

Nam Theun 2 Hydroelectric Project



SOCIAL DEVELOPMENT PLAN

FINAL DRAFT, MARCH 2005

EXECUTIVE SUMMARY



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1 INTRODUCTION

The Nam Theun 2 Project (NT2) involves the development of a hydroelectric scheme in Khammouane, Bolikhamxai and Savannakhet Provinces in central Lao PDR. The developers, the Nam Theun 2 Power Company (NTPC) and the Government of Lao PDR (GOL), are jointly committed to meeting the World Bank (WB)'s and Asian Development Bank (ADB)'s international standards as detailed in their Safeguard Policies (WB: OP 4.12 Involuntary Resettlement, OP 4.11 Cultural Property and OD 4.20 Indigenous People, and ADB: Policy on Indigenous Peoples, Policy on Involuntary Resettlement and Policy on Gender and Development). The overall objective of this Social Development Plan (SDP) is to offset, reduce and mitigate social impacts of the Project through resettlement, compensation and development plans, and to ensure that the Project benefits the Project Affected Persons (PAPs), as well as the people of the Lao PDR in general by generating revenue for poverty reduction programs. The SDP has been prepared to ensure the integration or 'mainstreaming' of both ethnic minority issues and gender strategies and action plans.

The SDP contains two types of documents: Resettlement Plans and Ethnic Minority Development Plans (EMDPs). The Resettlement Plans identify impacts based on inventory of losses and socio-economic surveys, reflect consultation with affected persons, and define the entitlement packages for affected persons, the participatory process for detailed design, the livelihood development programs, public health and community development programs, grievance mechanisms, and institutional, monitoring and implementation arrangements during project implementation, as well as summarised budgets and detailed implementation schedules.

The Ethnic Minority Development Plans (EMDPs) identify and address the special needs of ethnic minority communities in all project areas. It describes their socio-economic background, the consultation process, including their feedback and recommendations for the project that have been incorporated in the project design, as well as mechanisms for dealing with specific issues pertaining to the ethnic minorities during project implementation and monitoring.

The Social Development Plan (SDP) comprises four volumes, dealing with the three main impacts areas:

- Volume 1: Introduction and Cross-cutting Issues;
- Volume 2: The RAP and EMDP for the Nakai Plateau;
- Volume 3: Resettlement and Livelihood Restoration and EMDP for Downstream Areas.
- Volume 4: the RAP and EMDP for Project Lands

A summary table of contents of these four volumes is presented as Table 1. The SDP has been developed under the following guiding principles:

- a) Funding is assured, with the SDP is to be financed as an essential Project expenditure;
- b) Resettlement planning is integrated with general Project design;
- c) GOL has developed and adopted policies to ensure high standards of resettlement, including the development of an applicable Resettlement Policy for the Project;
- d) Resettlement is to be avoided or minimized wherever feasible;
- e) Plateau Resettlers will have their livelihoods and incomes at least restored to their current level, or to the National Rural Poverty Line, within 4 years of relocation;
- f) Plateau Resettlers will provided adequate support, and rice and protein supplements if required, during the transition period;
- g) People directly affected will play an active role in program design, planning and implementation;
- h) The social and cultural cohesion of villages will be protected and plateau resettlement sites will be as near as possible to previous villages;
- i) Traditional organizational structures, religious beliefs and resource use will be incorporated into resettlement planning and implementation;
- j) Appropriate consultation and participatory methods are to be used; and
- k) PAPs in each of the three areas will be made fully aware of their Entitlements.

Table 1: Table of Contents for SDP, March 2005

VOLUME 1: INTRODUCTION AND CROSS CUTTING ISSUES

Executive Summary

Chapters:

- 1 Introduction
- 2 Project Description
- 3 Legal and Policy Framework
- 4 Public Consultation, Participation and Disclosure
- 5 Health Impact Assessment and Public Health Action Plan
- 6 Organisational Framework and Responsibilities
- 7 Institutional Capacity Building and Staff Training
- 8 Risk Management Framework, Monitoring and Evaluation

Appendices:

- A Concession Agreement
- B Relevant Safeguard Policies of IFIs (WB and ADB)
- C National Legal and Policy Documents
- D Legal Instruments specific to the NT2 Project (Social Component)
- E IAG and POE Comments on the SDP
- F National Public Consultation Workshop
- G Bibliography

VOLUME 2: NAKAI PLATEAU – EMDP AND RAP

VOL. 2 PART 1: INTRODUCTION

- 1 Geographical Framework, Description of Impacts and Entitlements
- 2 Baseline Data – Nakai Plateau

VOL. 2 PART 2: ETHNIC MINORITY DEVELOPMENT PLAN FOR THE NAKAI PLATEAU

- 3 Ethnicity and Project Planning
- 4 EMDP Baseline Data
- 5 Local Participation on the Nakai Plateau
- 6 Mitigation Measures
- 7 Institutional Arrangements and Capacity
- 8 Monitoring and Evaluation
- 9 Scheduling and Financing

VOL. 2 PART 3: RESETTLEMENT ACTION PLAN FOR THE NAKAI PLATEAU

- 10 Resettlement Site Selection and Land Tenure
- 11 Resettlement Infrastructure Development
- 12 Agriculture and Livestock Development
- 13 Irrigation System Planning
- 14 Forestry Management and Utilisation, Nakai Resettlement Area
- 15 Nakai Reservoir Fisheries Development and Management
- 16 Livelihood Integration and Income Scenarios – Transition to Stability
- 17 Social Development and Community Strengthening
- 18 Consolidated Schedule of Plateau Resettlement Activities
- 19 Summary of Plateau/Reservoir Resettlement Budget

Appendices:

- A Nakai Plateau Notification, Registration, Socio-economic Survey
- B Demonstration Farms
- C Pilot Village Experience
- D Agriculture and Livestock Development Modeling
- E Nakai Plateau Forestry Background Documents
- F Khamkerd Resettlement Village Site Planning
- G Sample of Family Labour and Time Profile
- H Process for Wealth Ranking in Villages

VOLUME 3: DOWNSTREAM AREAS: EMDP, RESETTLEMENT AND LIVELIHOOD RESTORATION

Chapters:

- 1 Introduction
- 2 Baseline Data
- 3 Legal and Policy Framework and Entitlements
- 4 Description of Environmental Impacts
- 5 Description of Social Impacts
- 6 Public Consultation, Participation and Disclosure – Downstream Areas
- 7 Ethnic Minority Development Plan – Downstream Areas
- 8 Mitigation, Resettlement and Livelihood Restoration
- 9 Monitoring, Evaluation and Grievance Procedures

Appendices:

VOLUME 4: PROJECT LANDS RESETTLEMENT PLAN

Chapters:

- 1 Project Description
- 2 Scope of Land Acquisition and Resettlement Impacts
- 3 Socio-economic Impact and PAP Profiles
- 4 Ethnic Minority Development Plan – Project Lands
- 5 Policy and Legal Framework
- 6 Consultations and Participation in Compensation Planning
- 7 Resettlement, Livelihood Restoration Strategy, Budget and Schedule
- 8 Organizational Framework and Responsibilities
- 9 Monitoring and Evaluation
- 10 Construction Phase Social Management Plan

Appendices:

- A Formats use for Data Collection and Land Registration
- B Folio of Photo-Maps of L.P.A

2 PROJECT DESCRIPTION, AND OVERVIEW OF IMPACTS AND PAPS

The hydropower scheme involves constructing a dam on the Nam Theun River, a tributary of the Mekong River, 250 km east of Vientiane. This will create a 450 square kilometre reservoir on the Nakai Plateau and necessitate the relocation and rehabilitation of livelihoods of about 1,200 households in 17 villages. Water from the Nakai Reservoir will be diverted by an intake structure, located about 40 kilometres upstream from the dam, into a diversion tunnel excavated in Phu Ark Escarpment. The water in this tunnel will then drop about 350 meters before entering the turbines in a powerhouse located at the foot of the escarpment (see Figure 1).

The water discharged from the powerhouse will then flow through a purpose-built 28 km long downstream channel to another river system, the Xe Bangfai (XBF), which also flows into the Mekong River, but about 150 kilometres south of the Nam Theun/Nam Kading. Additional water in the XBF will impact fisheries and riverside gardens livelihood activities. Construction of saddle dams, regulating dams and ponds, transmission lines to the Thai border and to Thakhek, quarries and soil deposit sites, work camps and other Project structures will require land acquisition and compensatory measures.

NT2 has been developed as a Build Own Operate Transfer (BOOT) Project by the Nam Theun 2 Electricity Consortium (NTEC) and the Government of the Lao PDR (GOL). It is owned by the Nam Theun 2 Power Company Limited (NTPC), a limited company registered under the laws of the Lao PDR in which the GOL has a 25% equity stake. This approach allows GOL to be protected somewhat from construction and operating risks, while at the same time benefiting significantly from its shareholding in the Project. Other shareholders of NTPC are EDF International, a subsidiary of Electricité de France, the world's largest electric utility, with 35%; the Electricity Generating Public Company Limited (EGCO) of Thailand with 25%; and Thailand's leading construction company Italian-Thai Development Public Company Limited (ITD) with 15%.

Thus, the construction and operation of NT2 will result in a range of impacts, both beneficial and adverse, to the biophysical, socio-economic and cultural environments of the Project Area. While the GOL and NTPC have strived to minimize adverse affects and enhance benefits, impacts will occur, and resettlement will be required. There are three main areas of social impacts that have been the subject of resettlement and/or compensation and development planning in the SDP, as follows.

i. The Reservoir Area on the Nakai Plateau

Over the period 2005-07, it is estimated¹ that 1,205 households with approximately 7,230 persons in 17 plateau villages will be relocated. All of these affected households (PAPs) are entitled to relocation to a preferred location, new housing and physical and community infrastructure, and participation in a range of livelihood restoration programme activities.

ii. Downstream of the Power Station (Xe Bangfai) and of the Nakai Dam

Communities downstream of the power station, along the Nam Phit and the XBF, and to a much lesser extent along the Nam Kathang/Nam Gnom will experience varying degrees of impact on their livelihood and infrastructure resulting from changes in the hydrological regime, quality of the water and erosion patterns in the receiving water bodies. Those people catching fish in the mainstream Nam Theun below the Nakai Dam will also be impacted, as may some tributary fishers.

iii. The Project (construction) Lands

The hand over of lands to the NTPC and its Contractors for the construction of Project components will result in impacts ranging from disturbance, temporary and permanent land, asset and livelihood losses, and the Project Affected Persons (PAPs) will be fully compensated for their losses, and their livelihoods restored.

Table 2 below provides an overview of all Project Affected Persons in the Project areas and adjacent areas. This table represents impacts for the whole project, from the upstream area (the Nakai-Nam Theun

¹ The figures presented here are based on the 2003 census, and adjusted on the assumption of an annual 3% increase.

National Protected Area and Watershed), the Plateau to be inundated, and the two downstream areas – riparian along the Nam Theun, and downstream of the powerhouse discharges in the Xe Bangfai basin.

Table 2: Summary of PAPs covered by the SDP (Resettlement and Fisheries impacts)

Area of Project, Project Component	Project Impacted Peoples				
	No. of Villages	Number of Households	Households – fish impact only	No. of People (6 per HH)	Households Relocating ^(d)
Plateau/Reservoir (as of 2003)	17	1,298 (all plateau HHs)		7,788	1,064
Subtotal	17	1,298		7,788	1,064
Project Construction Lands					
Khamkeut area	11	19		19	0
Plateau (Nakai area) ^(a)	5	155		930	132
Gnommalath area	22	573		3,438	29
Mahaxai area	5	133		798	0
Transmission Lines	36	162		972	109
Subtotal	79	1,042		6,157	270
Downstream Areas					
Mainstream XBF (2001)	89	7,096		40,600	144 ^(f)
XBF Hinterland (2004)	66		1,708	10,248	0
Nam Phit ^(b)	32		2,913	17,478	0
Nam Kathang	23		1,632	9,712	0
Nam Theun ^(c) (Khamkeut)	40		3,667	22,000 ^(c)	0
Upstream: NTNPA (2001)	[31]		1,150 ^(g)	5,800 ^(g)	0
Subtotal	255 ^(h)	7,096	10,378	100,038	144
NNT-NPA / Watershed					
NNT-NPA	31 ^(f)		1,150 ^(g)	5,800	0
PIZ	[54 ^(f)]			[22,500] ^(f)	0
Subtotal	31		1,150	5,800	0
TOTAL	382	9,588	11,528	119,726	1,432

(a) overlap here, as 1 village is affected by both Project Lands and Reservoir Inundation.

(b) overlap here, as some Nam Kathang villages affected by both Nam Kathang, and Nam Phit fisheries impacts.

(c) Small/very small impact. Population figure assumes 75% of population in 45 villages derive some livelihood from fisheries.

(d) relocating households are included in the number of households in column 3.

(e) overlap between these households potentially losing riverside assets with households potentially losing fisheries income; not included in the total for this column.

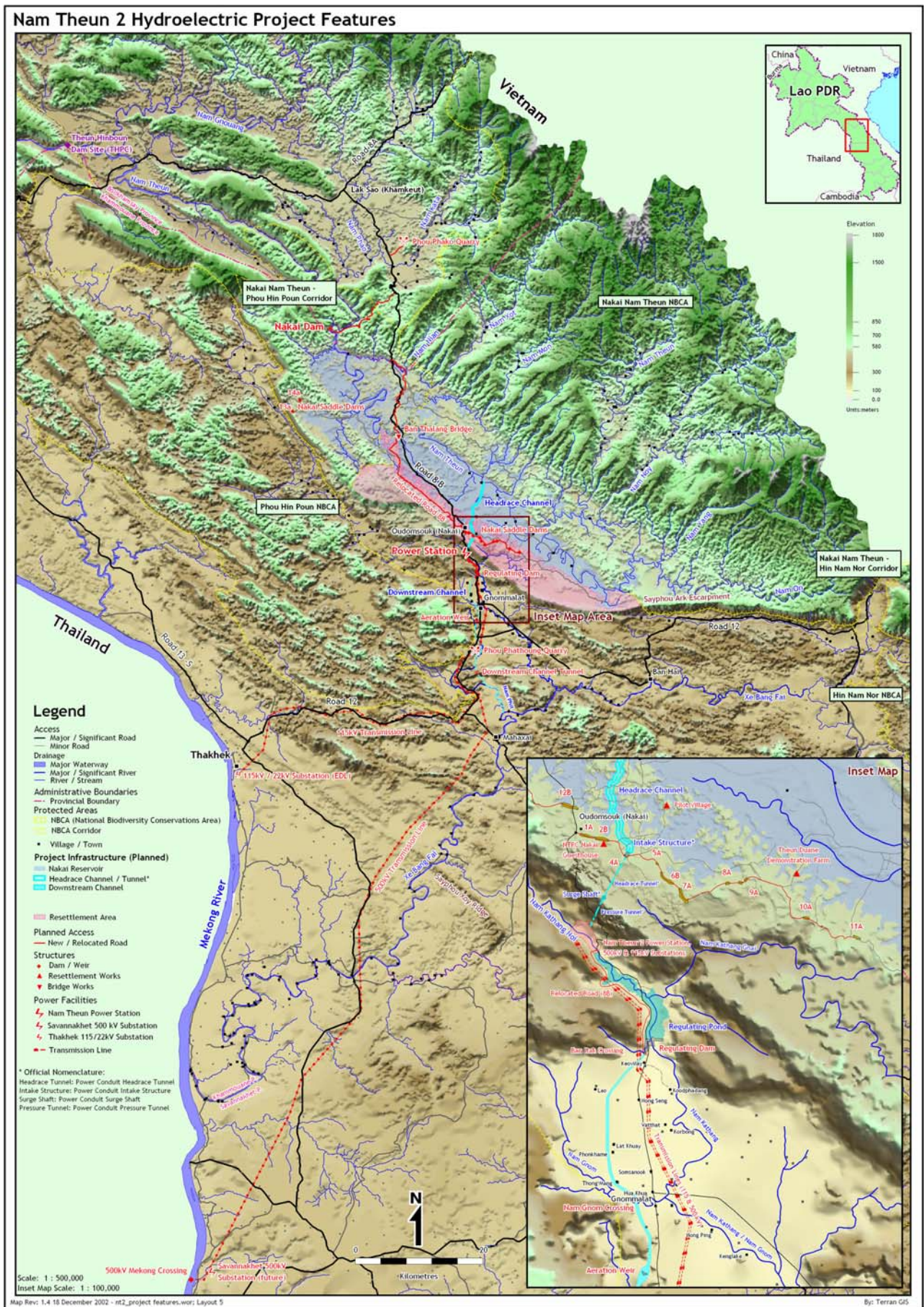
(f) villages that may be affected by restricted access to natural resources.

(g) households in the watershed that may be affected by resource access restrictions and who will benefit from the SEMFOP.

(h) this does not include the 31 upstream villages, which are in the NPA and, therefore counted under the NNT-NPA.

(i) prediction only, and actual may be more or less depending on actual riverbank erosion.

Figure 1: Nam Theun 2 Project Features Map



3 LEGAL PROVISIONS AND POLICY FRAMEWORK

The Project has been developed in accordance with the Lao Constitution and relevant laws and regulations. The Constitution outlines the rights of all ethnic groups to protect, preserve and promote their different cultures, the economic objects of transformation from a subsistence to a commodities economy, protection for state and individual ownership, the right to own, transfer and inherit land, protection of natural resources and equality under the law for all citizens. The Land Law (2003) covers the rights and procedures for tenure, access, use and management of land. Land titling legislation provides the framework for resettlers to be granted rights to agricultural plots and for communities to have rights over forestland. The Forestry Law deals with the allocation, zoning and use of forestland, both for traditional usage and commercial production, such as the community forests of the Nakai Plateau in the resettlement area.

The majority of the inhabitants on the Nakai Plateau have no legal land documents but rather access to housing and agricultural land has traditionally been based on usufruct rights. It will be important that Nakai resettlers feel secure in the fact that they are permanent residents. Given their attachment to the land and the important role the land and its resources have in relation to their ethnic identity, customary tenure of indigenous communities will be transformed to legal tenure. Land will be registered and titles given to all resettlers, providing them with security of tenure. This is in accordance with the National Resettlement Policy and guidelines and the NT2 Resettlement Policy. This Policy also outlines the principles of eligibility and entitlements for all affected persons and full restoration and rehabilitation. Legal documents enacted to address specific issues of the Nam Theun 2 Project include:

- (i) Decree No. 193/PM (2000) establishing the Nakai-Nam Theun NBCA Corridor Areas, NT2 Project Reservoir Area, and Resettlement and Forest Area of people affected by the Project;
- (ii) Decree 37/PM (2002) concerning the approval for the allocation of the resettlement and forest area to the people and village organisations affected by the NT2 Project for carrying out forestry business activities;
- (iii) Authorization 63/MAF on Provincial Authority's right to issue permits and supervise the establishment of the Nakai Plateau Village Forestry Association;
- (iv) Decision 85/PG (RCC).KM (9-2-2005) on the Management and Use of the Resettlement Area and Reservoir, granting the Nakai plateau Resettlers exclusive rights to all agricultural and forest resources in the Resettlement Area, and aquatic product resources on the Nam Theun 2 Reservoir, for a period of 70 and 10 years for the forest and aquatic resources respectively; and
- (v) Decision 171/PG(RCC).KM (7-3-2005), to amend the regulation 484/PG.KM on the establishment and operation of NPVFA, adding two clauses granting the NPVFA (a) exemption from local taxes and levies and (b) sawmill and logging licences;

Detailed obligations are enshrined in Schedule 4, Part 1 (and Part 4) of the Concession Agreement between NTPC and GOL, signed on 3 October 2002 and updated in March 2005. This CA now includes detailed Entitlements Matrixes for each of the three main impact areas.

4 PUBLIC CONSULTATION, PARTICIPATION AND DISCLOSURE

Public Consultation and Participation is the process of stakeholder participation in project planning, implementation and monitoring, creating a 'feed-back' loop for information. Consultation can be seen as having five phases: 1) information collection and dissemination, 2) eliciting stakeholder concerns, 3) active involvement in project design, 4) disclosure, and 5) participatory implementation and monitoring. Efforts have been made from the onset to conduct consultations in a gender and ethnically sensitive manner, including discussions in local languages and separate groups for men and women, and minorities where appropriate.

Consultations' effect on project design attests to the meaningfulness of the consultation process. Other criteria are the quality of discussion and the degree of disagreement or varying opinions. Records show that discussions were to a large extent open and transparent with villagers voicing their opinions, concerns, fears, mistrust and priorities on a number of occasions. Efforts were also made to understand the role of leadership and influential groups in the village and the social, economic and political dynamics of interaction on the village level.

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Figure 4: Xe Bangfai Consultation Posters



In 2004-2005, a second round of consultations has been undertaken to cover a broader range of Project impacted areas, continuing feedback from Nakai resettlers on site locations and livelihood, and preferences for compensation in the Project Lands and Downstream impacted areas. Village Facilitators have been selected in each project-affected village to facilitate the consultation at the local level and to ensure that the various interest groups are properly represented, including women, ethnic minorities and traditional leaders. These facilitators will be used for on-going consultations and implementation of resettlement and mitigation. Figure 2, 3 and 4 show the posters used during these consultations, and now displayed widely in Project impacted communities.

There have also been extensive regional, national and international consultations and reviews by experts at various levels, all contributing in different ways to improving the project and fulfilling the requirements of the WB and ADB regarding transparency and board stakeholder involvement. Related to this is the disclosure of information during the different planning stages to the various stakeholders and general public. This includes the establishment of information centres, updates to the mass media and the translation and summaries of key documents into Lao.

5 HEALTH IMPACT ASSESSMENT AND PUBLIC HEALTH ACTION PLAN

The project has carried out a comprehensive Health Impact Assessment (HIA) according to a World Health Organization model, and prepared a Public Health Action Plan. This PHAP, designed to mitigate identified risks and improve local services, is composed of (a) a Resettlers Health Program and (b) a Regional Health Program. The Programs include HIV/AIDS and drug-use awareness and preventive education programs for communities and spontaneous settlers. The Head Construction Contractor will also have a Staff Health Program to ensure preventive and curative measures for safeguarding health and safety of his workers and their families, and to prevent and mitigate health effects due to construction works, such as communicable diseases.

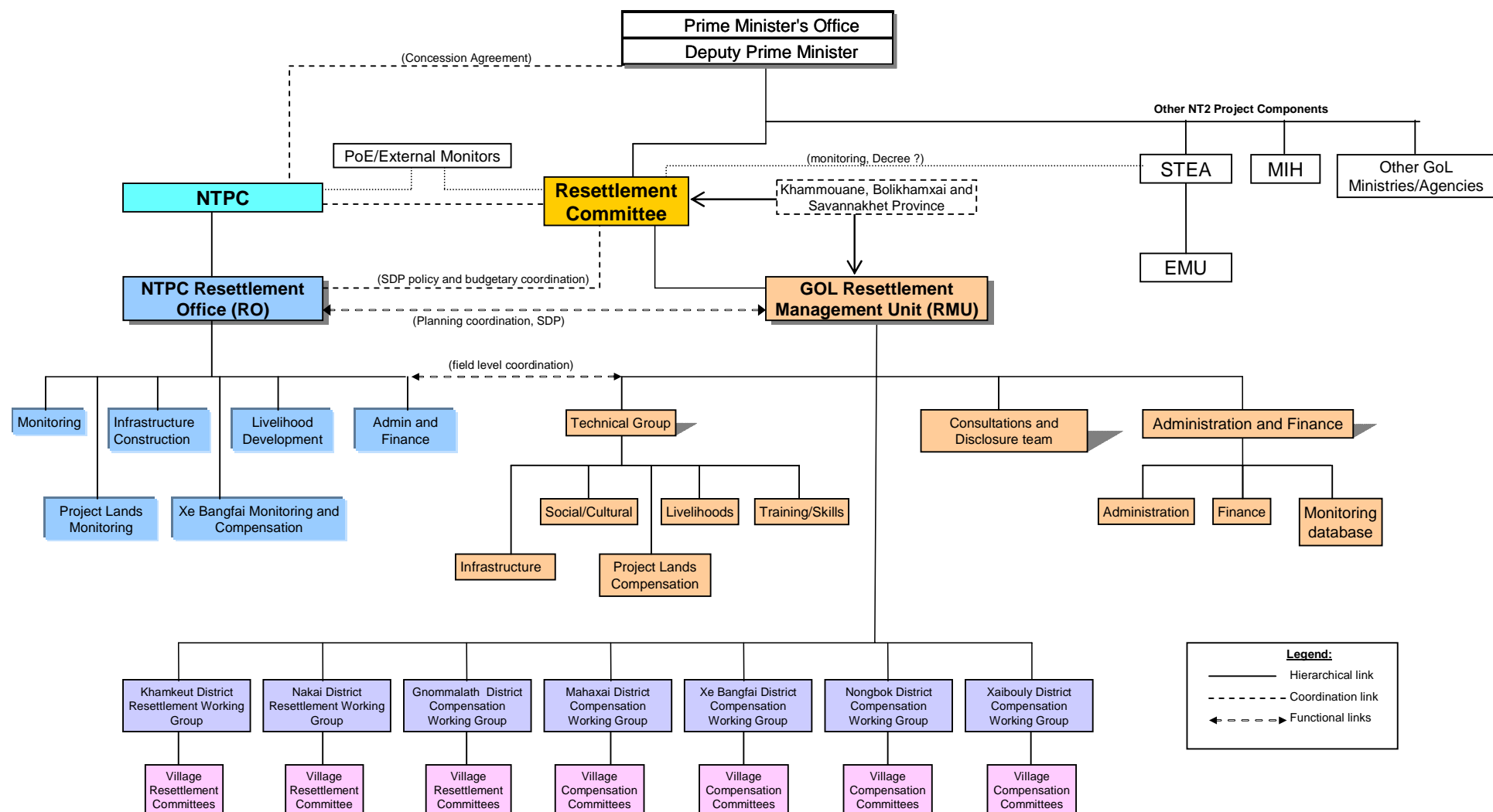
6 ORGANISATIONAL ARRANGEMENTS AND CAPACITY BUILDING

Specific institutional arrangements have been developed for the implementation of the NT2 Project, as illustrated in Figure 5. For GOL these include the Resettlement Committee (RC) to oversee activities and policy issues, the Resettlement Management Unit (RMU) to manage, co-ordinate and monitor GOLs responsibilities, District Working Groups (DWGs) that will play a crucial role in resettlement and compensation activities, and Village Resettlement Committees (VRCs) that will represent the interests of the villagers and mobilize the population. VRCs consist of village leadership and skilled village members representing the different ethnic groups. Efforts will be made to ensure the recruitment to GOL agencies of more ethnic minorities and women whenever feasible, as these organisations expand during implementation, with the aim of reaching 30% female members and representation of all minorities.

NTPC will have Resettlement Offices (RO) in Vientiane, Nakai, Gnommalath, Thakhek and Khamkeut with staff covering the key areas of livelihoods, infrastructure, administration and finance, consultations and ethnic affairs, and monitoring and documentation. There will be daily liaison and cooperation between the RO and the RMU throughout implementation. Full staffing requirements and recruitment plans have been drafted for both GOL and NTPC organisations. The Project will also draw on provincial line agencies, the Lao Women's Union and a number of consultants and NGOs for implementation of programs. The Grievance Procedure to be established will include the formation of village and district level special purpose committees.

For the resettlement and compensation arrangements, and the livelihood restoration programs to be successful, considerable technical and professional assistance will be required, especially in the initial phases. Adequate funds and a training program have been outlined in the SDP. Mitigation and Restoration Plans developed will be further developed and finalised before implementation, and even revised as required during implementation, via adaptive management. In this respect the Pilot Village relocation has enabled planners to adjust human resource plans and to test how the new organizational set-up is able to cope with its new responsibilities. Training for GoL staff on ethnic minority awareness and further training on consultation processes will be carried out.

Figure 5: Revised Overall Organization for the Social & Resettlement Components of the NT2 Project



7 MONITORING, EVALUATION AND GRIEVANCE PROCEDURE

Internal monitoring will be carried out jointly by the RMU and the RO, to ensure that the SDP is implemented successfully and that the villagers restore or materially improve their livelihood after resettlement. Monitoring will consist of the three main components:

- Day-to-day activity-level monitoring will focus on the physical progress of resettlement implementation, and financial disbursements, against the schedule in the approved plans;
- Activity productivity monitoring, on a seasonal basis, whereby crop yields, fish yields timber and NTFP harvest etc. and monitored and reported; and
- Outcome monitoring, to measure the progress being made towards achieving livelihood restoration.

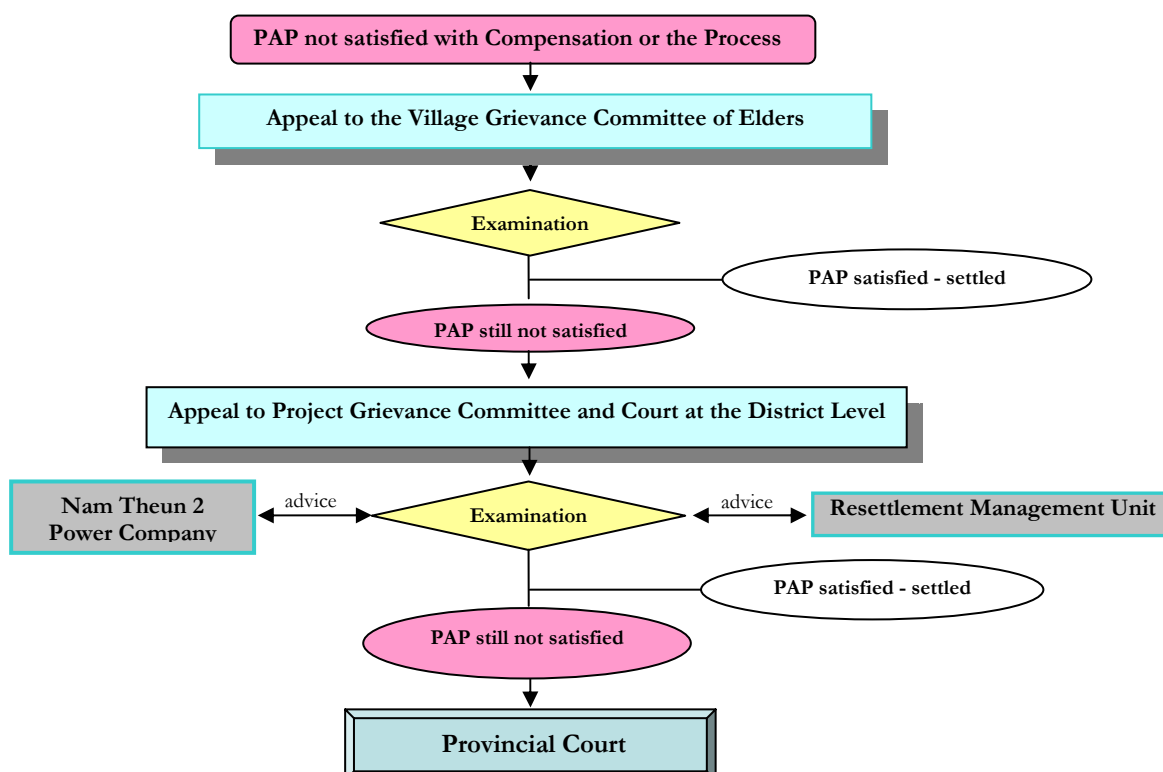
Socio-economic and income monitoring (in relation or income targets) will be the primary responsibility of two Independent Monitors, the international Panel of Experts (POE) and an Independent Monitoring Agency (IMA), although the internal monitors may assist in this task.

Social indicators to be used by monitor will cover income, health status, education status and natural resource usage. Data will be disaggregated by gender and ethnicity in order to ensure that potentially vulnerable groups and minorities are not disadvantaged or marginalised but rather become project beneficiaries. Gender aspects regarding the division of labour (time used for different activities) at the household level are also important monitoring indicators to ensure that women or men are not overburdened as a result of new livelihood activities.

The IMA will both verify data obtained by the RMU and the RO, and independently collect its own data and information. They will also play a role in, for example, decisions regarding provision of supplementary rice and proteins, or other assistance to vulnerable families.

To ensure that the basic rights and interests of resettlers are protected, that concerns are adequately addressed and that entitlements are delivered, a grievance procedure has been designed for the NT2 Project, and an independent Grievance Committee will be established to facilitate the process illustrated in Figure 6 below.

Figure 6: Steps in the Grievance Process Regarding Issues of Compensation and Resettlement



8 RISK MANAGEMENT STRATEGY

It is recognized that there are risks associated with the proposed resettlement program which may make it difficult to achieve the outcome targets (household income and village income targets). These include the relatively weak capacity in Lao PDR to implement a development-oriented resettlement program, the challenge of mobilising staff within the timeframe to execute the program, the changes in livelihoods required, dependency on external support during the transitional period and population influx during construction. If not properly managed through anticipatory and proactive measures, they could have long lasting social impacts upon the host population. However, the Project is confident that it will successfully mitigate and manage these risks, by a wide range of anticipatory and proactive measures, such as:

- Detailed preparations for planning and organization and adaptive management, based in part on continuous stakeholder consultations;
- Transitional support and a phased exit strategy, including a package of livelihood activities that are similar to pre-Project livelihood activities with the Project providing inputs, initially fully subsidized but gradually phased out as families become able to support themselves;
- Additional support, training and capacity building for vulnerable groups and ethnic minorities to ensure that benefits reach these groups and targets are met; and
- A Construction Phase Social Management Plan to mitigate population influx and related social impacts during construction.

9 NAKAI PLATEAU EMDP AND RAP

The main objective of the Resettlement Programme on the Nakai Plateau is to ensure that the PAPs are relocated and establish viable and sustainable livelihood systems in a culturally sensitive manner such that they experience significant improvements to the existing standards of living and livelihood.

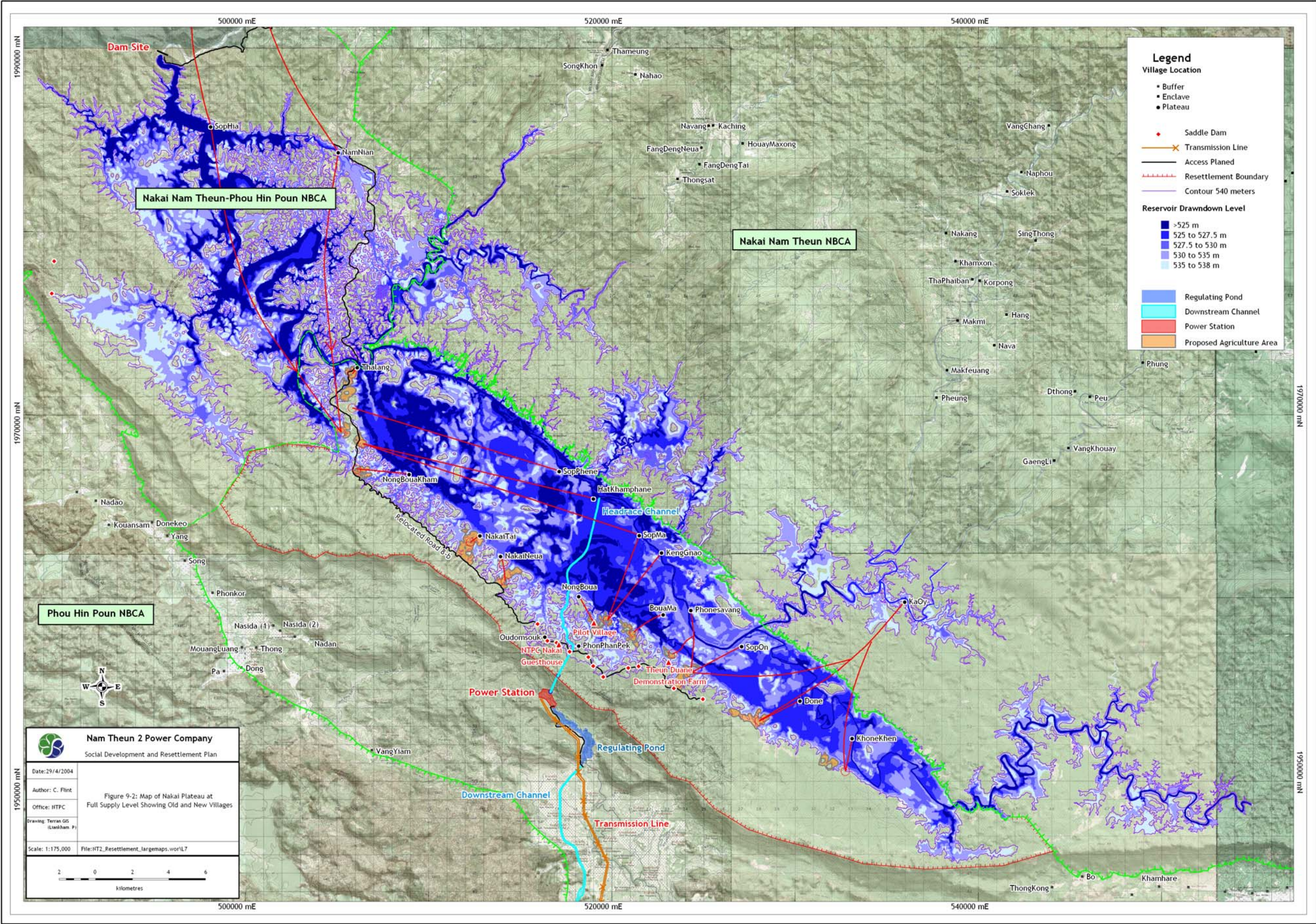
9.1 BASELINE DATA

The Nakai Plateau is situated between the alluvial plains bordering the Mekong River and the Annamite Mountains that form the border with Vietnam. The Theun River (Nam Theun) meanders on the Plateau where a number of communities have traditionally used the natural resources in the area. Brou, Bo, Vietic, Upland Tai and Sek ethnic minorities, who inhabit this area, have a strong sense of belonging to the territory, with the exception of the recently arrived Tai groups. However, the area is somewhat of a 'melting-pot' as many villages include populations of various ethnic groups who inter-marry, share common beliefs and speak various dialects of Lao, in addition to their indigenous languages, beliefs and cultural features.

Most Plateau villagers practice swidden agriculture and gather forest products, while about 24% of the families have paddy rice fields, although of generally low productivity. Fishing and livestock are other important sources of livelihood. The Plateau population is among the poorest in Laos, with rice insufficiency for more than six months of the year on average and very limited health and education services and infrastructure. Existing livelihood practices, in particular the gathering of non-timber forest products (NTFPs) is unsustainable since the natural resource base for such products is diminishing.

Much of the SDP Volume 2 is dedicated to planning the resettlement of the fifteen (15) villages currently located in the area of the future reservoir, and the two (2) villages located on the edge of the reservoir, and thus partly affected (see Figure 7). These villages host about 1,298 households with approximately 7,800 persons (as of 2003), of which about 85% will be impacted by inundation.

Figure 7: Map of Nakai Plateau at Full Supply Level Showing Old and New Villages.



9.2 PROJECT IMPACTS

The immediate impact of inundation is that up to 450 km² of the Nakai Plateau will become covered by the Nakai Reservoir. This will affect forests, wood lands and agricultural land, and some wetlands. At its lowest level at the end of the dry season, the reservoir will recede to a surface area of about 80-100 km².

The main social impacts resulting from the inundation of the Plateau to form the Nakai Reservoir will be:

- **Loss of Houses and Housing Land.**
- **Loss of Agricultural Land and Vegetable Gardens:** In 2002, the total area under paddy cultivation on the Nakai plateau was 91 ha in the wet season and 35 ha in the dry season, in seven and five of the 17 villages, respectively. Villagers also cultivated about 434 ha of upland rice field (15 villages), and about 86 ha of corn, 49 ha of cassava and 4 ha of vegetables². The productivity of the rice fields is low – averaging 1.1 t/ha for paddy and about 0.55 t/ha for upland rice. The majority of these areas will also be lost to inundation.
- **Loss of Forest Land:** Forest land is a source of timber for construction, firewood and of non-timber forest products (NTFPs). Some of these resources are accessed from within the future inundated area and some (especially NTFPs) come from north of the Plateau inundation areas, in the Nakai Nam Theun NPA.
- **Loss of Fishing Grounds:** The Nam Theun and its tributaries are sources of fish and aquatic products, which make up 4% of income and 6% of imputed income, and while these will be lost – inundated – it is expected that the new Nakai Reservoir will be productive and more than compensate for this loss.
- **Loss of Cultural Heritage:** There are no archaeological or historical sites in the area to be inundated, although a few villages have temples, which will be moved to the new villages according to cultural procedures. Villagers have confirmed that they wish to let gravesites remain where they are as long as appropriate ceremonies and offerings are made to the ancestors' spirits.

Table 3: Summary of Demography and Land Assets of Nakai Plateau PAP.

no	Village	Households (2003)	Wet season paddy		Dry season rice		Upland rice	
			area planted	production	area planted	production	area planted	production
			ha	kg	ha	kg	ha	kg
<i>Nakai District, Khammouane Province – Plateau villages</i>								
1	Phonphanpek	102					31.00	16,213
2	Nongboua	30					15.00	-
3	Sop on	93					18.53	2,180
4	Bouama	60	2.00	1,200	2	2,150	22.67	1,796
5	Phonesavang	30					9.25	7,939
6	Sopma	64					23.63	9,452
7	Done	116	29.75	14,270	5	5,900	40.40	54,700
8	Khone khen	44	12.00	13,500			34.70	28,020
9	Ka Oy	29					50.94	5,750
10	Sop Phene	51					39.00	13,600
11	Nakai Neua	83	18.00	13,716	18	18,500	19.12	1,863
12	Nakai Tai	178	19.98	16,289	8	10,500	35.93	36,043
13	Nongbouakham	47	3.00	0,7	2	2,200	18.00	300
14	Thalang	64					47.00	9,993
15	Oudomsouk	226					??	??
		1,217	84.73	58,975	34.25	39,250	405.17	187,849
<i>Khamkeut District, Bolikhamsay Province</i>								
16	Nam Nian	26	3	5,350			7	5,530
17	Sop Hia	55					37	23,050
		81	3	5,350			44	28,580

² These figures are incomplete as they only cover around half of the villages.

9.3 MITIGATION AND COMPENSATION – THE RESETTLEMENT PACKAGE

The plateau resettlement package provides a comprehensive range of housing, infrastructure, land, social services, a livelihood program and exclusive access to forest and fishery resources. The livelihoods program will offer 5 main programs (i) irrigated and rainfed agriculture, (ii) livestock raising, (iii) forestry, (iv) fisheries in the reservoir and (v) other income generating activities. The first 4 components have both subsistence (self consumption) and commercial or market components. Flexibility is inherent in the choice and development of livelihoods by each household. Some villages, particularly the Vietic hamlets, may require additional support in order to have adapt and benefit from new and improved livelihoods systems. Measures to assist such villages and other vulnerable households have been incorporated into the project design. The legal entitlements of households affected by reservoir inundation, as specified in the CA are summarised in Table 4.

Table 4: Summary of Legal Entitlements as Defined in the Concession Agreement.

Compensation	Entitlements
Housing	The provision of adequate housing with a minimum area not less than the existing house area or 42m ² , whichever is the greater, in a location acceptable to the owner. Housing includes all materials, electrical wiring and basic fixtures. Households with two families and 7 or more people have the option to have two houses. Labour, transportation and material costs associated with dismantling existing houses and constructing new ones. Sheds, other outbuildings and fencing will be provided to the household.
House/Farm Land	A total of 0.66 ha irrigated farm-land per household, of which 0.16 ha should be developed as paddy rice area. Additional 0.5 ha per HH of rainfed cropping/grazing land (and at least 1 ha for the first new generation of resettled families in the reservoir drawdown zone and/or upland degraded forest areas, if agricultural systems in these areas are feasible, and dependant on family labour and ability to work the land. All land will be titled jointly in the name of both husband and wife.
Infrastructure	Year-round household water supply and electricity to all houses; irrigation water and distribution system to the farm plot boundary; road access to house/farm plots; school access within 3 km; and clinic access within 5 km.
Services	Transportation of all household assets to new location; health check for all household members prior to and after move; access to RMU for advice; and use of Grievance Procedures for complaints.
Cash	A one-off cash allowance to cover moving time and disturbance of USD 15 per person; and compensation for fruit trees lost.
Production Assistance	Support to a range of livelihood options, including access to production forest, NTFPs, grazing land and reservoir fisheries; tools, equipment and all inputs (100% support for first 3 years, the 50% support for next 3 years) for agriculture and forestry; training and technical support for agriculture, forestry, fisheries and support for the economically inactive and vulnerable households from communal forestry revenue.
Food support	Rice and protein supplements during the transition period, for those genuinely in need.
Departees	Those wishing to relocate elsewhere will receive a one - time payment for the value of the land, trees, production, and structures lost, plus transportation and disturbance allowances.

9.4 TRANSITIONAL ARRANGEMENTS

The resettlement planning for communities inundated by the reservoir has adopted a development approach, aiming to improve the living standard of the resettling population. The most challenging aspect of the resettlement program will be achieving a successful transition from a subsistence livelihood pattern to a more market oriented local economy, which is key in the livelihood development strategy. Thus a wide range of activities are available to resettlers during the transitional period. Some of these are their traditional activities, while some are new opportunities created by the Project.

Table 5: Schedule of Key NT 2 Project and Plateau Resettlement Programs.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
A key NT2 Project Dates										
1 Financial Close - FC				★						
2 Closure of Coffor Dam					★					
3 Nakai Dam Closure							★			
4 Commercial Operations Date - COD								★		
B Plateau Resettlement activities										
1 Initial Resettlement Planning										
2 Detailed Resettlement Planning										
3 Topographic and Soils Surveys										
4 Consultations										
5 Relocate/Establish Pilot Village)										
6 Main Relocation: Villages group 1										
7 Main Relocation: Villages group 2										
8 Livelihood Options development										
> Construct Irrigation Systems										
> Agriculture: Rainfed										
> Agricultural: Irrigated, double cropping										
> Forestry										
> Fisheries										
> Construction related work (transitional)										
> off farm employment, small business etc										

10 DOWNSTREAM AREAS – EMDP, RESETTLEMENT AND LIVELIHOOD RESTORATION PLAN

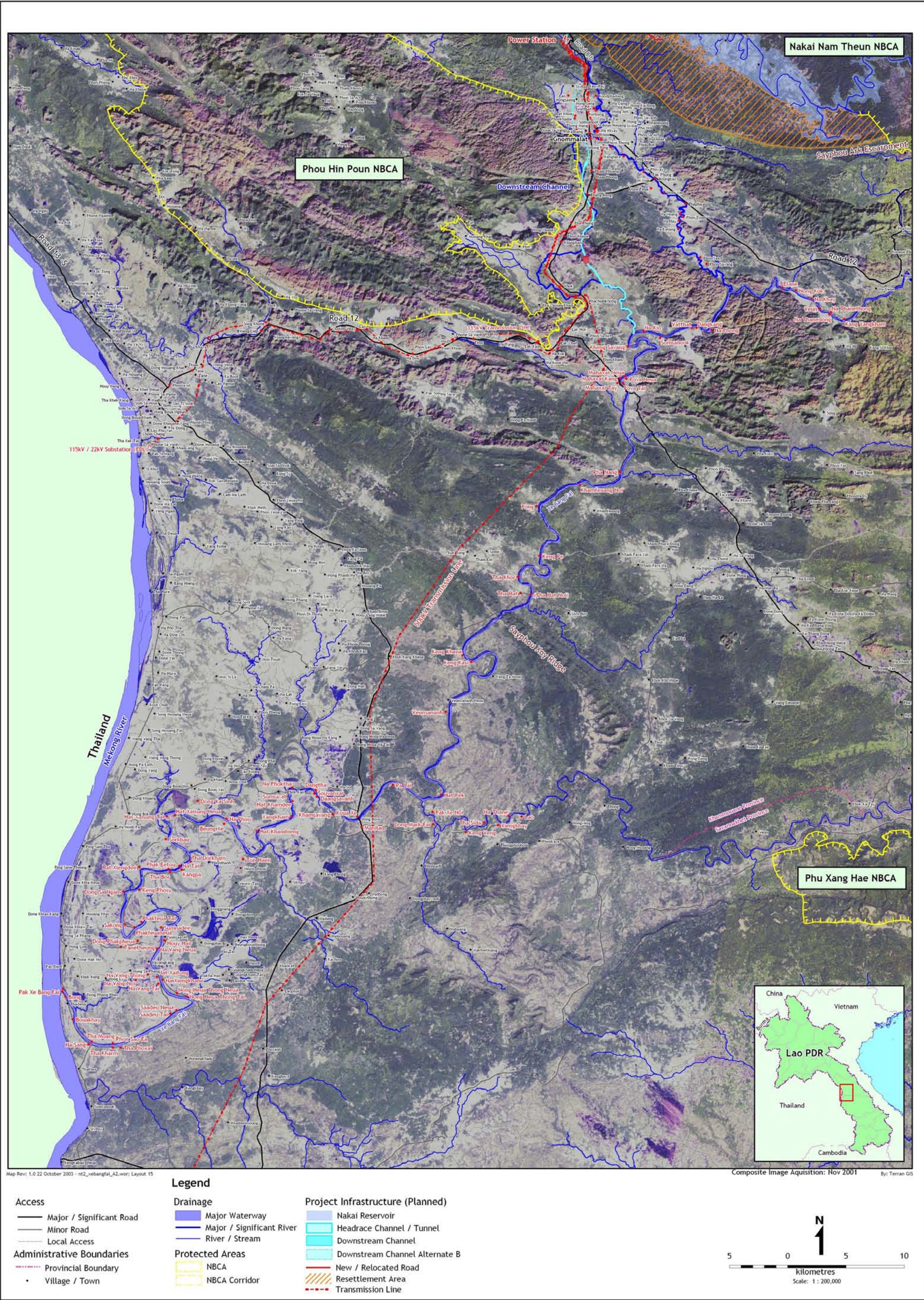
The changes in hydrological regimes and water quality will affect the following downstream areas:

- ❖ The Nam Theun river, downstream of the dam and upstream of the Nakai Reservoir (watershed);
- ❖ The Nam Phit; and
- ❖ The Xe Bangfai, mainstream and hinterland villages (see Figure 8).

The program outlined in the SDP to address these impacts includes the following main components:

- (i) Incorporation of engineering design features to minimize environmental and social impacts, such as the intake channel, which will withdraw water preferentially from the oxygenated epilimnion in the dry season; the regulating pond (avoiding most variable flows into the XBF which would otherwise have resulted from the peak load operation of the powerhouse), the downstream channel (avoiding discharge into a small watercourse), the aeration weir in the downstream channel, the riverbank protection at the confluence of the downstream channel and the Xe Bangfai, and improved dykes and water gates along the lower Xe Bangfai.
- (ii) The conduct of studies and surveys in order to define current livelihoods that may be impacted, and predict the type of level of impacts.
- (iii) The mitigation in and along the XBF itself, where (a) selected sections of the riverbank will be protected against erosion, (b) village water supplies will be improved, if required, and (c) resolution of the problem of decreased dry season river crossings due to increased dry season flows and flood management.
- (iv) The compensation, resettlement and livelihood restoration, whereby all and any negative impacts on villagers' socio-economy – mainly in fisheries and riverbank gardens – will be compensated and livelihoods restored, although the exact method and options to be implemented will depend on the on-going consultations with affected villagers.
- (v) The conduct of on-going consultations in which (a) villagers are fully informed of predicted impacts and their rights to compensation and livelihood restoration, (b) villagers are encouraged to voice their concerns and forward proposals for mitigation and compensation approaches and activities, (c) villagers participate in definition and planning of livelihood restoration programs, and (d) villagers are fully involved in program implementation.
- (vi) The participatory monitoring program in which villagers work with GOL and NTPC to observe and measure the environmental impacts of the Project and any resultant socio-economic impacts, and adjust the compensation and development program accordingly.

Figure 8: Location of Villages along the Xe Bangfai.

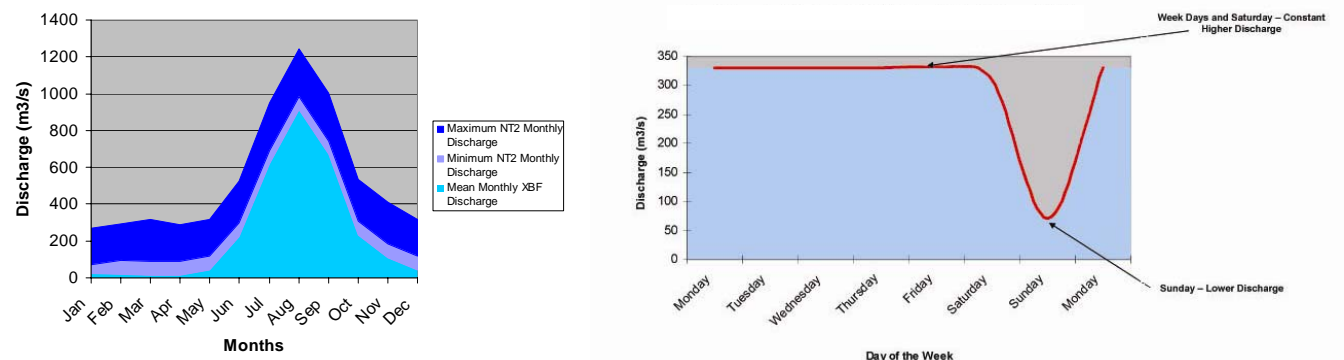


10.1 PRIMARY IMPACTS – DISCHARGE INTO THE XBF

10.1.1 Water Discharge

Approximately 7,000 MCM per annum will be diverted from the Nakai Reservoir through the power station to the Xe Bangfai, which will almost double the annual flow in the Xe Bangfai at Mahaxai, from 8,370 MCM to 15,370 MCM. Figure 9 shows the increase in annual Xe Bangfai discharges at Mahaxai, based on hydrological information from the period 1989 to 2002. While the maximum rate of discharge from the NT2 Project into the Xe Bangfai will be 330m³/s, the NT2 Project's average annual discharge will be approximately 220 m³/s with variations over the weeks and seasons. A minimum discharge of 30 m³/s will be maintained in the Downstream Channel when the power station is not operating (Figure 9).

Figure 9: Example of Discharge in the XBF with the Project, Annually and Weekly.



10.1.2 Water Levels in the XBF:

In the dry season, the water level at Mahaxai will increase by about 5 m (Figure 10) and 3 m at the RN 13, while in the wet season the water levels will be less at about 1.3 m (Figure 10), due to the decreased relative contribution of the NT2 in the wet season.

Figure 10: Indicative Increase in Water Levels at Mahaxai during April with NT2 Discharge of 220m³/s and 330m³/s.

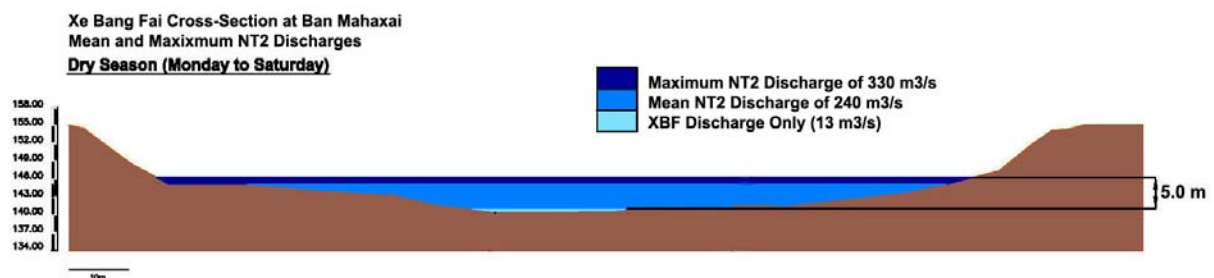
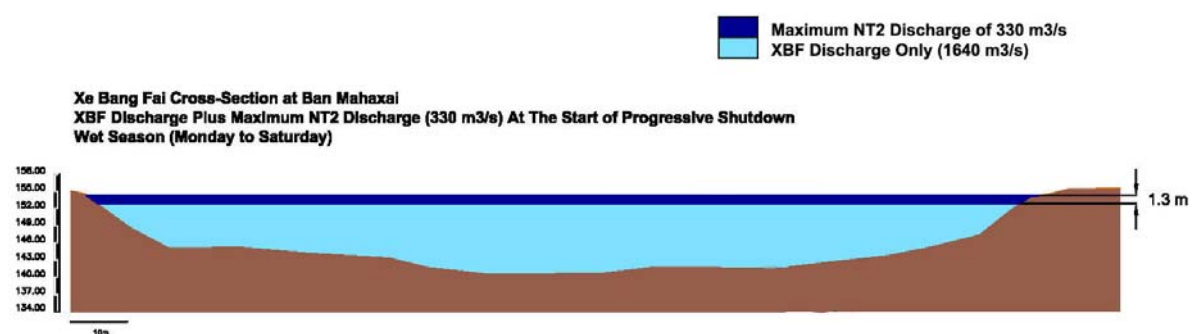


Figure 11: Indicative Increase in Water Levels at Mahaxai during September with XBF Discharge of 1,640m³/s and NT2 Discharge of 330m³/s.



10.1.3 Livelihood Impacts along the Xe Bangfai

The release of reservoir waters into the Xe Bangfai River will result in the river progressively modifying its geomorphology and ecosystem. Thus, the riparian population will have to adapt and modify livelihoods which may be impacted by these increased water flows and modification of water quality. The NT2 Project will have both positive and negative impacts on:

- **Riverside gardens:** There will be losses of riverbank gardens because of higher water levels and some erosion of the riverbanks.
- **Riverside assets:** There may be losses of riverside buildings due to the predicted erosion – due to the clear NT2 waters picking up sediment from the river banks, and to the weekly discharge fluctuations. Erosion may be up to 20 m in the upper section of the impacted Xe Bangfai.
- **Fisheries:** There will be a decrease of fish catch (and aquatic product collection) due to (a) change in the reproductive ecology, (b) modification of habitat as a result of increased dry season flow and some sedimentation of habitats; (c) effects of water quality in the early years, and (d) more difficult fishing in the higher/faster waters in Xe Bangfai and. In terms of biodiversity, while there are no endemic fish species in the Xe Bangfai River, some species may be extirpated and others may flourish. The predicted % loss in fisheries that has been used in compensation and livelihood restoration planning is tabulated in Table 6.

Table 6: Predicted Impacts of NT2 Project on Current Fish Catch along the Xe Bangfai

Zone	Dry season		Wet season	
	In the XBF	outside XBF	In the XBF	outside XBF
Upstream of Upper XBF	0 %	0 %	0 %	0 %
Upper XBF	80 %	0 %	80 %	0 %
Middle XBF	70 %	0 %	50 %	0 %
Lower XBF 1	60 %	0 %	30 %	0 %
Lower XBF 2	45 %	0 %	10 %	0 %
Lower XBF 3	30 %	0 %	10 %	0 %
Average	60 %	0 %	41 %	0 %

- **Domestic water:** While poor water quality in the early years (as the reservoir eutrophication stabilises) may result in the inability to use Xe Bangfai waters for domestic purposes, higher ground water will make it easier and more reliable to extract well water.
- **Irrigation:** Modified water flow will require some modification to the flexible pump-to-supply connections. The overwhelming positive benefit will be the considerably more water during dry season, allowing (a) more reliable dry season irrigation with (b) lower pumping cost (savings of 28% in upper section and of 15% in mid-lower sections).
- **Access and Transportation:** Higher water will make dry season river crossing more difficult, but will improve boat navigation along the river.
- **Flooding of Lower Xe Bangfai:** The increased discharge from NT2 Project is expected to affect the Lower Xe Bangfai area in terms of extent, depth and duration of flooding. A release by NT2 of 315 m³/s will increase by 3.75% the extent of the area flooded when added to the maximum flood flow allowed in the Xe Bangfai immediately before discharges from the Regulating Pond are reduced. 5,230 ha of land (which is currently under less than one meter of flooding) will be put under more than one meter of water for an average of 3.6 days per year. Besides, an additional 1,530 ha of land will be flooded due to the discharge from NT2, but these areas will be under less than 50 cm, therefore not threatening rice paddy production. The extended duration of flooding could put at risk some of the 2,497 ha of land, which will be under a depth of water varying from 0.75 m to 1 m while rice production will be affected negatively and fish production in the wetlands is likely to benefit.

10.1.4 Nam Phit Impacts

Fisheries in the Nam Phit will be totally impacted because the river will be incorporated into the Downstream Channel. This means:

- The upstream of the Nam Phit will be isolated, and thus cut off by the Channel, in terms of fish migration, although there may be backwater effect that could provide a habitat for surviving fish species.

- The velocity of water – 4.0 m/s in the upstream lined section and at 2.3 m/s in the downstream unlined section – will be too high for most of fish species to maintain a habitat or migrate.

10.1.5 Nam Kathang Impacts

Impacts of the Project on the Nam Kathang are expected to be very limited, mostly due to the conservation of the hydrologic pattern of the river and the water quality improvement of the water released from the regulating dam through the aerating device (“hydraulic jump”). The water may, however, no longer be suitable for domestic use, and this impact will be compensated through the construction of open wells or tube wells.

10.1.6 Nam Theun – Downstream of the Dam

Environmental impacts on the Nam Theun River between the Nakai Dam and Theun Hinboun headpond will be quite significant in terms of hydrology and fisheries. It is assumed that most of the current fish population in the Nam Theun mainstream will disappear, while fisheries (of migratory species) in the tributaries will also be impacted.

10.1.7 Nam Theun – Upstream (Watershed)

It is expected that migratory fish in the Nam Theun will be impacted by the Dam. However, migration is to some extent already inhibited by the Nam Theun Hinboun Dam.

10.2 BASELINE DATA

The population along the XBF is dependent on paddy cultivation, livestock, fishing and wage income, and is noticeably better off than the population on the Nakai Plateau and in the NPA. Most of the population are from the Lao ethnic groups, however, there are also ethnic minorities, mainly Brou (Makong).

It has been estimated that 40,000 people are living along the Xe Bangfai will be directly affected by (a) fisheries losses due to the project, and (b) other impacts on riverbank gardens, domestic water supply, and access. About 10,000 people in the hinterland of the Xe Bangfai, could also be adversely affected in the project area through reduced access to river fisheries. About 17,000 people currently catching fish in the Nam Phit will also be affected by the transformation of this stream into the Downstream Channel.

In the area downstream of the dam to the head-pond of the Theun Hinboun Dam, there are no permanent villages located on the mainstream Nam Theun. However, there are villages on the tributaries and nearby areas that use this area of the Nam Theun for fishing. About 40 villages on these tributaries will also experience impact on their fish catch, as will the 31 villages upstream of the Nakai Reservoir.

10.3 LIVELIHOOD RESTORATION

All impacts on property and livelihood will be fully compensated, through the implementation of a livelihood restoration program that will be fully developed and modified during detailed consultations and planning with each village.

10.3.1 Indicative Compensation for Fisheries and Riverbank Gardens Losses

The fisheries compensation and development strategy is based on investigation, piloting and implementation of a wide range of replacement or alternative livelihood activities, which may include:

- fish ponds at low levels connected to rice fields in the flood season;
- fish ponds with bunded walls in independent surrounding areas;
- fish in rice fields that have been modified by deep channels around the rice fields;
- improved management and productivity of natural fisheries;
- support to raising of alternative livestock – income and protein replacement; and
- irrigation of current and development of new irrigated rice fields and diversification into vegetables and other crops.

What mix of activities is finally implemented will depend on the physical surroundings, existing farming systems, availability of land, market demand and especially consultations with villagers.

In regard to loss of riverbank gardens, the Project will support the relocation of impacted riverbank gardens, ideally in close proximity to the lost gardens. The PAPs will also be assisted with irrigation facilities and production inputs for two years. It may well be that the livelihood restoration programs for fisheries and for riverbank gardens are combined in some villages.

10.3.2 Compensation for Losses of Riverside Assets

While important cultural or community buildings will be protected by riverbank protection works, other assets which may be imperilled by riverbank erosion will be fully supported to relocate and to rebuild the impacted structure.

10.3.3 Compensation for Reduction in the Quality of Domestic Water Supplies

Provision of alternative water supplies, such as town water supplies and additional wells.

10.3.4 Compensation for Damage to Irrigation Pumps

Possible erosion of footings and problems with connections on Sunday will be mitigated by protection of the footings, if necessary, and the supply of longer flexible connecting pipes.

Table 7: Indicative Schedule for Survey, Planning and Implementation of Mitigation and Compensation Options for the Xe Bangfai.

Component / Activity	COD - 5	COD - 4	COD - 3	COD - 2	COD - 1	COD + 1	COD + 2	COD + 3	COD + 4
1. VILLAGE WATER SUPPLY									
i survey's - preliminary and pre-COD									
ii consultations re. compensation options									
iii development of detailed plans									
iv implementation									
2. IRRIGATION PUMPS AND SUPPLY LINES									
i final survey and consultations									
ii detailed design and budgeting									
iii modify pump/pipe connections (or convert to axial)									
iv monitoring supply pipe footing erosion									
v protect supply pipe footings, if required									
3. RIVER BANK PROTECTION									
i survey/consultations re. areas that require protection									
ii detailed design and budgeting									
iii technical/participatory monitoring of erosion									
iv implementation of protection, as required									
4. RIVERSIDE ASSETS RELOCATION									
i survey and consultations re. areas that may need relocation (and not protection), with 3 above									
ii detailed design and budgeting									
iii technical/participatory monitoring of erosion									
iv implementation of relocation, if required.									
5. ACROSS-RIVER ACCESS									
i surveys and consultations									
ii provide boats/engines to certain villages									
iii build low level culvert - Xe Noy									
iv build pedestrian suspension bridge - old Mahaxai									
6. FISHERIES COMPENSATION									
i feasibility Study									
ii pre-COD participatory monitoring									
iii consultations re. compensation options									
iv pilot implementation									
v development of detailed plans									
vi implementation of plans									
vii post COD participatory monitoring									
7. RIVERBANK GARDENS									
i Surveys, the pre-COD baseline									
ii consultations re. compensation options									
iii implementation, as required									

The schedule for the fisheries compensation program for the downstream Nam Theun will mirror that of the above fisheries compensation schedule for the Xe Bangfai (item 6 in Table 7 above).

11 PROJECT LANDS EMDP AND RESETTLEMENT PLAN

11.1 IMPACTS IN PROJECT (CONSTRUCTION) LANDS

GOL has agreed to handover to the Company (via a long term lease) certain Project Lands required for the construction of the Nakai Dam, the Nakai saddle dams, the headrace channel, the water intake structure, the Powerhouse, the Regulating Pond and Dam, Residence Nam Theun, the proposed quarry areas, the construction work camps, as well as corridors for the 500 kV transmission line, the 115 kV transmission line and the Downstream Channel (see Figure 12). In addition, the Company has the right to upgrade existing roads and construct new roads.

Beside direct impacts (loss) on PAPs fixed assets or productive land assets, construction works and the associated infrastructure such as worker camps, access roads and quarries sites will result in impacts related to construction activities such as dust, noise, air quality, site erosion, waste and work camp management and camp follower impacts.

11.2 BASELINE DATA

Land acquisition for construction activities will impact upon approximately 709 households, and require relocation of approximately 350 houses, farm huts and other buildings, mainly in Oudomsouk, the Gnommalath Plain, and under the Transmission Line corridors.

Project Lands cover a wide area, including parts of the Downstream Areas and Nakai Plateau. There are four main groups of PAPs:

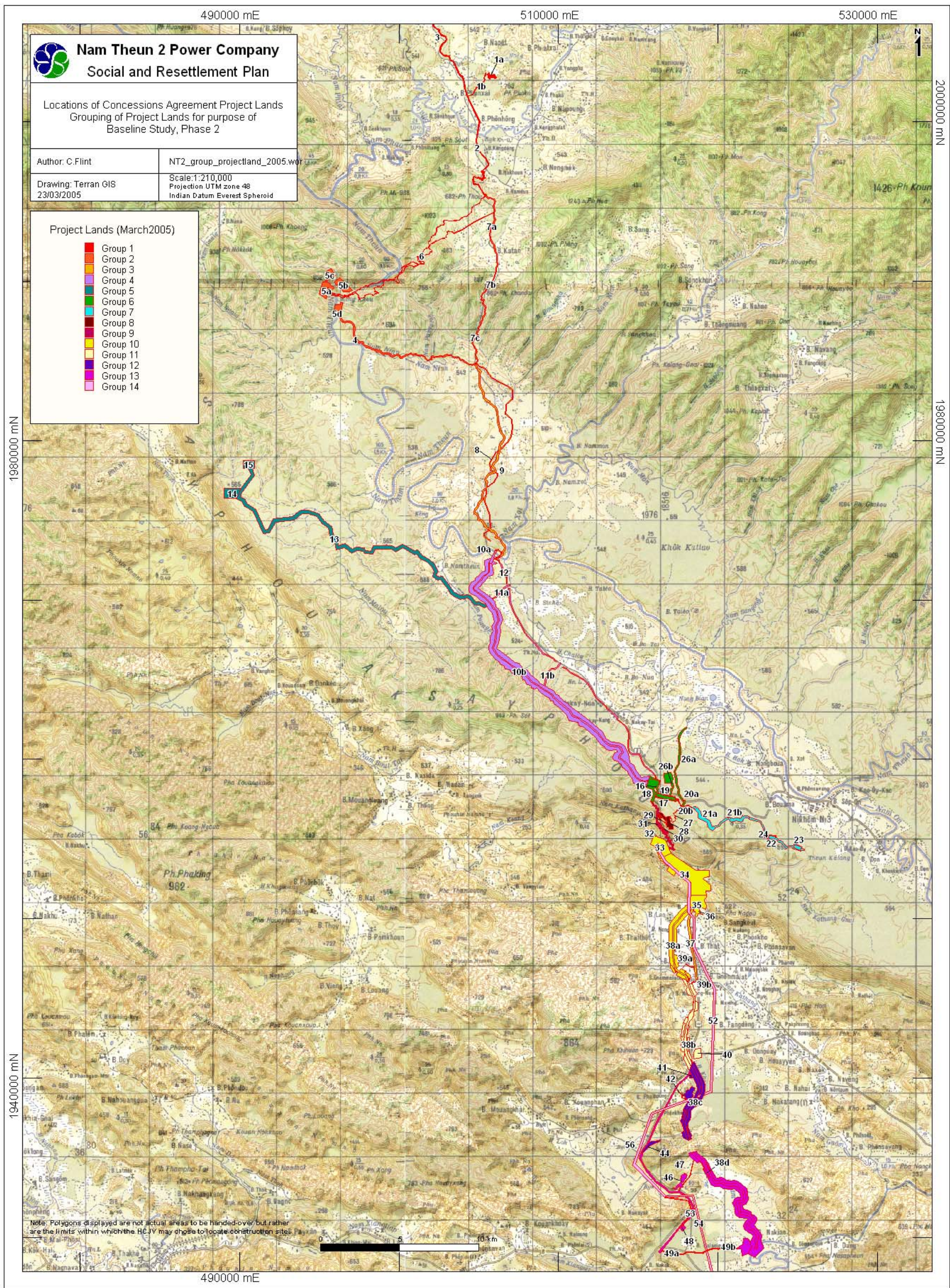
1. Communities along Road 8B that consist of Hmong and Vietic minority groups and Upland Tai. The Vietic groups are classified as ‘vulnerable’ due to their small size, lack of integration into the mainstream economy and lack of political representation. All communities have mixed economies but are primarily subsistence oriented.
2. Inhabitants of Oudomsouk, consisting of many ethnic groups, including about 10% Brou (Makong) and other related Mon-Khmer groups. Most inhabitants are wage earners but some households also practise different forms of agriculture and livestock or fish raising.
3. The Brou (Makong) villages on the Gnommalath Plain that have rainfed and irrigated paddy. These villages are well established and have surplus food but lack basic infrastructure.
4. Villages along the Transmission Line corridors, consisting mostly of Tai-Lao or lowland Lao ethnic groups in Khammouane and Savannakhet Provinces. There are some Brou (Makong) villages in the section where the Transmission Lines pass thru the Gnommalath Plain.

11.3 MITIGATION ARRANGEMENTS FOR PROJECT LANDS

The acquisition, and either temporary or permanent use of these lands for construction and operation, will result in impacts including disturbance, and temporary or permanent loss of land and assets, all of which will require compensation to those PAPs who may be owners and/or users of the impacted land and assets. Compensation for significantly impacted PAPs will focus on livelihood restoration, either by replacement of land for land or other assets, or by development of alternative livelihoods and sources of income. For PAPs who are impacted insignificantly, or who choose cash compensation and whose financial management plan is approved, cash compensation will be applicable.

Wherever possible, mitigation and compensation of APs will be integrated into the development plans of the areas. For example, the relocation of impacted houses in Oudomsouk town will be integrated into the redevelopment of the urban centre of Oudomsouk with support from the Project. The development of irrigated replacement paddy land on the Gnommalath Plain will be integrated into the longer term irrigation development scenario for the area.

Figure 12: Project Lands as mapped in the Concession Agreement of October 2002.



11.4 CONSTRUCTION PHASE SOCIAL MANAGEMENT PLAN

Approximately 4,000 workers, in twelve (12) worker camps, and possibly up to 16,000 camp followers (families of workers and services providers) will impact the social, health and economic dynamics of all project land areas, especially in semi-urban areas of Oudomsouk, Gnommalath and Lak Sao. The combination of the population influx, the sudden increase in eating and drinking establishments and the availability of cash could produce high risks and negative impacts. These include: (i) potential increase in sexually transmitted infections, most importantly HIV/AIDS; (ii) potential human trafficking problems; (iii) inflation of local market prices due to high demand and limited supply; (iv) increase in alcoholism; and (v) increased stress and trauma that could lead to an escalation of physical abuse and mental illness. Strong social regulations and serious enforcement procedures are essential to avoid putting the security and health of the local population at risk.

A Decision on Social Order Management for the Nam Theun 2 Construction by the Khammouane Provincial Governor addresses these issues. A Social Management Plan has been prepared, and includes a social management and mitigation program for camp followers addressing issues related to health, population management and security, infrastructure and funds for water, sanitation and waste disposal, strengthening the capacity of local organizations to control and support the camp followers, and a human trafficking awareness and preventive education plan. The Head Contractor also has contractual obligations to control, monitor and carry out awareness problems for construction workers.

11.5 PHYSICAL AND CULTURAL RESOURCES PLAN

A Physical and Cultural Resources (PCR) Survey was carried out in 2004 to identify all possible impacts on cultural and historical sites, including spirit sites, temples, and cemeteries as a result of inundation of the Nakai Plateau, downstream flooding and Project construction activities. A PCR plan has been developed to address or minimise any adverse impacts and includes awareness programmes, relocation and/or protection of movable PCRs, and support for appropriate rituals and ceremonies. Adjustments to the Project design, where practical and possible, to minimize impacts and risks to identified PCRs will be carried out. There is also a procedure for “chance finds” involving documentation and identification, awareness programmes for the construction workforce and notification and stoppage according to qualified experts.

12 SUMMARY SCHEDULE AND BUDGET

Table 8 presents a summary of the schedule and budget for the Social and Resettlement Program.

Table 8: Summary Schedule and Budget for Social and Resettlement Program.

[illegible]