

1. The NT2 Reservoir although small parts may be included, depending on final demarcation.
2. The Resettlement Area on the southern slopes of the Nakai Plateau even though it is physically within the catchment.
3. The Nam Chat-Nam Phan PA which has now been designated a provincial protected area, and will be managed accordingly with independent funding arrangements.

## **PART 2: APPROACHES AND METHODS**

The Participatory Integrated Conservation and Development (PICAD) approach followed by SEMFOP is widely used in Lao PDR. A review of this and other conservation approaches forms part of the SEMFOP, and while it is recognized that no model for integrating the needs of conservation and development is guaranteed to be successful, the PICAD is believed to be the most appropriate model to follow in this case. The SEMFOP has tried to learn from successes and failures elsewhere, and takes an adaptive approach to allow for finer tuning.

PICAD employs interdisciplinary facilitation teams who make use of a number of participatory tools to work with stakeholder villagers on the planning, implementation and evaluation of conservation and development activities. PICAD comprises three main component activities of NPA management:

- A: Forest resources and Land Use Planning, Allocation and Management (FLUPAM)
- B: Participatory Protected Area Management (PPAM)
- C: Livelihood Development for Conservation (LDC)

Forest and Land Use Planning, Allocation and Management (FLUPAM) is now well developed and widely used in the Lao PDR and procedures have been specially developed for its use in NPAs. FLUPAM is a process of resource management planning which has the following major objectives:

- Stabilizing forest and land use patterns under a sustainable management system.

- Ensuring equitable access to forest and land resources for all community members and formalizing land use rights within the existing legal framework.
- Establishing resource use and conservation co-management agreements with local communities.
- Developing a partnership between villages and government for the joint management of conservation activities and community development.

Participatory Protected Area Management (PPAM) recognizes villagers as primary stakeholders and as partners in NPA management. In the longer term, PPAM aims to instill in villagers a sense of pride in and co-ownership of the NPA along with a real understanding of and support for biodiversity conservation. PPAM reflects and systemizes GOL policy of giving villagers a key role in the definition of conservation zones, in the development of rules and regulations for resource use and management, and in policing and protecting these resources. PPAM teams work with villagers on various aspects of biodiversity management:

- Delimiting of Controlled Use Zones and Totally Protected Zones through land use planning
- Development of regulations for the zones through village conservation agreements
- Protection within village CUZs, via rights and obligations in the conservation agreements
- Monitoring and protection of the NPA through the use of Village Conservation and Monitoring Units (VCMUs) and Watershed Conservation and Development Networks.
- Provision of information (particularly historical) on habitat and wildlife during FLUPAM.

The Livelihood Development for Conservation (LDC) program seeks to balance conservation and development and ensure that they are not only compatible but also complementary. The objective is not just to support development *per se*, but to enhance village livelihoods in order to promote conservation and improved NPA management. The LDC approach comprises a number of steps followed in sequence in a participatory manner with villages to identify appropriate development activities. It starts with village orientations to explain the purpose and village roles and benefits. It then moves to identify and prioritize the major problems facing the village, followed by an analysis of their root causes and how they impact on the natural environment. Next, development options are proposed and the linkages of each activity with conservation (positive and negative) are identified, reviewed and activities are modified accordingly.

### **PART 3: ETHNIC MINORITIES DEVELOPMENT PLAN**

The Ethnic Minorities Development Plan (EMDP) presents a framework and strategic approach for the sustainable development of project affected communities in the NT2 Watershed/NPA and the PIZ. Although villagers will be impacted only indirectly by the NT2 Project, SEMFOP (through a participatory approach) aims to improve their livelihoods, standard of living and quality of life, while at the same time, helping them to shift away from activities and technologies which impact negatively on biodiversity conservation.

A total of 31 villages are located within the NT2 Watershed/NPA, comprising 1,092 families and nearly 6,000 people, all reliant to varying degrees on NPA forest resources. Their ethnic backgrounds can best be described according to the three main groups found in the area:

- Brou (ca. 60 percent), a homogenous group of the Western Katuic language family of the Austroasiatic language family, who are found throughout the region and exhibit a number of livelihood systems;
- Vietic groups (ca. 25 percent of the population), a number of small ethno-linguistic groups belonging to the Austroasiatic language family, formally hunter-gatherers but now sedentary; and
- Upland Tai groups (ca. 15 percent) consisting of the Sek who cultivate irrigated paddy in several villages in the north of the NPA and number of sub-groups such as Tai Men and Tai Moey who have recently arrived from north-west Lao PDR.

In addition, a total of 54 villages are located within the PIZ, comprising 22,504 people, many reliant to varying degrees on NPA forest resources. Their ethnic backgrounds are generally similar to those in the NPA.

The EMDP embodies participatory methods and follows a Community Driven Development approach with the following aims:

- Culturally appropriate development on the local communities' own terms.
- Improved land and resource security based on customary rights.
- Increased family food security.
- Diversification of livelihood options.
- Reduced reliance on unsustainable natural resource use and extraction in the NPA.
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- Diversification of sustainable livelihood options.
- Reduced reliance on unsustainable natural resource use and extraction in the NPA.
- Improved social services and opportunities for education, health and alternative employment.

#### **PART 4: BIODIVERSITY MANAGEMENT AND CONSERVATION**

As stated above, NNT NPA was established in 1993 as part of a national system which now covers over 3 million hectares or 12.8 percent of the Nation's total land area. As is the case in the other NPAs, NNT has been poorly funded and inadequately staffed, leading to ineffective management and inadequate levels of protection.

NNT is not only the largest of Lao PDR's twenty NPAs, it is without doubt the most important for biodiversity conservation. It is also one of the most important protected areas in Asia and is of important global significance. It forms part of the 'Northern Annamites Eco-region' which is rated as one of the world's 25 most-threatened ecoregions. NNT is dominated by extensive dense semi-evergreen and evergreen broadleaf forest with some areas of high-quality pine forest. It is home to an wide array of mammals that include the recently-discovered Saola (an unusual form of antelope) and Large-antlered Muntjac. It also contains many important and endangered birds, fish, reptiles, amphibians and invertebrates.

The major threats to biodiversity conservation in the NPA and the management strategies developed under SEMFOP to address them can be summarized as follows:

- *Ineffective protected area management.*

A participatory partnership with villagers, managed by a capably staffed and well resourced WMPA, fully supported by TA, infrastructure and equipment.

- *Threats from NPA communities.*

Adoption of the PICAD approach, under which livelihood development activities are carefully designed to be positively linked with biodiversity conservation.

- *Threats from peripheral impact zone villages*

A similar PICAD approach targeted according to the level of reliance on (and thus threat to) NPA resources posed by PIZ communities, following a partnership, cost-sharing approach with district authorities, NGOs and agencies.

- *Unsustainable extraction of wildlife and NTFPs*

Participatory development of sustainable management agreements with villagers which address sustainable harvest limits, harvest seasons, protected species, protected zones and enforcement.

- *Threats from trans-boundary incursions.*

A long-term strategy involving a package of measures including: international dialogue, orienting access and trade via Nakai, re-organized patrolling, stronger enforcement, better border-post management and community empowerment.

- *Threats from uncontrolled access.*

An access strategy focused on establishing a single, well-controlled entry and exit point for people and commodities linked to an efficient water-borne transport system on the reservoir.

- *Uncontrolled increase in enclave populations.*

A population management strategy embodying: (i) safeguards to ensure adequate agricultural land for current and future populations, (ii) awareness raising and capacity development for self-motivated family planning, and (iii) improved education and vocational training to facilitate the out-migration of capable youth and adults to new employment opportunities.

- *Lack of a clear PA zonation system*

A strategy built on the participatory integration of scientifically-derived biodiversity values and customary forest and land use systems leading to the development of village conservation agreements for commonly-recognised CUZ and TPZ zones.

- *Threats posed by NT2 project construction*

Establishing a construction-risks task force, with representation from the WMPA, district authorities, NTPC and main and sub-contractors to develop and enforce rules, regulations and penalties for construction impacts by contractors and illegal activities by their workers.

## **PART 5: RESOURCE ACCESS RESTRICTION FRAMEWORK**

The Resource Access Restriction Framework establishes a process of identifying and mitigating the possible adverse impacts of restrictions placed on natural resource access for NPA and PIZ communities by the rules and regulations applied to NPA/Watershed protection. Members of potentially affected communities participate in the design and implementation of mitigating measures and activities necessary to achieve conservation objectives and offset adverse impacts.

The three SEMFOP technical programs all contribute to the mitigation for access restrictions:

- FLUPAM develops agreements and ensures the rights of villagers to sustainable land and resource use within the NPA.
- Biodiversity conservation through PPAM ensures adequate protection of the natural resource base for its continued sustainable use by villagers.
- Livelihood development under LDC provides improved livelihood alternatives for any traditional practices foregone or limited under the village conservation agreement rules and regulations.

Measures taken under these programs that address resource access restrictions include:

- Recognising customary rights and ensuring the right of NPA and PIZ villagers to possess, use, manage and inherit land for housing and agriculture.
- Incorporating the material, cultural and spiritual needs of villagers in jointly-developed village conservation agreements.
- Development of sustainable wild harvest regimes, ensuring access to subsistence timber, plant products and fish and animal protein sources, and the long term viability of NTFP harvests and income.
- Facilitating the transition to improved, more productive and sustainable farming systems
- Improved education and health hardware and software, and fostering of appropriate traditional medical practices and medicines.
- Improving access between villages and to the District and market center of Nakai
- Effective population management in enclave communities and the control of in-migration from other areas.

## **PART 6: INSTITUTIONAL AND MANAGEMENT FRAMEWORK**

The Watershed Management and Protection Authority or WMPA has been established with responsibility for coordinating and implementing the management and development of the NT2 Watershed/NPA. It is governed by a board of directors, chaired by the Minister of Agriculture and Forestry. Day-to-day management is the responsibility of the Executive Secretariat which comprises a Director, four Deputies responsible for the technical divisions, and a full complement of staff, either seconded from government or hired from the private sector. Although a government agency, the WMPA's operational arm, the Executive Secretariat, has financial, management and staffing independence. The Executive Secretariat comprises a Directors Cabinet, four divisions (Administration, FLUPAM, PPAM and LDC) and support units including GIS and database management, outreach and awareness, and tourism.



The Executive Secretariat will be supported with relevant national and international technical assistance from a variety of fields, with three long-term international advisors for (i) biodiversity conservation, (ii) land use planning and livelihood development, and (iii) community development issues. Other short-term TA will include conservation ecology, botany and ecological survey, rural engineering, ethnic minorities training, GIS, database management, financial management, and others as may be required.

WMPA partner institutions include district and provincial authorities, village and sub-district institutions, NGOs, national institutions such as the National University of Lao, and international organizations. A cost-sharing, partnership approach is followed with these various institutions under which the WMPA develop joint programs for land use planning, conservation management, biodiversity research, livelihood development, community development, etc..

Internal monitoring and evaluation is the responsibility of the Executive Secretariat; and systems will be developed for each of SEMFOP's three technical programs. M&E will be outcome focused (impact monitoring) where the outcomes of conservation activities are measured against baseline indicators. The framework will emphasize participatory evaluation procedures, particularly for evaluating village level activities. The certification standards for forest management required under the World Bank's Forests Policy will be applied to NPA management. These will be developed during the design of the log-frame.

External monitoring will be conducted by an Independent Monitoring Agency (IMA) who will undertake twice yearly missions to review progress, provide future direction, make sure that activities are consistent with SEMFOP objectives, and ensure that budget is being correctly used and properly accounted for.

#### **PART 7: FINANCIAL AND BUDGETARY FRAMEWORK**

The Concession Agreement between NTEC and the GoL specifies that NTPC will provide US\$1 million per year to the WMPA starting on the Commercial Operation Date (COD), for the whole Operating Phase of 25 years. Prior to that, for the six years from Preliminary Construction Date to COD, US \$6,500,000 will be provided to the WMPA in six installments. The SEMFOP-1 plan is based on this first 7-year, seven-installment budget scenario. A detailed financial administration system with approved practices has been developed for annual, quarterly and monthly budget approval and disbursement, banking procedures, and procurement and bidding procedures.

Funding will be approved yearly based on the Annual Workplan. Procurement will be undertaken by staff of the Admin and Finance Unit of the Executive Secretariat and will follow standard World Bank procurement guidelines to be developed in association with the Institutional and Finance Management Advisor. Responsibility for approving procurement will lie with the administration officer, deputy directors, or the BoD standing member, according to the cost of each purchase. The financial limits for approval responsibility have been set, but these will be reviewed annually, and amended as appropriate.