NAM THEUN 2 WATERSHED MANAGEMENT AND PROTECTION AUTHORITY

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

[1st April 2005 to 30th September 2011]

PART 3:

ETHNIC MINORITIES DEVELOPMENT PLAN

(JANUARY 2005)

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3.1: OBJECTIVES OF THE EMDP

3.1.1: Purpose of the EMDP

This Plan aims to present a framework and strategic approach to the sustainable and ethnically sensitive development of Project Affected People (PAPs) in the Nam Theun 2 Watershed (the Nakai-Nam Theun National Protected Area (NPA) and its Peripheral Impact Zone (PIZ), in relation to World Bank (WB) Operational Directives OD 4.20 on Indigenous People. Although several reports address issues related to OD 4.20, recent developments in WB policy interpretations and a reassessment of project planning to date now point to a need for a comprehensive document addressing key issues relating to indigenous people and their livelihood protection and development.

Many of the issues relating to OD 4.20 were addressed in the Social Action Plan (IUCN 1998) and subsequently integrated into the Environmental and Social Action Plan for Nakai-Nam Theun Catchment and Corridor Areas (IUCN, 1997, revised May 1998 and currently being updated in the SEMFOP). However, the need has arisen for a separate document that addresses issues relating to local people and ethnic minorities in the catchment area of the Nam Theun 2 Project. Concerns relating to restrictions on access to natural resources and livelihood changes (OP 4.12 on Involuntary Resettlement) are addressed in Chapter 5, entitled 'Resettlement – Resource Access Restriction – Process Framework". In addition to summarising existing reports, efforts have been made to integrate work that has been carried out in the NT2 Watershed Area since 1998.

Within this overall EMDP objective, it should be emphasized that the primary goal of the NNT watershed project is to conserve and enhance the biodiversity values of the watershed, and all initiatives with regard to ethnic minorities and livelihood development should be undertake within this context.

3.1.2: Specific Objectives

A number of specific objectives are addressed in this Plan, and these elaborate and consolidate findings of previous plans, reports and the ongoing planning and implementation:

- An assessment of the definition and legal definition of 'indigenous people' as required by OD 4.20 is proposed, and its applicability to the Project Affected Peoples (PAPs) of the NT2 Watershed is analysed – indirect project impacts
- To review specific planning initiatives (livelihood, health, education and institutional strengthening) in terms of ethnic minority development as a result of indirect project impacts and livelihood development planning
- An assessment of the land tenure and resource use rights and ongoing consultation process in terms of 'meaningfulness' of the process, transparency and future arrangements
- design appropriate measures to address issues pertaining to ethnic minorities to ensure that they benefit from the project in meaningful ways and that they are not adversely affected by the project.

3.1.3: Definition of Area

The WMPA, the primary agency responsible for implementing the plan, has the mandate to oversee management of the NT2 Watershed. Article 1 of PM Decree 25 (2000) defines the NT2 Watershed as:

i. the Nakai Nam Theun NPA; and
ii. the two Corridors set out in PM Decree 193 (2000) between NNT NPA and – Phuo Hin Poun NPA and Hin Nam No NPA.

Villagers in the Peripheral Impact Zones (PIZ) adjacent to the watershed are also reliant on and having a large impact on NPA resources. Consequently, will they have an increasingly large influence on the sustainability of the NPA if not managed effectively. Thus, the area surrounding the NT2 Watershed/NPA is included as an integral part of the Operational Plan of the SEMFOP, as provided for under Decree 25. The WMPA and the SEMFOP will work with these villages, and the principles underlying the EMDP also apply to activities undertaken with these protected area impact zone communities.

3.1.4: Peripheral Impact Zone Communities

The WMPA will be active in the PIZ through a cost-sharing partnership approach with local authorities and NGOs working in the area. The approach will include the same elements as for NPA villages, thus providing livelihood development support as compensation for any access restrictions imposed due to SEMFOP. The approach also aims to promote PIZ villagers as full partners and 'gatekeepers' to the NPA through training, capacity-development, awareness-raising and support programs. PIZ villages will be prioritised according to their reliance (and thus impact) on NPA resources and activities initiated first in these high priority villages, some of which have already been identified by the PIZ Village Survey conducted in June and July, 2004. It is the intention under the SEMFOP to eventually provide such assistance and support to all PIZ villages according to the schedule presented in Table 2.3 (Section 2.2.7).

A survey of PIZ villages was conducted in June and July 2004 to collect the information necessary to ensure that their current situation and needs are adequately covered by the SEMFOP (Anon. 2004). The survey covered 54 villages with a total population of 22,504 individuals and collected information on demography, ethnicity, socio-economic conditions, resource use and their relationship with the NPA. The survey was conducted by 3 field research teams comprising a team leader, one field assistant, and one WMPA staff member. Each survey team spent 1-2 days in each village and collected village level data using a systematic semi-structured interview format with information recorded on standardized data forms. Summaries of the findings of the survey are presented in Sections 3.4.5. and 3.5.5.

3.2: WORK CONDUCTED TO DATE

3.2.1: Reports and References

The work that has already been carried out in directly affected project areas has been extensive. The following reports form the basis for this consolidation exercise and the discussions presented in this Chapter:

- Sample surveys of health and socio-economic situation by SMEC for the Environmental Impact Assessment (EIA) in 1990-91
- Socio-Economic and Cultural Survey – Nam Theun 2 Project Area (CARE Int. 1996)
- Health surveys carried out by the University of Chiang Mai (Pholsena 1997) in 1994-96
- 'Indicative work plan for conservation and management of the resources of the Nakai-Nam Theun Watershed Conservation Area and Buffer zones' (EcoLao 1997)
- Nature and Culture in the Nakai-Nam Theun Conservation Area (Chamberlain, 1997)
- Environmental and Social Action Plan for Nakai-Nam Theun Catchment and Corridor Areas – Cultural Diversity and Socio-economic Development in the Context of Conservation: Social Action Plan (Second Draft, Chamberlain, July 1997)
- Nakai-Nam Theun Conservation Area Nakai-Nam Theun Conservation Area – Report of the Socio-Economic Survey Team: Final Draft (Alton and Sylavong, July 1997)
- Khammouane Province: A Preliminary Environmental Inventory (IUCN, 1997)
- Environmental and Social Action Plan for Nakai-Nam Theun Catchment and Corridor Areas (IUCN, 1997, revised May 1998)
- Social Action Plan for the Nakai-Nam Theun Conservation Area (IUCN, May 1998)
- Nakai-Nam Theun Conservation Project – Progress Report #1, 8 May-20 June 1998 (IUCN, June 1998)
- Nakai-Nam Theun Conservation Area Programme – Phase 2: Community Development and Biodiversity Conservation: Pilot Field Activities Final Report (IUCN October 1999)
- Bolikhamxay Province Environmental Inventory (Ministry of Communication, Transport and Construction, GOL and IUCN, March 2000)
- Nam Theun 2 Hydroelectric Project Environmental Assessment and Management Plan (EAMP) (Seatec International, April 2001)

- Operational Plan for the Environmental and Social Management of the Nakai-Nam Theun 2 Watershed and NPA (Ministry of Agriculture and Forestry, GOL, May 2000)
- Inception Report (15 May – 15 June 2000) Nam Theun Social and Environmental Project Year 2000 Activities (IUCN)
- Farming System and Agroforestry Mission (9 October – 11 December 2000) – District Upland Development and Conservation Project (Laurent Chazée for Khammouane Province)
- Annual Activity Report (2nd Annual Work Plan) for the District Upland Development and Conservation Project (DUDCP) – IDA Credit 3186-LA by the Project Implementation Unit, Thakhek
- WP3 Interim Progress Activity Report for the Period October 1, 2001-February 13, 2002 for the District Upland Development and Conservation Project (DUDCP) – IDA Credit 3186-LA
- Anthropologist Report by Christian Culas, DUDCP, December 2001 - review of anthropological considerations for Ban Navang and Ban Makfeuang.
- NTFP Report by Joost Foppes, DUDCP, June 2001 - review of NTFP use and recommendations for sustainable development and conservation
- DUDCP review and lessons learned, 2003.
- Public consultations and feedback in NPA villages, completed May 2004.
- PIZ village survey, WCS, June – July 2004.

Most of the studies and research on the socio-economic and cultural situation in the catchment area was conducted by consultants and experts for IUCN in 1996-1998. The results were incorporated into both the Environmental and Social Management Plan for Nakai-Nam Theun Catchment and Corridor Areas (IUCN, 1997, revised May 1998) and then updated in the overall Nam Theun 2 Hydroelectric Project Environmental and Social Management and Operational Plan (ESMOP, 2000). Preliminary interventions, demonstration farms and other activities were started up in late 1998 under the WB funded NTSEP program and were continued under the DUDCP (WB Learning and Innovation Loan [LIL]).

3.2.2: Preparation of a Culturally Appropriate Plan

Measures have been taken to prepare a culturally appropriate plan for the ethnic groups of the catchment area in accordance with OD 4.20 with regard to livelihood development. These can be summarized as follows:

- A review of existing laws, customary practice and rights to utilise natural resources. (Section 3.3.7)
- Careful consideration of the existing cultural patterns and charting of ethnic history and relations with other groups. The available literature on these groups is limited to a number of anthropological and social studies (see CARE Int. 1996; Chamberlain 1997a, 1997b; Alton and Sylavong 1997; SAP 1998, Culas, 2000) and is summarised in Sections 3.4 and 3.5.
- Public Consultation with affected groups using methods that have been adapted to the needs and understanding of these groups, including cultural-sensitivity, local-language, gender and use of visual aids for illiterate members of these societies (See Public Consultation Strategy in Section 2.6).
- Consideration of existing livelihood systems in developing programs to meet the needs and aspirations of villagers as well as identifying challenges and areas for training and support (Section 3.7)
- Strengthening of institutions and ensuring participation of local administrative units (village leaders and local organisations) (Section 3.8)
- Pilot projects to test assumptions of plans and interventions have been underway since 1998 and continued under DUDCP.

3.2.3: Anticipation of Adverse Trends

An important aspect of planning and implementation of measures for ethnic minorities in relation to livelihood development and change is the anticipation of adverse trends.
The main adverse trends for large dam projects and experiences with resettlement and livelihood development are summarised in the Table 3.1. These issues have been taken from a number of leading papers and books on adverse trends (Cernea and Guggenheim (eds.) 1993; WB 1994; Cernea 1996;

Scudder 1997) and have been adapted to the context of development interventions in the Nam Theun 2 Watershed/NPA.

Table 3. 1 : Anticipation of Potential Adverse Trends on NT2 Watershed/NPA EMs (Arising from Implementation of NT2 Project) and Counter-Measures

Potential Adverse Trends	Counter-Measures
i: In-migration into developed areas of the catchment and more efficient utilisation of new opportunities by outsiders	• Some in-migration may occur but there is a greater possibility of out-migration into the Nakai Plateau where resettlement and livelihood development will occur closer to roads and electricity supply (see EMDP for the Nakai Plateau, NTEC 2002) • No construction of roads • Strengthening village institutions and village management • Population monitoring by government authorities
ii: Lack of information or understanding of project impacts	• Consultations have taken place since 1997 and are ongoing at present • Several forms of internal and external monitoring are already functioning to verify effectiveness of communication and progress • Pilot interventions serve as concrete examples of the kinds of interventions for communities in the catchment and familiarise them in advance
iii: Women could be excluded from decision-making processes	• Consultations have been carried out using gender-sensitive approaches • LWU members and female sociologists and anthropologists have been involved in data collection, consultation and other aspects of planning • Training, skills development, literacy and other initiatives aim to improve women's decision-making powers • A Gender Specialist Professional will be hired as an WMPA staff person
iv: Creation of social difference that marginalises weaker households in terms of socio-economic and political power	• The livelihood interventions are based on a careful consideration of labour inputs and resources • There are a number of livelihood options that depend on available resources, location and household compositions • Consideration of risks for vulnerable households and poor (eg. lack of able-bodied adults) are to be taken into consideration in detailed planning of interventions
v: Cultural beliefs and practices not taken seriously	• International and local anthropologists have been involved in the socio-economic and cultural surveys as well as the consultation process • A close examination of all culturally relevant practices related to livelihood development has resulted in the integration of many aspects, such as utilisation of forest resources, existing level of technology and skills and reliance on NTFPs
vi: Misuse of cash compensation and subsequent threat to livelihood restoration	• Cash compensation will not be a component of livelihood development and enhancement, rather development *in situ* in the catchment area will consist of direct interventions • Interventions (e.g. establishment of pilot schemes and demonstration farms) may require labour inputs which will be compensated in terms of rice for work programmes
vii: Economic marginalisation due to inadequate skills to manage new resource situation and lack of confidence	• Training programmes and pilot projects are already operational and interventions are planned in stages according to the capacity for communities to absorb change • The emphasis is on livelihood enhancement, that is interventions that build directly on existing livelihood systems and local knowledge • Present economic exploitation of resources does not favour communities in the catchment such that interventions aim to improve income generation (trading with other communities outside the catchment)
viii: increases in morbidity and mortality due to social stress, insecurity and health changes, mostly affect the aged, children and the weak	• Social stress should not occur due to a gradual approach to livelihood change through ongoing consultations with communities • Health services will be improved and health status will be monitored throughout the livelihood development period • Educational services and infrastructure will be improved – in many cases there are inadequate or lacking services
ix: Loss of access to common resources such as the forests and grazing areas of the NPA due to the introduction of controlled access	• The loss of access will be offset by improved management of forest resources • Enhancement of tenure security and recognition of village boundaries. • There are also provisions for the domestication of NTFPs. • These modifications in livelihood have been discussed with NPA villagers during consultations and first tried in a series of pilot projects.

Potential Adverse Trends	Counter-Measures
Anticipated Adverse Trends	**Counter-Measures**
x: Threats to the social fabric of society, break up of kin ties and social networks ('social capital') that could lead to social disarticulation	• Villages will not be relocated • Development will be *in situ* and in gradual stages that does not alter existing practices dramatically
xi: Livelihood adjustment, especially to forest management may require a long time and continuous support	• The existing support programme is for 30 years of the operational life of the project • The Operating Company (OC) is committed providing funding for the NT2 Watershed Area at a cost of ca. one million USD per year for the duration of the Concession Agreement for biodiversity and community development • Support will be given for ensuring food security if this becomes necessary
xiii: Local institutions and government organisations may find it difficult to cope with new responsibilities and lack skills, funds and experience	• An extensive training, institutional strengthening and capacity building programme is outlined inh the SEMFOP • All involved organisations, including village authorities, LWU and other support groups will receive support and training as required • Pilot Field Activities from 1998 to present are providing opportunitiesy to hone skills, assess effectiveness of programmes and fine-tune livelihood interventions

Lessons learned about poverty alleviation are outlined in the WB review on resettlement and development (1994). This was based on a review of numerous projects and lists the following important aspects:

- Incentives that ensure that affected communities are motivated to participate in development programmes – catchment communities will continue to be consulted for a long period of time and have already, to some degree, shown a willingness to participate in programmes in order to improve their economic situation and standard of living.
- Decentralisation of government's role in the planning, implementation and monitoring of programmes – all interventions have occurred and will occur with the co-operation of local and district organisations with capacity building and institutional strengthening being central aspects.
- Institutional policies and procedures that ensure adequate government assistance and accountability – NT2 has been instrumental in facilitating legislation and guidelines not only for the project itself but also influenced development of policy and practices for the whole country in relation to a range of social development and environmental issues.
- Ensuring that ethnic minorities have a stake in the planning and implementation that aims to improve their economic potential and quality of life – the EMDP provides an opportunity for sustainable economic development through livelihood enhancement and improved services.

3.2.4: Avoidance of Dependency

Avoidance of dependency is an important issue in relation to working out development strategies for ethnic minorities. Attempts at livelihood development have not always lead to viable and sustainable economic systems for ethnic minorities. The failure to provide culturally sensitive approaches and long-term follow-up has often created dependency on aid or government assistance. This problem relates to present reliance on food donations in the NT2 Watershed and the potential reliance on interventions for improving livelihood systems as a result of ongoing and planned interventions.

Socio-economic data collected from selected villages in the NPA (Alton and Sylavong 1997: Chapter 4) outlines the performance of the local, traditional livelihood systems. The performance of swidden agriculture can be generally characterised by low productivity with little or no surplus. There are frequent droughts, floods, erratic rainfall, pests and ecological imbalances. The fact that there have been rice relief programmes carried out by BPKP and CARE International throughout the NPA (92 tons delivered in 1997 alone by CARE) indicates a lack of sustainability due to high population growth rates in the river valleys, existing technology and know-how, and various socio-economic pressures from outside the Watershed.

The development of local ownership of project interventions and activities is one of the best was to counter balance the fact that an outside agency is in fact donating goods and services. Related to this is to initiate activities that require local input in the form of time, labour and local resources. Contributions also facilitate a sense of ownership. Features that aim to avoid dependency and promote sustainable growth include:

- Improved food production based on participatory approaches and consultations with local residents.
- Development of agricultural improvements using participatory methods and trail basis.
- Establishment of organisations that protect the interests of local communities and promote conservation of their environment.
- Enhanced land and resource tenure security.
- Staffing of health and educational facilities with locally trained personnel.
- Improved access (paths and waterways) to markets to facilitate trade of local products.

All interventions should be designed in co-operation with local stakeholders in order to ensure that they are in line with their perceived needs and desires and manageable in terms of their capacity and experience. Local ownership occurs when the people perceive the benefits themselves and are thus motivated to create, operate and maintain programmes.

3.3: POLICY AND LEGAL FRAMEWORK

3.3.1: World Bank Policy on Indigenous Peoples

The WB Operational Directive OD 4.20 provides a guideline for development that takes into consideration groups that have a distinct social and cultural identity from the dominant society[1] and aims to ensure that policies and programs related to rights, language, cultures, social organization and modes of livelihood are adequately addressed in development plans. The basic assumption is that 'indigenous people' are often more vulnerable and may be disadvantaged in relation to development processes. Hence there is a need to address the following issues directly in any large infrastructure development:[2]

- Identification of specific needs and aspirations through prior direct and culturally-appropriate consultation
- Consultations with affected people that are timely, complete and culturally-appropriate that create conditions for participatory planning, implementation and monitoring/evaluation of the project
- Minimizing potentially adverse effects on indigenous/vulnerable groups
- Encouraging developments in the private sector and government organizations that maximize benefits through employment opportunities, training and economic development of indigenous/vulnerable groups

OD 4.20 includes definitions of which groups qualify for these initiatives, prerequisites for development, contents of an Indigenous Peoples Development Plan (IPDP) or in this case an Ethnic Minorities Development Plan (EMDP), legal issues and documentation. It is necessary to review these aspects in relation to the project and the general development context of Lao PDR.

3.3.2: Definitions of Ethnic Groups in the Lao PDR

In the Lao PDR, ethnic groups are defined in two main ways, namely (i) their ethno-linguistic characteristics and (ii) their geographical-livelihood characteristics.

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[1] In the Lao PDR, there is really no clearly dominant society but rather a marked difference on the level of development between the lowland areas with access to roads, electricity and ,markets, and the upland and highland areas, with little electricity few roads, distant to markets and other opportunities

[2] These objectives are taken from the International Finance Corporations' Policy on Indigenous People (1999). Although the original planning for the Nam Theun 2 Hydropower Project was undertaken in relation to OD 4.20 (1991), it is believed that the planning was sufficiently culturally sensitive to fulfil the requirements of later policy revisions by the WB as outlined in this section.

3.3.2.1: Ethno-Linguistic Grouping:

For centuries, scholars, governments and even mythologies have attempted to regularise the categories of ethnic groups residing in the Lao PDR. Pre-history myths relate to two major groups, one probably identifiable with the Khmer race from the south and the other the Lao-Tai races from the north. The first official list appear in Luang Prabang in the 16th century which noted 12 races in the region, and again in the 17th century the Lane Xang kingdom divided the races into three main groups. Possibly the first comprehensive list was drawn up by pre-liberation Lao Patriotic Front which in the 1960's recognised 68 ethnic groups within the three major groups (see below) This was more narrowly defined into 37 ethnic groups by the National Ethnic Committee of the new government in 1975. The most recent review of ethnicity was undertaken by the National Edification Committee during the "Lao national ethnic classification conference" of August 2000, which agreed on a two tiered system, identifying 49 ethnic groups, as detailed in Table 3.2, and 160 sub-groups.

The fact that some of the small, Vietic ethnic groups identified in the IUCN ESMP of 1998 do not appear in this 'official' list of ethnic groups highlights difficulties and differences in social scientist opinions.

Table 3. 2: Ethnic groups and groupings, according to the Institute for Ethnic Studies, 2000

	Lao-Tai ethno-linguistic group – 8 ethnics	
1	**Lao**	Phouen
		Kaleung
		Bo
		Yoi
		Gno
2	**Phou Tai**	
3	**Tai**	*Tai Dam*
		Tai Deng
		Tai Khao
		Tai Meuy
4	**Lu**	*Khun*
5	**Gnuan**	*Kalom*
		Ngiao
6	**Yang**	
7	**Sek**	
8	**Tai Neua**	

	Mon-Khmer group: 30 ethnicities	
9	**Khmu**	Kasak
		Ou
		Lu
		Gnuan
		Khrong
		Kheun
		Me
		Chuang
		Rok
10	**Pray**	*(Pray)*
11	**Sing Mul**	*(Sing Mul)*
12	**Phong**	*Piat*
		Lan
		Fen
		Chapuang
13	**Then**	
14	**Eudou**	
15	**Bit**	
16	**Lamet**	
17	**Samtao**	*Doi*
18	**Katang**	*Phakeo*
19	**Makong**	*Trui*
		Phoua
		Maroih
		Trong
20	**Tri**	
21	**Yuru**	*Kong*
		Yinr
24	**Yeh**	
25	**Brao**	*Kavet*
		Halang
26	**Katu**	*Triou*
		Dakang
27	**Harak**	
28	**Oi**	*Sapuan*
		Sok
		In Thi
29	**Krieng**	*Chatong*
		Koh

	Mon-Khmer group - continued	
30	**Cheng**	
31	**Sadang**	Kayong
		Sadang Duan
32	**Suey**	
33	**Gnaheun**	
34	**Lavi**	
35	**Pako**	*Kado*
		Kanai
36	**Khmer**	
37	**Toum**	*Liha*
		Thai Cham
		Thai Pong
38	**Nguan**	
39	**Muang**	
40	**Kri**	*Maleng*
		Labri

	Sino-Tibertan group – 8 ethnicities	
41	**Akha**	Oma
		Kheu
		Muteun
		Chicho
		Puli
		Pana
		Fe
		Mukui
		Luma
		Eupa
		Chipia
		Muchi
		Ya eu
		Kongsat
42	**Singsri**	*Phou Gnot*
		Tapay
		Ban Tang
		Cha Ho
		Lao Seng
		Phay
		Lao Pan
		Phong Kou
		Phong Set
43	**Lahu**	*Lahu Dam*
		Lahu Khao
		Kui
44	**Sila**	
45	**Hani**	
46	**Lolo**	
47	**Ho**	

	Hmong Iumien Group	
48	**Hmong**	Hmong Khao
		Hmong Lai
		Hmong Dam
49	**Iumien**	*Lanten*
		Yao Phomdeng
		Yao Khao

3.3.2.2: Geographical-Landscape Grouping:

Officially ethnic groups in Lao PDR are categorised into ethno-linguistic groupings. In addition, it has been generally observed that the livelihoods and geographical distribution of the groups, and their preference in general for certain landscapes, can be observed in a simpler, three (3) category system being commonly used, as follows:

Lowland Lao (*Lao Loum*), groups living in the lowland regions of the country that for the most part cultivate paddy, practice Buddhism and are integrated into the national economy (Tai Lao, the dominant group, and various related ethnic groups such as the Tai Dam, Tai Lüe, Phuan and other Tai-speaking groups (approximately 50% of the population).
'Slope Dwelling Lao' (*Lao Theung*), groups living in the middle hills that practice swidden agriculture, are reliant on forest products and relatively isolated from the dominant lowland culture. These groups are the original inhabitants of SE Asia and consist of Austroasiatic (Mon-Khmer) family of ethnic groups such as the Khmu, Lamet, Brou, Salang, Atel and many other smaller groups spread throughout the country (approximately 35% of the population)
Highland Lao (*Lao Soung*), groups dwelling in the highland areas that practice swidden agriculture and include the Hmong, Lao Huay and Yao (Hmong-Yao ethno-linguistic family) and representatives of the Tibeto-Burman ethno-linguistic family (Akha, Lahu, Lisu and Pounoy among others). These groups are recent arrivals from Southern China and form about 15% of the population.

These geographic cum cultural categories are based on observations from the 1950s, and while they are still relevant, the changing socio-economic context of Lao PDR is resulting in significant realignments of ethnic groups in relation to livelihoods, location and adaptation. This dynamic situation also makes it difficult for scholars and authorities to agree on the actual number of ethnic groups.

The term 'indigenous peoples' is not used in Lao PDR, as is the case in Vietnam and China. Rather the term 'ethnic groups', which corresponds to the Lao term, *xon phao*[3] is used to describe all ethnic groups in the country. The challenge, therefore, in terms of application of OD 4.20 is to define which ethnic groups (minorities) are covered under its provisions and requirements and which represent examples of the dominant mainstream culture.

3.3.3: Ethnic Groups in the NT2 Project Area and OD4.20

The NPA and PIZ villages in the catchment area are all considered to be covered by the World Bank (OD 4.20) and ABD's policies on indigenous peoples. They exhibit all the characteristics of vulnerable social groups covered by the policies; i.e. reliance on the natural resources, ancestral territory, having a distinct cultural identity that is different from the dominant lowland culture, primarily subsistence-oriented economies and some degree of culturally unique institutions and language. Although the extent and magnitude of potential impacts on communities in the catchment are indirect, all measures are being taken to ensure that livelihood development is in accordance with WB and ADB standards on indigenous peoples.

3.3.4: Legal Status of Ethnic Groups in Lao PDR

The Lao PDR Constitution (1991) and other legislation recognize the unity and equality of ethnic groups in the political process and protect their right to preserve and improve their unique traditions and culture (Const., Articles 1, 2, 3, 8 and 22). All ethnic minorities have the right to Lao citizenship, to possess family books and identity cards, to use native language and to practice traditional customs and religion (Const., Articles 8 and 9). The Constitution prohibits any act that discriminates against or divides ethnic groups (Article 8). Ethnic groups maintain land tenure user rights equal to all Lao citizens and even preferential access and customary user rights to certain forest products (Forestry Law, Article 30; MAF Regulation 535; MAF Orders 54 and 377).

[3] *The Lao term,* xon phao*, is derived from two words:* xon*, meaning 'together' and* phao*, meaning 'clan', 'family', 'line' or even 'race'. Hence the usual translation of ethnic group in official parlance. The expression implies a sense of common identity based on kin relations, marriage and racial background. The Lao also use the expression* xon phao noy *(ethnic minorities) and* xon phao nyai *(larger ethnic groups).*

As the primary legal document in Lao PDR, the Constitution provides a framework and minimum rights to be implemented in legislation. However, since the court system remains underutilized, it is difficult to enforce such rights or resolve conflicts between ethnic groups and the government or other stakeholders. Legislation in Lao PDR recognizes primary land tenure and resource user rights for ethnic groups, but most of them remain unaware of these rights under national legislation due to the inability of the government to provide extension to remote ethnic villages such as those within the NNT NPA.

The National Assembly has a special Committee on Ethnic Affairs to draft and evaluate proposed legislation to ensure that the concerns of ethnic minorities are incorporated and not infringed upon. The lead institution for ethnic affairs in Lao PDR is the Lao National Front for Construction (LNFC), which has an Ethnic Affairs Department. Research on ethnic groups is the responsibility of the Institute for Cultural Research under the Ministry of Information and Culture.

3.3.5: Polices and practice regarding cultural diversity

Lao PDR policy has prioritised national unity with cultural diversity focused on improvement of livelihoods of ethnic groups. Specifically, the Resolution of the Party Concerning Ethnic Minority Affairs in the New Era (1992) focused on improving the lives and protecting the cultural identity of ethnic groups as a cornerstone of government policy. In 1996, a national workshop concluded that the 1992 policy had not been sufficiently implemented and established a new work plan to address these issues. The current National Social Economic Development Plan (2001-2005) does not specifically recognize ethnic groups, however, the national policy for poverty alleviation among ethnic populations in remote areas remains a cornerstone to development

While the process of integration into the mainstream economy and the Nation State does threaten the cultural diversity of the country to some extent, there are a range of mechanisms in place for protecting cultural diversity and vulnerable groups. For example, serious and successful efforts are made to ensure all or most groups are represented in the Government. Thus, the large majority of Provincial and District Governors throughout the country are from relevant ethnic groups, or 'minorities' in that particular area. Even at the civil service level, many provinces and especially Districts agencies are staffed with persons from ethnic groups resident in that areas, and to some extent reflect the local ethnic mix.

3.3.6: Legal Status of the Land

WB Operational Directive 4.20 requires that the EMDP contain an assessment of the legal status of the ethnic groups relating to land rights and recognition of traditional land tenure systems of indigenous peoples (Paragraph 15(a)). At this time, the 31 villages within the NT Watershed have no explicit legal recognition of their land or resources and access and use has been traditionally based on usufruct patterns in the case of swidden and home-gardens.

As a general principle in the Lao PDR, the State is the owner of land and forest resources on behalf of the national community (Const., Art. 15; Land Law 1997, Art. 3; Forest Law, Article 5). However, the State has initiated national programs to allocate:

i. Residential land to individuals as private title or "B*ai Ta Din*;
ii. Degraded forestland to individuals and village households under a "Temporary Land Use Certificate" (TLUC) or *"Bai Yang Yeurn Tee Din Sua Khao"*; and
iii. Natural forest within village boundaries and under village control through forest land management agreements.

These programs are consistent with government policies to raise tax revenue, stop pioneer shifting cultivation and comply with the ongoing transformation from a socialist-oriented centralism to private ownership and market principles (Kirk, 1996). The various type of land tenure in the Lao PDR are shown in Table 3.3.

Table 3. 3: Scope of Land Tenure Allocation

Legal document	Land use rights	Land eligible	Who can qualify?
Permanent Title * Valid for life of holder, unless transferred or lost in Court.	Full rights: • Possess; • Use; • Manage; • Transfer; • Inherit; • Collateral; • Compensation for state condemnation	Non-forestland used for house/settlement, paddy or permanent agriculture. No title issued for natural forest. Titles have only been issued in urban areas.	Lao citizen
Land Survey Declaration (with Tax Certificates) * Valid until cancelled or title is issued and is typically issued in urban or residential areas	• Possess; • Use; • Manage; • Inherit;	Non-forestland used for housing, permanent agriculture. No title shall be issued for land categorized as natural forest.	Lao citizen
TLUC * Valid for only 3 years	• Possess; • Restricted use; • Manage; • Inherit;	Degraded land suitable to convert to grass for livestock, fish and crop production, or fruit propagation Degraded forestland used for tree planting	Household in a village may receive_ ha for each labor force: Grazing (15 ha) Rice/Fish (1 ha) Fruit tree propagation (3ha) Upland cropping (3 ha) Tree planting (3 ha)
Village Forest and Land-use Management Agreement (VFLMA) * No term stated	• Possess; • Restricted use; • Limited management	Natural Forestland zoned within village traditional boundary	Village Community
Lease * Valid for 20 to 75 years	• Possess; • Commercial use; • Limited management	Any type of land, including natural forest	Individual; Households; Domestic and Foreign Investors; State or social organizations

The GOL land-titling project under the Ministry of Finance oversees the issuance of private title to Lao citizens for residential land in urban and peri-urban centers, but this program has yet to address forestland or land in rural villages. Although this program does not directly relate to ethnic groups in the NT Watershed, it is an option in the Resettlement Area to secure private title to villagers (see Resettlement Plan). Private title provides full ownership rights to use, receive benefits, transfer and inherit the land upon payment of annual land tax (Land Law, Article 5).

TLUCs[4] provide the right to use and inherit land, but not to transfer or use the land as collateral (Land Law, Article 48). The provincial land office has the authority to convert TLUCs to permanent land title after three years upon a showing of good management and payment of taxes (LL, Art. 22; FL, Art. 13; and MAF Instruction 822), however, none of the 600,000+ TLUCs issued over the past decade throughout the Lao PDR have yet been converted to permanent title. Despite the advantages provided by secure tenure over land and resources, many ethnic groups have been reluctant to be subjected to the land use planning process[5] and its associated documents that i) they may not be able to read; ii) state that their rights are temporary; iii) require them to pay tax; and iv) may restrict traditional land use practices.

[4] *These documents are further approved by the District Governor and called "*Sit nam si to din*" (rights it land use).*

[5] *See the ADB report on Participatory Poverty Assessment in Lao PDR (2002) for discussion how land use allocation has increased poverty in certain villages by reducing available land for traditional agriculture.*

Within the NT2 Watershed/NPA, land and forest resources are State property (PM Decree 164, PM Decree 25; MAF Regulation 524) with occupancy and user rights for land within the village boundaries allocated to villages and individuals in the form Village Forest and Land-use Management Agreements (VFLMA), and Temporary Land Use Certificates (TLUC), respectively. No permanent title would be issued although TLUCs allocated to individuals could be converted to permanent title, after the initial three-year term, as provided for under the law, if and when implementation of this becomes GOL practice. Such legal recognition of land-use rights for individuals and villages is likely to be seen as a positive step by NPA villagers as it will give them legal security for the first time.

However, there is currently only a very limited understanding of local land and resource tenure systems practiced by the various ethnic groups in the NPA. A process for achieving an improved understanding of these local systems will be a priority under FLUPAM, and the Ethnic Minorities Advisors will play a key role in this regard. A better understanding of these systems will be an essential prerequisite prior to agreement on the tenure systems to be incorporated in the VFLMA. Thus, the immediate instrument for recognizing the usfruct rights of the local villages is the VFLMA. The details of FLUPAM in regard to tenure systems and a draft template for VFMLAs is discussed in Section 5.4.4.

3.3.7: Rights to Resource Use

The customary rights of all Lao citizens, including ethnic groups, to resource use in the NT2 Watershed/NPA are, to varying degrees, restricted by the Forest Law (1996), Prime Minister's Decree 164 (1993) which established the National Protected Areas (including the Nakai-Nam Theun NPA) and subsequent MAF promulgations on rules and regulations for NPAs.

3.3.7.1: The Forest Law

The Forestry Law permits all Lao citizens and organizations, including ethnic groups, "to possess and use trees, natural forests and forest land when authorized by authoritative agencies" and provides the framework for the customary rights of ethnic groups over such forest resources. Article 5 states that "Individuals and organisations shall be entitled to possess and use trees, natural forests and forest land only when authorised by the authoritative agencies".

Legislation clearly recognizes the long-standing, traditional use of forests by ethnic groups in Lao PDR (Forestry Law, Article 30; MAF Regulation 535, Articles 7 and 8; MAF Orders 54 and 377). Villages in the NT Watershed have open access to forestland and resources within their village boundaries either identified by the FLUPAM process or traditionally recognized between villages.

Customary user rights include:

i. 5 cu/m/yr of timber from natural forest zoned for village production for non-commercial household and public purposes;[6]
ii. Hunting of non-protected wildlife and aquatic species
iii. Collection and sale of non-protected NTFPs.

(Forestry Law, Articles 28, 30; MAF Reg. 535, MAF Orders 54 and 377).

Customary user rights 'shall avoid causing damage to the forests or forest' and may be restricted by protected area and land use legislation (Forestry Law, Article 30). For example, hunting and NTFP collection may not occur during closed seasons (MAF Reg 524; MAF Reg 221). Access and user rights are prohibited within core protection zones in a NPA and corridor zones connecting NPAs and user rights may be limited within protection forest areas (PM Decree 164; MAF Reg 524; MAF Reg 535).

The emphasis is on encouraging alternative lifestyles to the exploitation of forestlands, which must be approached carefully in the case of the NT2 Watershed where hunting, gathering and trapping as well as swidden agriculture are the norm. Thus, regulations specific to the Watershed will be developed (see part 5), and it will be necessary to ensure the continuation of traditional uses of the forest, to allow for increased and more sustainable cultivation of NTFPs, and a more productive use of the land surrounding

[6] *Villagers have full ownership and user rights over trees planted on their land with their own labor and expense.*

villages. Despite the contradictory nature of the present legislation, there is ample scope for working out solutions combining traditional rights and long-term rights to utilise resources in a sustainable manner in the NPA.

3.3.7.2: Current Policy on Resource Use in NPAs.

Regulations on National Protected Area Management, Aquatic Resources and Wildlife drafted by DFRC and promulgated by MAF (2001) define rules and regulations for management and resource use in 3 land use zones in NPAs:

- Totally Protected Zones – TPZs – include areas designated specifically for conservation of flora, fauna and habitats. These are to be managed for wildlife and ecosystem conservation by the NPA authorities and other stakeholders partners through participatory monitoring and patrolling. Natural resource extractions are in general totally prohibited except in special circumstances following consultations and the development of specific management permits.
- 'Managed Use' or Controlled Use Zones – CUZs—are areas which can be used for subsistence or productive purposes, but only following management guidelines, rules and regulations, Thus, they include managed, reserved forest areas, consisting of little-disturbed forest areas or other significant habitats but utilised by villagers (customary rights) for the extraction of NTFPs and other forest products. The objective is to conserve the existing ecosystem biodiversity, but to allow communities to practice traditional activities in a sustainable manner.
- Village Agricultural areas, is a sub-zone of the CUZ, and refers to two general zones: a) areas of regenerating forest within a swidden cycle and adjacent areas of forest (livestock grazing) and other habitats subject to frequent use by residents of the NPA.. Village authorities are responsible for managing these areas in a sustainable manner in co-operation with the NPA authorities, and b) settled agricultural areas, such as paddy land, gardens etc.

The 3 zones are delineated jointly by the relevant GoL authorities and local communities based on a number of criteria and processes, including:

- Existing community uses and customary rights claims
- The existing situation in relation to conservation needs and priorities;
- The development of rules and regulations to enable the management of these zones by village level institutions appropriate for the local situation;
- Co-management of the wildlife protection zones by the NPA authority and local communities.

3.3.8 Current Policy on Shifting Cultivation and its Implications

GoL policy on shifting cultivation has evolved over recent years, from one that implied the elimination of all forms of shifting cultivation by the year 2000, to a more pragmatic approach which now recognises three types of shifting cultivation[7/8] (Table 3.4).

Table 3. 4: Current Policy in Regard to Swidden Cultivation.

System	Description	Status
1.	Pioneer swiddening *(het hay leun loey)*	Unacceptable
2.	Rotational upland cultivation without encroaching on new forest areas or in agreed agricultural zones *(het hay bap moun vien)*	Acceptable
3	Sedentary cultivation using conservation farming practices on upland or sloping land areas (and perhaps on allocated land) *(het asip khong ti)*	Preferable

The overview of livelihood systems in Section 3.5.3 indicates that 50% of the stakeholder-village population practice rotational upland rice farming (LS2) while a further 35% combine this with paddy (LS3). These two livelihood systems are acceptable and preferable, respectively according to GoL policy.

[7] *Notification No. 0350/AF, 2001: Definition of "Hay" and "Upland Agriculture Area"*

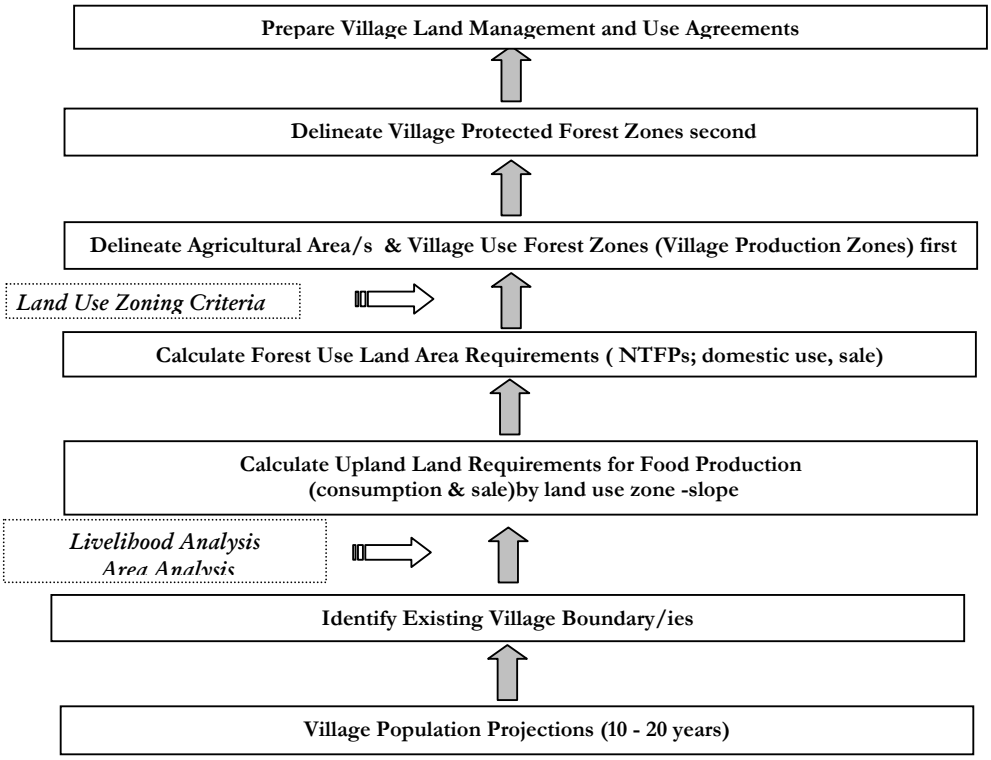
[8] *Address to the National Assembly, by Deputy Minister of MAF, October 2001.*

Based on the above definitions of current policy, rotational cultivation in agreed agricultural zones can be considered an acceptable form of land use, which implies that the swidden systems used by the majority of residents in the management area are acceptable providing appropriate land use zoning is undertaken to define the extent of these agricultural production areas. A process of developing land use agreements with clusters of communities that mitigates against future encroachment into undisturbed forest areas would need to be done in parallel to the zoning so that villagers are involved in finding ways to adjust to these new conditions of land and forest resource use and management.

An approach to assess the nature of current livelihood systems and how these can form the basis for long-term sustainable land and resource management would include:

i. An assessment of village land carrying capacities and land requirements for swidden systems for projected populations. This assumes that the swidden system would remain the mainstay of the livelihood system while new approaches to agricultural production are gradually introduced and adopted.
ii. A procedure for ensuring adequate village upland agricultural production areas (swidden or rotational agriculture) and village forest use production areas are delineated. A proposed procedure is presented in Figure 3.1.

Figure 3.1. Proposed Procedure for Zoning Village Forest and Land Use Areas.



Therefore at the village level it would be essential to initially undertake "balanced zoning" to adequately support the populations, in the following order of priority:

i. swidden or rotational upland (agricultural production)
ii. village production forest zones (economic, food, household and medicinal production)
iii. village protection forest zones (some forest production and environmental protection)

This, at least in the short term, would be preferable to placing a dependence on the gains from improved agricultural production methods of a more permanent nature.

3.3.8: Nam Theun 2 Watershed Management and Protection Authority (WMPA)

PM Decree 25 (2001) established the NT2 WMPA as a special authority of GOL responsible for overseeing the management, development and protection of the Nam Theun 2 Watershed Area. This decree describes the objectives and role of the WMPA and the membership of the Board of Directors, who first met in Vientiane in August, 2001.

The objectives of the WMPA are:
to assure an adequate water flow with low sedimentation into the reservoir of the NT2 Project;
the conservation, maintenance and promotion of biodiversity of the NPA in relation to tourism and scientific research;
the building and strengthening of the capacity of NT2 WMPA and stakeholders in managing and implementation of activities;
the facilitation of improved livelihoods for the inhabitants of the NT2 Watershed;
the prudent management and effective use of funds

It is important to note that the WMPA is ultimately responsible for the implementation, management and monitoring of all ethnic minority activities as part of its role as the co-ordinating agency for all social and environmental activities in the NT2 Watershed.

The establishment of the Nam Theun 2 WMPA is unique in Lao PDR and is an enormously important step that provides a legal framework for integrated conservation and socio-economic development in the Watershed. Work is ongoing at present, parallel to activities that address urgent issues of conservation and programmes for livelihood development. An Operational Plan to guide the activities of the Executive Secretariat was first drafted in May 2000. It has been updated and is included as Part 7 of the Social and Environmental Management Framework and Operational Plan (SEMFOP).

3.4: BASELINE DATA: ETHNICITY AND CULTURAL SITUATION

3.4.1: Ethnic Groups in the NT2 Watershed/NPA

3.4.1.1: Review of OD 4.20 Definitions for the NT2 Watershed

The World Bank and ADB's Safeguard Policies on Indigenous Peoples apply to the ethnic groups in the NT2 Watershed/NPA (See section 3.3.1 for a complete review of the WB Safeguard 4.20):

- Attachment to the natural resources of the area and a sense of ancestral territory. All villagers have a strong sense of belonging to the region and attachment to the resources available in the forests and rivers. In addition, there are demarcations of territory according to the range of influence of territorial spirits (*phi meuang*).
- All groups define themselves, to some degree, as distinct cultural groups by name (Brou, Phong, Ahoe, etc.) but there is still a tendency for villagers to class themselves as *Lao Theung* (mid-hill dwellers) in relation to the dominant culture of the lowlands (*Lao Loum*), according to previously used Lao Government classifications. However, there is considerable dynamism and cultural assimilation and change .
- Many different languages/dialects are spoken in the NT2 Watershed/NPA, including language families used by relatively small groups of Vietic-speakers in the upper catchment, and languages spoken by groups on the Nakai Plateau and in the lowland areas, such as Brou, Sek and Tai dialects. Many individuals are bilingual or even multilingual, and some languages are in the process of disappearing.
- The number of customary social and political institutions have been somewhat reduced due to an ongoing integration into the Lao State. There are, however, councils of elders (*thao khun*) who oversee socio-cultural events such as marriages, funerals and collective rituals. In addition, in several villages there are hereditary positions of mediums (*mau thiem*) and ritual priests (*mau*) who perform local rituals and ceremonies that differ from lowland cultures but are similar to cultural practices on the Nakai Plateau.

- All the communities affected by the proposed livelihood development have primarily subsistence-oriented economies, consisting of upland rice, livestock and non-timber forest products. Surpluses of forest products and livestock are sold to middlemen or in Nakai town for cash or bartered for rice. Few families have much in the way of consumer goods but demand is growing.
- Many areas of the NT2 Watershed/NPA are being exploited by groups from outside, primarily swidden farmers on the periphery such as the Hmong and Tai to the northeast, trans-border traders and poachers from the east and the north and groups from the lowlands and Nakai Plateau exploiting natural resources in the catchment.

Thus, the ethnic groups of the NT 2 Watershed should be considered as 'indigenous peoples'. The distinctions between groups are not nearly as significant as the distinction between them and the dominant cultures or those cultures presently making inroads into the area. Thus, livelihood improvement and enhancement are approached in terms of the different levels of technology and skills, in addition to the different cultures and practices of the ethnic groups. These different levels do not correspond with the classifications of ethno-linguistic groups as will be detailed in the following sections. The discussion of ethnic identity and culture in this Section explores the dynamic aspects of culture in the project area.

3.4.1.2: Classification of Ethnic Groups in the NT2 Watershed

In 1996, international and local anthropologists and sociologists conducted a socio-economic and cultural survey in the NT2 Watershed/NPA to assist in the preparation for resettlement and social interventions for the Nam Theun 2 Hydropower Project. The aim of the study was to detail existing socio-economic and cultural conditions in order to facilitate planning to offset possible negative impacts and enhance potential benefits. The study explored the ethnographic, cultural, archaeological and socio-economic aspects of the various ethnic groups in the whole project region, including the lowland areas of the Xe Bangfai River, the Nakai Plateau and the NT 2 Watershed, by means of surveys and Rapid Rural Appraisal (RRA).

Four main ethno-linguistic groupings were identified:
Vietic (a branch of the Austroasiatic or Mon-Khmer ethnic groups) with at least 12 relatively small sub-groups of languages.
Brou (Western Katuic branch of Austroasiatic), also known as Sô or Makong.
Tai-Kadai, including the Sek, an archaic language that differs form the rest of the Tai groups.
Hmong (members of the Hmong-Mien ethno-linguistic family), recent arrivals from the north, inhabiting the peripheral impact zone but not the NT2 Watershed Area.
Estimated populations of the NT2 Watershed-NPA villages as reported by Nakai District in early 2001, and the ethnic groups as identified by IUCN social scientists (1998) is presented in Table 3.5.

Table 3. 5: NPA village population (2001-Nakai District) and ethnic groups (IUCN '98)

	Village Name	Persons	Female	Families	Ethnolinguistic Branch	Ethnic Group
	Khet B. dTeung	***2,103***	***1,067***	***402***		
1	B. MaKa	230	115	47	Vietic	Kri, Phong1
2	B. Dteung	262	134	50	Tai- Kadai	Sek
3	B. Seuk	89	51	17	Katuic	Brou
4	B. ThongNoi	148	76	24	Vietic	Phong 2
5	B. VangLae	119	59	24	Vietic	Phong 2
6	B. Phoung	145	76	28	Vietic	Phong 2
7	B. Peu	107	55	17	Katuic	Brou
8	B. Dtong	139	77	28	Vietic	Phong 2
9	B. Vangkhouay	116	58	21	Vietic	Phong 2
10	B. HuaySarn	141	70	27		
11	B. Beuk	140	68	31	Tai- Kadai	Sek
12	B. NaMeo	153	75	29	Tai- Kadai	Sek
13	B. NaMouy	314	153	59	Tai- Kadai	Sek
	B. Kutnae				Katuic	Brou
	Khet B. Navang	***1,861***	***932***	***328***		
14	B. Thameuang	420	224	72	Vietic	Arao, Malang, Atel
15	B. SongKone	204	102	32	Vietic	Malang (Brou)
16	B. NaHao	206	103	41	Tai- Kadai	TaiSin, PhuTai
17	B. Navang	310	149	52	Katuic	Brou
18	B. Kajing	175	88	31	Katuic	Brou
19	B. HuayMaxong	88	45	24	Katuic	Brou
20	B. FangdaengNeua	137	69	20	Katuic	Brou
21	B. Fangdaengatai	165	89	30	Katuic	Brou
22	B. ThongXart	156	63	26	Katuic	Brou
	Khet B. Taipaiban	***1,836***	***916***	***362***		
23	B. Vangjang	205	96	38	Katuic (Vietic)	Brou (Themarou)
24	B. Sorklek	292	144	61	Katuic	Brou
25	B. Singthong	132	66	27	Katuic	Brou
26	B. NaGhang	186	85	44	Katuic	Brou
27	B. Thaipaiban	240	119	44	Katuic	Brou
28	B. Gorbong	202	111	39	Katuic	Brou
	B. Makmi					
	B. Hang‘					
29	B. Nava	142	71	27	Katuic	Brou
30	B. Makfeuang	322	168	59	Katuic	Brou

	Village Name	Persons	Female	Families	Ethnolinguistic Branch	Ethnic Group
31	B. Peung	115	56	23	Katuic	Brou
	Villages Total	**5,800**	**2,915**	**1,092**		

3.4.1.3 Vietic Groups

The Vietic groups consist of a number of small pockets of ethno-linguistic groups throughout the NPA, mostly in relatively isolated areas where pressures to adapt to other, more technologically advanced and larger, groups have been less pronounced than on the Nakai Plateau, as is the case with the Bo. These groups can be considered as the 'original' inhabitants of the area since all other groups have entered the area at a later date, according to historical evidence (Chamberlain et al. 1996: 21-22). It appears that these groups have been displaced by others with agricultural practices such as the Brou and Tai. Originally, the Vietic groups were hunter-gatherers and were spread thinly over the whole area; low population density being necessary for a sustainable hunter-gatherer livelihood. They now comprise approximately 25% of the population in various locations in the Watershed (see Map 8, Folio of Annexures). Several groups have not been classified before the studies carried out for this project. Groupings generally follow the geographical delineation of the river systems:

The Atel-Maleng group is found along the Nam Sot
The Kri-Phong along the Nam Noy
The Slang-X along the upper regions of the Nam Theun
The Ahoe, Ahlaaw and Phong-3 in the lower regions of the Nam Theun
The Cheut are found far to the south and on the other side of the Vietnamese border, split by a series of Brou villages on the Nam One

The Vietic ethnic groups can be classified into four categories, based mainly on linguistic characteristics and the degree of sedentary agricultural practices (Table 3.6).

Table 3. 6: Vietic Cultural Typology

Type	Eco-spatial Type	Vietic Group
Vietic I	Small groups only recently or partially sedentary with some difficulties adjusting to this lifestyle (classified as 'most vulnerable')	Atel, Thémarou, Mlengbrou and possibly Cheut
Vietic II	Originally collectors and traders who have become emergent swidden sedentists	Aro, Maleng, Malang, Makang, To'e, Ahoe, Phong
Vietic III	Swidden cultivators who are still moving between pre-existing village sites	Kri
Vietic IV	Combined swidden and paddy sedentism	Ahao, Ahlao, Liha, Phong and Toum

The Vietic groups represent the most diverse group, ranging from, until recently, foraging nomads to wet rice cultivators. This will, no doubt, be a very challenging group since many have suffered from forced relocation and maladjustment to new agricultural techniques and lifestyles over the past twenty years. However, as will be explained below there are indications that the categories in Table 3.5 are breaking down with increased contact and sedentism.

There are also examples of exploitation and patron-client relations between the Vietic groups and other ethnic groups in the catchment area. Chamberlain's detailed linguistic work (1997b) emphasises differences and unique characteristics (cf. Vietic zoological classifications) but, there are similarities in languages and beliefs as well as originally similar material cultures, and these are key attributes to consider in the formulation of this Ethnic Minorities Development Plan. The emphasis is thus on common livelihood characteristics in order to design practical and feasible interventions.

Another characteristic of the Vietic groups that makes them distinct from the other ethnic minorities in the catchment area is their knowledge of the forest. Many rely on the forest for much of their food (protein and starches) and therefore have a wealth of knowledge about this environment. There are two

points to be made here that could combine traditional knowledge and development in constructive ways. The first deals with recording and analysing the local knowledge about the environment, which, as Chamberlain puts it, is 'irreplaceable' (1997a: 1-3). As is the case with the tropical forests of the Amazon, knowledge about plants especially could prove to be valuable for alternative food sources and materials and for medicine. This work would combine the skills of the ethnic minorities and botanty advisors in the field and could become an important activity in the overall development of some Vietic sites. The second point also concerns their knowledge of the forest and their potential to turn that knowledge into use for conservation. The Vietic groups are most suited as guides and could be trained to work as conservationists and rangers in the National Protected Area (NPA). Both these developments could help to preserve the intimate relationship the Vietic groups have with their environment and at the same time integrate them into the wider socio-economic reality surrounding them.

In the past, the Vietic groups were refered to as *Kha*, a term used for many Mon-Khmer groups, indicating that these were hunter-gatherers and without the 'signs of civilisation' (Buddhism and rice cultivation, according to the lowland Lao). The designation of *Lao Theung* distinguishes them from the lowland Lao (*Lao Loum*) and the highland groups (*Lao Suung*).

Many of the Vietic groups have inter-married with Brou and adapted various forms and degrees of sedentary lifestyles. Some groups, such as the Salang-X consist of a band of only 12 and are 'unable to provide a name for themselves' (ibid.: 16). In addition, recent attempts by the government of settling the Vietic groups into villages have resulted in high mortality rates and unsuccessful attempts at sedentary agriculture. However, there are examples of some groups that have managed to adapt as will be examined below. The Vietic groups are the least integrated into the national economy (lowest average household income) and rely heavily on wildlife, fishing and collection of NTFPs for trade.

3.4.1.4 The Brou

In contrast to the Vietic groups, the Brou represent a homogenous ethno-linguistic group (Western Katuic language of the Mon-Khmer language family) ranging from the Vietnamese border to the lowland areas below the Nakai Plateau in Gnommalath and Boualapha. Their homeland was probably in Vietnam near the headwaters of the Nam Pheo (Vargyas 1996; Chamberlain 1997b: 17). However, there is evidence that the present Brou population migrated from the lowland areas via the Nakai Plateau in the nineteenth century

The Brou are the most numerous ethnic group in the catchment area (ca. 60%) and are experiencing a dramatic increase in population, especially in the Thaphaiban area, which is threatening their livelihood based on swidden cultivation of dry rice. The Brou, however, are an ethnic group which extends from Vietnam to the plains surrounding Thakhek, and as a group utilise a wide range of agricultural methods from heavy reliance on the forests for food and income (parts of the NPA) to paddy cultivators similar to the lowland Lao. There is also much variation in cultural and religious practices from animism along the northern stretches of the Nam Theun to a mixture of Buddhism and traditional practices in the Gnommalath and Mahaxai areas. The degree to which the Brou language is used also varies from 'pure' Brou speakers along the Vietnamese border to the Brou on the Nakai Plateau who have lost or are in the process of losing their language. Most of the Brou are bilingual in the NT 2 Watershed Area.

3.4.1.5: Tai-Kadai Groups

The Tai-Kadai groups (ca. 15%) in the NT2 Watershed can be divided into two: early and late migrations. The Sek were the first group to arrive from Vietnam via Khamkeut in the north. The Sek have inhabited the region for some time, at least since the beginning of the nineteenth century, since it is reported that the Siamese attempted to forcibly relocate them to Thailand after their defeat of the Lao in 1832. The Sek are found in small groups in northern Vietnam and with their closest relatives in southern China. In general, the Sek practise irrigation and have the highest yields of all the groups in the NT2 Watershed, with many families being self-sufficient. Although there was previously a Buddhist temple in one Sek village, the majority practise animism, that is ancestor and nature spirit worship.

The Upland Tai groups are relatively recent arrivals from Bolikhamxay Province to the north of the Plateau. Some Tai, Yooy, Phu Thai and possibly Lao Kaloeng, originally arrived in the Khamkeut area as a

result of Khmu rebellions in the late 19th century (Chamberlain et al. 1996: 18), but most that have recently moved into the northern areas of the Nakai Plateau and NT2 Watershed from densely populated area around Lak Sao, in search of land and sources of income. These Tai practice swidden for the most part and have similar mix of livelihood options as other Plateau occupants. The Tai groups are patrilineal and animist with only minor Buddhist influences, sharing many of the same cultural traits as other Tai in northern Lao PDR and Vietnam, such as the Mène, Moey and Pao further down stream on the Nam Theun (see Ovesen 1993). In addition, some of the Tai, especially at Ban Nam Nian, have been working for Bolisat Phathana Khet Phoudoi (BPKP) as drivers and loggers.

3.4.1.6: Ethnic Groups in the Peripheral impact zone and Adjoining Areas – the Hmong

All of the above mentioned groups also inhabit areas adjoining the Nam Theun 2 Watershed. However, the Hmong to the west of the NT2 Watershed deserve special attention due to their considerable impact on the forests. The Hmong are perhaps one of the most challenging of the ethnic minority groups that rely partly on the NT2 Watershed for food and trade in wildlife and forest products. As of yet the Hmong live on the periphery only but have made significant inroads into the forest and harvest it systematically, with highly effective hunting, trapping and fishing methods. The Hmong have also been practising pioneering shifting cultivation for centuries, which would not be condoned in the NPA, due to its destructive effect on forest habitats. It is therefore imperative that appropriate livelihood alternatives be developed with the Hmong in order for the conservation area to be preserved and in order to avoid serious conflicts of interest in regard to the utilisation of natural resources.

The Hmong are highly organised into clans (*sing*), have relatively high level of technology in the form of metal tools, firearms and housing and their own distinct language, customs and religion that is primarily based on Chinese Taoism. They fulfil the classic definition of 'ethnic minority' from an anthropological point of view with almost no cases of inter-marriage with other groups. The challenge for this development plan is to utilise these strengths in a positive manner.

The Hmong themselves have shown interest in trying paddy and growing cash crops but have stated that they lack the resources, skills and time to establish alternative lifestyles (Alton and Sylavong 1997: 3). There are many examples of how the Hmong have adapted to paddy cultivation (the village of Thong Pe on the periphery of the NT2 Watershed). Elsewhere from Northern Thailand to Guizhou in southern China, there are thriving Hmong communities that cultivate paddy or cash crops of various types. PRA discussions and trial projects would be the best way to interest the Hmong in viable alternatives to primary swidden. Experience shows that once a Hmong community is convinced that new methods or a modification of their traditional lifestyle is beneficial and sustainable, the community, as a whole will opt for improvement. The fact that the Hmong villages are nearer markets and roads is an advantage since cash crop alternatives also become a viable option.

3.4.2: Ethnic Identity

An investigation of ethnic identity in the NT 2 Watershed requires a review of a number of aspects that constitute 'ethnic identity' in order to consider whether the differences in ethnic identity are significant and whether these differences constitute separate interventions, strategies and approaches to proposed livelihood developments. In anthropological terms, the following characteristics have been used to identify ethnicity and are used as key considerations in the sections that follow:

- Nomenclature, that is a particular name to distinguish the group from others;
- Language;
- Sense of belonging to a specific territory;
- Material culture, including clothes, textile production, utensils, handicrafts, etc.;
- House designs;
- Kinship structures, including inheritance, residence patterns and intermarriage;
- Ritual practices and religious beliefs, including cosmology;
- Livelihood systems

Both livelihood systems and ethnicity play a role in the daily lives, social organization, culture, relationship to the forest etc. and as such will be taken into account during SEMFOP implementation. The differences in livelihood systems and social and cultural organization will be addressed in the detailed participatory approach and implementation level . All characteristics are reviewed in this section except livelihood systems, which will be examined in detail in Section 3.5.3 since proposed SEMFOP interventions are primarily in the form of livelihood development.

3.4.2.1: Nomenclature

Each of the ethnic groups in the Watershed area has been identified in previous studies (cf. CARE Int.1996; IUCN 1997). However, how each group identifies itself varies to a great extent. Due to the fact that there are parallel systems of naming the groups (official three categories and xon phao), considerable confusion among the groups themselves as to their 'ethnic name' and a dynamic and changing situation on the ground, one has to evaluate how these various terms are used in some detail.

The Sek and Tai groups have the clearest sense of their own identity in terms of how they refer to themselves. However, these groups also identify themselves as lao loum, that is part of a larger group that includes the Tai Lao or Lao Lao, the dominant group due to similarities in language and, for the Sek, cultivation of paddy. Many Tai do not distinguish between the various sub-groups such as Tai Men, Tai Moey, Tai Phao, Tai Kwan, etc. Other groups usually identify the Sek and Tai correctly, but rarely as lao loum.

The Brou used different terms and gave explanations of who they are. The term 'Brou' is a term from their own language whereas 'Makong' is what the Lao tend to used when referring to this group. The term 'Sô' is also used interchangeably with the two above terms. There is a clear sense of identity as a single group that is found from Thakhek in the lowlands to the Nakai Plateau, to the Watershed and to Vietnam on the other side of the Sai Phou Leung[9] mountain range. However, many Brou referred to themselves as lao theung, using the previous officially recognised term, since many are bilingual and in some cases, speak Lao as their first language. Like many of the groups in the Watershed, there is a move towards identification with the dominant group.

The Vietic groups exhibit a changing sense of identity. Many individuals and groups had difficulty in identifying the name of their ethnic group. The Phong of the Nam Noy claimed that they were lao theung or Makong, identifying with the old official Lao status as 'Lao of the middle hills' or the larger Brou communities along the Nam Theun. Some Vietic groups could not specify their xon phao while others used the somewhat negative term of kha, originally meaning 'slave' and used by the Lao to refer to all non-Lao or non-Tai speaking groups. The various Vietic groups do not distinguish between themselves to the same degree as between themselves as a whole and the Brou, Tai or Sek.

3.4.2.2: Language

The situation with language is similar to that of nomenclature. The Sek and Tai groups still speak their own languages to a large extent. This is due to the fact that these languages are similar to Lao, the national language. Sek villages are more homogeneous than many of the other villages in the Watershed although there is evidence of Lao vocabulary. Sek and Tai dialects can absorb aspects of Lao without fundamental change since these languages are related.

The situation regarding the Brou is mixed. At Ban Navang, villagers spoke mostly Lao, with only elders speaking Brou except when speaking to other ethnic groups or in official circumstances. Middle-aged adults used Lao when speaking to their children or among themselves but Brou when addressing elders. Brou children were conversant in Lao and had only a passive knowledge of Brou. This illustrates a generation shift in language usage and a gradual ascendancy of the Lao language. Brou villages along the Nam Theun, however, revealed a greater tendency in using Brou with children speaking Brou among themselves despite the fact that Lao is the language of instruction in primary schools.

[9] *Also commonly known as the Annamite Mountains.*

Many of the Vietic groups have not retained their languages and are in the process of adapting dialects of Tai or Lao. In many cases, only the eldest members of communities are conversant in Vietic languages and dialects. This is due to a number of factors:

- Relatively small group that are intermarried with other Vietic groups, Brou and Lao/Tai speakers - Lao becoming the common language
- A conscious effort to learn Lao and identify with the dominant ethnic group - Lao has become a sign of modernity
- Lao is the language of trade, education and administration
- Vietic languages are not written and spoken by relatively small groups

There is a stigma attached to speaking ethnic languages and switching to Lao in official contexts, when in the presence of outsiders or dealing with officials. The Lao language is the language of government and learning. Many, if not most, villagers in the Watershed are multi-lingual with smaller groups like the Vietic speak three or more dialects or languages. Language usage changes depending on context, but the general trend is that Lao is replacing Vietic languages and to some extent Brou as well as influencing Tai and Sek languages. However, it is more difficult to generalise about language with the Vietic groups. Most are fluent in Lao, but many still use Vietic languages to some extent.

3.4.2.3: Sense of Belonging to a Specific Territory

All ethnic groups in the Watershed have a sense of belonging to a specific territory, an attachment to the natural surroundings and a reliance on the resources in those surroundings. However, there are some differences due to historical developments and resource utilisation. Those villages that have are longer established, such as the Sek villages on the Nam Noy, or the original inhabitants of the watershed, such as the various Vietic groups, have a sense of belonging to a specific territory for a greater period of time; Vietic groups originally being hunter-gathers in large territories in the Watershed. The Brou have been resident in the Watershed for many generations but there has been movement up and down the river valleys in search of swidden land, frequent relocations of villages and continued contacts with the Nakai and downstream areas. The Brou and the most recent arrivals, the Tai groups, inhabit the traditional territories of the different Vietic groups.

Illustrative of these differences is the notion of territorial spirits: phii muang in Lao, mae jileng in Phong (Vietic) and kamut yiang in Brou. However, the Watershed seems to consist primarily of Vietic spirit territories with the Atel, Arao and Malang peoples having their own spirit areas based on a traditional village where the spirit resided. The Brou today have their own ritual specialists (chao cham yiang) to carry out these rituals.

3.4.2.4: Kinship and Social Organisation

Kinship structures, intermarriage between ethnic groups and inheritance and residence patterns are typical markers of ethnic identity among many ethnic groups. In the Watershed, there is considerable similarity between the various ethnic groups in respect to all of these characteristics. All groups reveal tendencies towards practising patrilineal inheritance and patrilocal residence patterns. No taboos against marrying outside of villages or with other ethnic groups were recorded.

There are, however, some minor differences to be noted. There is a considerable amount of pragmatism regarding inheritance and residence. Many villagers claimed that the choice of which child would inherit the parents' house or fields depended to some extent on relations between children and parents and between daughters-in-law or, in some cases, sons-in-law as well as considerations of available resources. Gender plays a role since with all groups there are strong patrilineal tendencies with women leaving their natal homes to move in with their husband's families for a period of two or more years before establishing their own homes or permanently residing in that home. This contrasts with the matrilineal tendencies of the dominant lowland Lao ethnic group.

Intermarriage is recorded in all villages to some extent but the degree varies considerably. Among the mixed villages of Vietic groups (e.g. Phong-Krii along the Nam Noy) there is considerable intermarriage among the groups, sometimes to the extent that these groups cannot 'identify' themselves as belonging to

one particular group. There is certainly some intermarriage between groups along each river valley (proximity factor), Sek-Vietic (Nam Noy), Brou-Vietic (Nam Theun and probably formally along the Nam Mone) and Tai-Vietic (Nam Xot). Intermarriage is governed to a certain extent by economic considerations, with the relatively wealthy Sek villages having a higher degree of endogamy than other groups.

3.4.2.5: Material Culture

Material culture consists of objects that are produced by a community or objects that are purchased or borrowed from other groups. Tools, handicraft objects, clothing, utensils and weapons are typical examples of material culture. I shall consider house designs as a separate item in the next section. In general, all groups of the Watershed have a common technology and resource base so that it is perhaps not surprising that there are many similarities in tools, gear, utensils and other items that are required for swidden cultivation, collection of forest products, hunting and fishing.

In addition, the Vietic groups have recently become sedentary, some involuntarily resettled at the end of last century, and have borrowed much of the material culture from their neighbours, leaving few distinguishable traits that are particular from the point of ethnic markers. To an even greater degree, textiles and clothing is uniform throughout the Watershed with men and women wearing cheap items of clothing bought in the markets of Nakai and Lak Xao. The Brou still continue to weave their own cloth in other parts of the country but there were no examples of this in the Watershed. The same can be said of the Tai groups along the Nam Xot although it is uncertain whether this tradition has died out completely.

3.4.2.6: House Designs

There are many types of structures of houses in the Watershed. The differences in size, types of materials and number of sections and elaboration, however, depends more on family size, economic status and how long the community has resided at that particular village site. The most elaborate houses are those of the Sek in the northern parts of the Nam Xoy and Nam Pheo whose villages are more than 150 years old. The Vietic and Brou communities have less elaborate structures in general due to the fact that they have only recently been settled or have traditionally moved their villages every 10-15 years in search of more suitable land for cultivation or after a natural or supernatural event. More permanent housing tends to be made of wooden plants with roofs covered by wooden shingles. Other houses are constructed of bamboo matting and thatch. Except for some details in the interior of the houses such as the arrangement of sleeping quarters and location of spirit posts and altars, all houses tend to have the following characteristics:

- All houses are built on stilts due to flooding and keeping animals outside the living quarters and where food is located - the height will vary from 1.5 to 2 metres on average
- Odd number of steps to an open veranda (sometimes partially enclosed or divided into two sections depending on the size of the house and the number of members)
- Two doors, one used exclusively by the parents or eldest couple residing in the house, so as to symbolically separate the generations living under the same roof
- One window or at most two windows located at the ends of the house (shorter sides) but never in the bedrooms or facing the veranda
- Kitchen area separate, either on the right or left side of the veranda where a fire is located for cooking, considered a female domain (window to let the smoke out is located opposite the door)
- Washing area usually located between the kitchen area and the main part of the house
- The interior consists of an open section and sleeping quarters with larger houses have an open hearth and open sleeping area for guests
- In older houses (not newly established nuclear families) there is often a spirit post (*sao phii* in Lao) or a spirit altar where rice and flowers are presented to ancestors on festive occasions

One reason why there is considerable conformity in house designs throughout the Watershed is that many of the Vietic groups and the Brou seem to have borrowed features from Sek and Tai house designs. The former groups are hunter-gatherers and more mobile and hence less likely to construct permanent and elaborate structures. Recently, villages have become more sedentary.

3.4.2.7: Cosmology

A preliminary investigation into the elements of the spirit world reveals a certain degree of similarity among the main cosmological features. The following aspects are common to all groups in the Watershed and shared by many groups in Lao PDR[10]:

- Main territorial spirit (*phii muang* in Lao, Tai and Sek dialects, *mae jileng* in Phong (Vietic) and *kamut yiang* or *yiang su* in Brou) that receives offerings at the start of the agricultural season and before any large communal feast and previously when the village is to be relocated
- Ancestral spirits (*phii phau phii mae* in Lao, Tai and Sek dialects, *kun peu kun me* in Phong (Vietic) and *kamut mbe kamut bia* in Brou) are informed and given offerings during any ritual, rite de passage or communal event in order to obtain blessings, approval or benign supernatural intervention related to those events.
- Forest spirits (*phii paa phii dong* in Lao, Tai and Sek dialects and *kamut chuk* in Brou)
- 'Visiting spirits' (*phii thiem* in Lao) that possess people in the village, revealing supernatural events or causing harm in the form of diseases or accidents.

It is clear that the latter two categories of spirits are complex and further investigation would be required to understand how they form part of the cosmology of the people. Especially important are the nature spirits that may reveal aspects of utilisation of resources that are of importance for livelihood development. The Brou also have a god who rules over the soil and natural elements (Earth God) called yiang su (cf. Yargyas 1996) who is directly related to human and natural fertility. This is probably also the case with Vietic groups but more studies need to be done to determine how these forces affect farming practices and how people relate to their natural world.

Many ritual features that are similar, including the festival to the territorial spirit at the onset of agricultural activities in January or February each year, periods of rest for women after giving birth (yuu fai in Lao) and food taboos, marriage payments and feasts first at the brides house, followed by a procession to the house of the groom, burial of dead in an area outside the village (dranup kamut in Brou) and accidental deaths being buried without ceremony at the actual location of death or far away from the village. One difference that has been noted is that the Sek alone celebrate Vietnamese New Year (Têt), revealing their origins as being on that side of the Sai Phou Leung mountains. Some Brou villages have also been influenced by Buddhism or have contacts with Brou villages in the lowlands that have been influenced by Buddhism. There are few Buddhist monks in the Watershed (the monastery at Thaphaiban being the largest) and this form of Buddhism is heavily influenced by traditional beliefs in spirits.

It was difficult to acquire information on myths of origin and myths relating to important events and natural phenomena. Due to considerable assimilation and adaptation, many aspects have probably been lost over the past 100 years. This knowledge is esoteric and only elderly ritual specialists may be able to recall myths and rituals associated with a particular group. This is especially the case for the various Vietic groups who have had a close relationship with nature.

3.4.2.8: Summary of Ethnic Identity Significance

Table 3.7 summarises the significance (low-medium-high) between the three main ethnic groups, Sek-Tai, Brou and Vietic groups.

[10] *The transliterations of the various names of spirits, specialists or cosmological features are approximations due to the complexity of dialects, influences from Lao pronunciation and a lack of opportunity to check features with a number of ritual specialists.*

Table 3. 7: Ethnic identity comparisons among ethnic groups.

Aspect	Sek-Tai groups	Brou/Makong	Vietic groups
Nomenclature	High- medium	Medium-low	Low
Language	High- medium	Medium-low	Medium-low
Territory	High-medium	High-medium	High-medium
Material culture	Low	Little or none	Little or none
Kinship	Low	Little or none	Little or none
House designs	Low	Little or none	Little or none
Cosmology	Low	Little or none	Little or none
Livelihood	Low	Little or none	Little or none

It is important to note that ethnic identity is more marked among the Sek -Tai groups in terms of nomenclature and language and to some extent in relation to territory (limited area of four Sek villages on the Nam Noy and Tai settlements on the Nam Xot) and lower degree of intermarriage in relation to other groups. The Brou/Makong are a large group that exhibit some degree of uniformity and identity awareness despite many shared characteristics with Veitic groups. The Vietic groups illustrate a changing sense of identity, merging with other groups and sharing characteristics to a large extent.

Given the still somewhat limited understanding of the cultures and livelihoods of the NPA villages, ethnicity must be taken into consideration at the village level when developing sustainable livelihood systems.

3.4.3: Vulnerable Groups and Cultural Change

3.4.3.1: Vulnerable Groups and Adaptation

The Vietic I Group, which consists of Atel (16), Themarou (30+) and Mlengbrou (9), have been described as populations 'on the verge of extinction' by Chamberlain (1997a:1-3). These groups could not survive as unique ethnic identities without inter-marrying with other Vietic groups. Indeed, it is highly likely that there has been intermarriage between the various Vietic groups throughout the last centuries. The Vietic groups are recognized as the most vulnerable communities in the NPA and PIZ, particularly the Vietic I Group. Implementation of SEMFOP will require special attention to the circumstances of the Vietic groups.

The general participatory approach of SEMFOP, embodying the concept of "informed participation," will be adapted for the Vietic groups to allow them to participate on their own terms and at their own pace. Such an approach implies both participation, capacity building and awareness raising of the different options and the possible impacts of these on their customary lifestyles and rights. Specialist assistance will be sought from an experienced NGO or ethnic minorities expert to design and facilitate an appropriate consultation and participation process for the Vietic, as part of the FLUPAM process. The terms of reference for this support are contained in General Annex 2 in the Folio of Annexures (Volume 2).

The lessons learned from this specialist support will not only be essential to ensure that the unique needs of the Vietic communities are met, but will also be extremely valuable for improving the quality of FLUPAM in all villages in the watershed and PIZ areas. The approach which is discussed further in the section on the peripheral impact zone below (Section 3.4.4.1) will ensure that a beneficial programme of livelihood development is implemented, taking into consideration cultural preferences, livelihoods practices and their particular customary rights to land and resource use. The overall goal, as outlined in the sections on sustainable livelihood and community development (3.7), should be increased food security, in addition to introducing possibilities for improving healthcare, education and integration into the wider economic system as appropriate and desired by the respective communities. This will take considerable effort and time, and one should be prepared for setbacks and even a lack of interest in such benefits. However, there is reason to believe that the majority of the Vietic groups are flexible and can adapt to new livelihoods, as is the case with Group IV (Ahao, Ahlao, Liha, Phong and Toum) who combine swidden and paddy cultivation.

An interesting example are the Bo of the Nakai Plateau who are most likely Vietic (Maleng) who adapted a sedentary lifestyle with a mixed livelihood system of swidden, livestock, vegetable and fruit growing combined with traditional activities of hunting, fishing and gathering NTFPs for sale in local markets.

This transition has probably occurred over many generations but it is a good example of adaptability of livelihood systems among the Vietic. The Bo have also created their own new identity, associating themselves with the Nakai Plateau, adapting Tai languages and merging cultural and religious practices with neighbouring groups (Tai and Brou).

3.4.3.2: An Approach to Ethnic Minorities in the Context of Development

Now that the various groups are classified as ethnic minorities according to WB OD 4.20 guidelines, it is important to address the issue of how they may best benefit from the project and at the same time how their cultural uniqueness may be protected from adverse effects. It would be impossible to insulate these groups from the dominant lowland Lao culture and the growing influence of the nation state and market place economics. By placing undue emphasis on preservation of cultural uniqueness, one runs the risk of isolating these groups further and delaying an eventual absorption into the mainstream culture solely on the dominant culture's terms.

An alternative approach is to equip indigenous peoples with the necessary means and knowledge to participate in the national economic, social and political development. This does not necessarily mean merging with the dominant culture, but rather establishing economic bases and conditions (education, healthcare, infrastructure and assess to resources) so that these groups may compete with the dominant group on a similar level. The political reality of the Lao PDR, a nation state still attempting to bring peripheral areas under central control with improved infrastructure and services, and the increasing role of market forces in the country since liberalisation in the early 1990s are important factors to consider. In addition, the Nam Theun 2 project is likely to increase the tempo of these two processes. Therefore, to equip these ethnic minorities with the means to retain control over their own resources and exploit them in a profitable and sustainable manner could prove to be the best means of preserving 'their dignity, human rights and cultural uniqueness' (OD 4.20, 6). This can best be achieved through continuous public participation as outlined below in Chapter 5.

Certain approaches to the issue of indigenous communities of the Watershed have focused on ethnic and linguistic identity (Chamberlain 1997a, b). This approach focuses on the differences between languages and, to a limited extent, cultures rather than on the ongoing processes of change, ethnic assimilation and merging which has occurred over a long period of time in the NNT Conservation Area and in other places in Lao PDR. It would be wrong to claim that the NT2 Watershed be classified as a 'melting-pot' culture as is the case with the downstream Nakai Plateau (Sparkes 1997), but it is useful to think of both culture and language as dynamic rather than in terms of static categories. There is ample evidence to suggest that these various groups have been in contact with each other over a long period of time and that there has been evolution and adaptation of different cultural values—which could be referred to as Brouisation or Laoiation—as well as agricultural techniques. It is considered a more fruitful approach to think of cultures as ever changing and to design interventions that will foster a positive development and integration into some aspects of the mainstream society, while preserving aspects of their indigenous cultures while taking part in national development. Examples of how the different groups can adapt to different situations and use similar agricultural techniques are discussed later in this section.

A more constructive approach is to combine elements of existing cultural values within the context of an emerging modern state. The bottom line is that without interventions which ensure food security, a sustainable use of natural resources, protected rights and improved livelihood, it is unlikely that these small ethnic minorities can withstand the advance of the better educated, better organised and more advanced dominant culture and the market forces which accompany it. In order to 'preserve' cultural diversity in this region, a realistic plan is needed that ensures socio-economic development through culturally sensitive approaches and participation.

3.4.3.3: Indigenous Knowledge

Defining the term 'indigenous knowledge' (IK) is challenging since distinguishing between what is local knowledge of one's surroundings and what is specific knowledge held by a particular ethnic groups is almost impossible to disentangle. In the SEMFOP, 'indigenous knowledge' will be defined as unique and important knowledge and understanding about the flora, fauna and socio-ecological interactions in the NT2 Watershed/NPA. The following characteristics of such knowledge (adapted from Ellen *et al* 2000: 4-

5) should be kept in mind when devising ways in how further studies in the Watershed can capture this knowledge for the benefit of local people's livelihood development. Indigenous knowledge can best be characterised as:

- Local and rooted in the surroundings of a particular place (transferring it will result in dislocating it and possibly lead to its disappearance);
- Orally transmitted and passed on through demonstration – it is a 'fluid tradition', constantly changing and being reproduced; not static;
- Involved in a practical engagement in daily life (enforced by experience, trial and error, etc.) – it is geared towards practical responses;
- Based on empirical observation rather than theoretical knowledge and involves a high degree of repetition;
- Shared knowledge but its distribution is asymmetric regarding gender and age;
- Linked with symbolic and ritual constructs and integrated into a people's world view or religion;
- Holistic and integrated into the broader cultural tradition

Preliminary studies have already been carried out by a number of scholars (cf Chamberlain 1997b; Culas 2001) but further work needs to be done to consolidate these studies, cross check the lessons learned with local 'specialists' and to further identify the wealth of IK that exists in NPA and PIZ communities that will be valuable for implementing SEMFOP through the 'adaptive learning' process it embraces.

All three technical programs of the SEMFOP (FLUPAM, PPAM and LDC) will benefit from, and indeed be highly reliant on indigenouds knowledge. The mainstreaming of cultural awareness and sensitivity in all WMPA staff from these programs will be an important precursor to ensuring that IK is identified and incorporated into the implementation of these programs. The community development advisors will be responsible for awareness and capacity building in this regard as a priority at the outset of SEMFOP implementation. This will be further supported with the full participation of these advisors in first round of FLUPAM/PICAD field activities in the 5 villages prioritized for implementation in year 1 (Table 2.3, Section 2.2.7). As the field program expands in years 2-5, the advisors will not be able to participate in every village, but will provide follow-up support on a regular rotational basis with all FLUPAM/PICAD field teams.

A more detailed description of the approach to incorporating IK in the planning, implementation and evaluation of SEMFOP programs is provided in Section 2.1.4.

3.4.4: Peripheral Impact Zone

A survey of 54 PIZ villages was conducted in June and July 2004 to collect information. The survey covered villages with a total population of 22,504 individuals and collected information on demography, ethnicity, socio-economic conditions, resource use and relationships with the NPA (Anon. 2004). A summary of the findings on ethnicity and demography are presented here and results in regard to socio-economic status and livelihood patterns are presented later in Section 3.5.5.

The average village population in the entire PIZ was 417 people, with villages ranging in size from 77 people (Ban Bung Sang) up to 1,331 people (Ban Thongpe). 78% of villages reported an increasing trend in population over the last ten years. Of these, four had more than doubled in size over this period. Notably two villages (Nam Niam and Phamuang) were four times larger than ten years ago. Only four villages (Na Hang, Na Kadok, Nam Dern and Vang Pha) reported declines in population over the same period and eight villages reported little change in population.

Villages reported the presence of at least 25 different ethnic groups across the Peripheral Impact Zone (Table 3.8), in some cases up to ten groups were reported from one village. Given the variation in complexity of reporting on ethnic composition, further analysis of these data will be conducted by the Community Development advisor to verify the main groups and the ethnic composition within them.

Table 3. 8: PIZ village demography and ethnicity.

Village Name	Pop.	10 year trend	Names of ethnic groups reported present by the village
B. Beung-Naa	328	Increasing	Youi
B. Bung Ngam	139	Stable	Meauy
B. Bung Sang	77	Increasing	Meauy
B. Dongbang	281	Increasing	Nyor, Phou Thay
B. Donsat	310	Increasing	Meuay, Njoy, Phou Thay, Sek
B. Hangkan	317	Increasing	Youi; Kalung
B. Huai Laeng	417	Increasing	Thaeng
B. Ka-oy	178	Increasing	Ma-kong; 1 Kalung
B. Khamhe	383	Increasing	Youi
B. Khammouane	660	Increasing	Nyor
B. Khilek	266	Stable	Makong
B. Khonken	305	Increasing	Hmong Khao, San Kap
B. Korhai	1,250	Increasing	Hmong Khao, Meuay, Man, Tai Phouan
B. Na Dee	300	Stable	Thaeng, Meauy, Khamu
B. Na Hai	218	Stable	Meauy
B. Na Hang	221	Decreasing	Meauy
B. Na Kadok	879	Decreasing	Sek, Chie Verr, Atop/Makang
B. Na Meuang	199	Increasing	Meauy
B. Na Nang	148	Increasing	Meauy, Bo
B. Na Thon	229	Increasing	Thaeng (Tai Theng), Atop
B. Naa-Bo	375	Increasing	Youi
B. Nacat	419	Increasing	Makong
B. Nam Dern	269	Decreasing	Thaeng
B. Nam Ngoy	384	Increasing	Hmong Khao, Hmong Laai, Hmong Vang, San Kap, Nyor, Baw , Meauy
B. Nam Nian	135	Increasing (4)	Nyor, Putthai, Thaeng, Aa-her, Thai Khaao, Baw, Sek, Nyouan, Lao Tai, So
B. Nammouane	84	Stable	Youi
B. Nape	1,169	Increasing (2.4)	Tai Dang
B. Naphong	276	Increasing	Tai Bo
B. Nathin	177	Increasing	Youi
B. Nong Mek	496	Stable	Meauy, Kha
B. Nongbua-Naphao	448	Increasing	Makong; Youi; Cheut (Salaang)
B. Phakatan	247	Increasing	Malang
B. Phamuang	795	Increasing (4.3)	Hmong Khao, San Kap
B. Phon	456	Increasing	Makong
B. Phon Chaeng	406	Increasing	Hmong Khao
B. Phon Keo	261	Stable	Meauy
B. Phon Khoun	208	Stable	Thaeng, Salaang
B. Phon Sie	433	Increasing	Meauy

Village Name	Pop.	10 year trend	Names of ethnic groups reported present by the village
B. Phon Vilay	1024	Increasing	Hmong Laai, Meauy, Kha-mou
B. Phone	254	Increasing	Nyor
B. Phonekeo	397	Increasing	Hmong Khao, Hmong Laai
B. Phonethong	602	Increasing	Meuay, Man Khmu, Kuan
B. Phonsaat	466	Increasing	Hmong Khao, Hmong Laai
B. Sang-Phoungbon	529	Increasing	Youi, Mlengbrou
B. Sop Hia	315	Increasing	Khaa, Maen, Meauy, Kouan, Phong, Hmong, Paao, So, & Baw
B. Sophouan	296	Increasing	Meuay, Khmu, Hat
B. Talak	145	Increasing	Youi
B. Thong Ke	855	Increasing	Meauy, Thaeng, Putthai, Baw, 1 Pouak
B. Thongkham	413	Increasing	Makong
B. Thongkong	404	Increasing	Youi
B. Thongpe	1,331	Increasing	Hmong; Thaeng; Tai Bo
B. Thonsan	365	Increasing	Nyor, Phou Thay
B. Vang Pha	638	Decreasing	Meauy, Hmong Khao
B. Xiangdao	327	Increasing	Makong

3.4.4.1: Bolikhamxai Border Villages

Of the PIZ villages 38 are in Bolikhamxai Province. Many of these rely on natural resources within and near the NPA, and thus have potential impact on the NPA. Access restrictions imposed by SEMFOP may affect the livelihoods of these villagers, especially the Vietic groups. In addition, a number of Vietic groups require additional attention as discussed below. Thus, nine villages were identified as high priority in the PIZ as follows:

Village Name	Pop.	10 year trend	Ethnic groups reported present by the village
B. Khonken	305	Increasing	Hmong Khao, San Kap
B. Na Kadok	879	Decreasing	Sek, Chie Verr, Atop/Makang
B. Na Thon	229	Increasing	Thaeng (Tai Theng), Atop
B. Nam Ngoy	384	Increasing	Hmong Khao, Hmong Laai, Hmong Vang, San Kap, Nyor, Baw , Meauy
B. Phamuang	795	Increasing	Hmong Khao, San Kap
B. Phonekeo	397	Increasing	Hmong Khao, Hmong Laai
B. Phonethong	602	Increasing	Meuay, Man Khmu, Kuan
B. Sang-Phoungbon	529	Increasing	Youi, Mlengbrou
B. Sophouan	296	Increasing	Meuay, Khmu, Hat

Of particular conservation concern in this area is incursion by traders and hunters from some these villages into the NPA. Interventions to stabilise agricultural production systems along the populated border areas of the Watershed are essential.

The trade links between the Watershed, in particular the western portions, are oriented towards the markets of Lak Sao in Khamkeut District. This is likely to change somewhat with improved transportation across the reservoir and access to Nakai Town and the markets in the lowlands.

The particular circumstances and challenges of the Hmong groups in the area is described in section 3.4 on ethnic groups in the Watershed. Another group that warrant particular attention in the PIZ, as well as in the NPA as described earlier, are the Vietic.

A number of Vietic groups are particularly vulnerable to project interventions. These are the "Yellow Leaf People" (Tong Leuang), also generally categorized as Vietic Type I groups amalgam, referring to several very small groups variably located in the transition from forest hunter-gatherers to sedentarized agriculture. They are typically defined as small groups only recently or partially sedentary with some difficulties adjusting to this lifestyle. They usually refer to themselves simply as "Forest People."

These groups have traditionally relied on forest resources in the catchment area, and to varying degrees continue to do so, with livelihoods based on hunting and collection of wild plants, and fishing, without domestication of animals or plants, with the exception of the dog. Typical hunter-gatherer traits include under-production, lack of material possessions, routine food sharing, and egalitarianism. Perhaps most importantly, hunter-gatherers have demonstrated an ability to flourish for thousands of years in a single area without destroying the environment. Ecologically, as well as culturally speaking, there is much to learn from such people.

The vulnerabilities facing these groups have been reported in various project-related documents. A preliminary study prepared by the IUCN (first revision, May 1998, Section 8.3.1) states that the "upper river system Vietic groups" are most at risk of vulnerability and hardship. Some of these groups have been subject to relocation under the government's village consolidation program and have been unsuccessful in adapting to village life, even after years of attempted sedentary residence. In addition to having been relocated to live next to villages belonging to other ethnic groups, they are typically looked down upon as being the epitome of backwardness by local villagers and government officials. Even when individuals are capable of speaking Brou or a Lao-Tai language, there are still difficulties in communication.

To date, these groups appear to vary in their adaptation to new surroundings. Some appear to be stabilizing, perhaps because of relatively good continuing access to traditional forest resources. In general, however, many appear to be in severe decline – their numbers are diminishing through high mortality rates and cultural attrition, with remaining populations showing clear signs of growing dependency and listlessness. In general, and for varying reasons, these groups are not benefiting from improved access to public services following their relocation. Moreover, most have lost control over productive resources and now survive through periodic wage labor for dominant neighboring groups. Their future access to forest resources depends in large part on final designation of the watershed protected area and the adjacent peripheral impact zone and wildlife corridors. Some (e.g., Vang Chang) continue to reside within the designated protection area while others live in the PIZ.

It is thus clear that additional measures are needed for their protection, and to provide them with opportunities to participate on their own terms and pace and benefit from the project in a culturally appropriate manner. To ensure that this will take place, the same FLUPAM approach as used for the Vietic in the NPA (see Section 3.4.3) will also be applied for the Vietic Type I and Hmong groups in the PIZ. It is envisaged that WMPA and partner staff capacity in this respect will be upgraded through the hands-on experience gained by working with the specialist NGO in the highest priority communities (probably the Vietic in the PIZ) so that they can later apply the same methods with other Vietic and Hmong groups either by themselves or with much reduced levels of specialist support.

This "community participation support" will first seek to understand the particular circumstances and cultures of the Hmong and Vietic to design an appropriate consultation and participation process. The NGO or expert will subsequently lead the consultations with the respective communities during the FLUPAM process, alongside WMPA staff. By this means, the exercise will provide important capacity development for the WMPA in regard to ethnic issues.

The objectives of the consultations will be to identify the needs and priorities of the respective communities and recommend with the communities appropriate project interventions and assistance under the various SEMFOP components. The careful planning measures identified during the

consultations will be incorporated into the project interventions and would aim to improve their chances for cultural survival.

The consultations will also identify the respective communities' current and previous territories and resource use practices, considering the option to allow previously relocated Vietic villages (sub-villages) to return to their traditional territories inside the NPA if they so wish. The extractive activities of these small groups do not constitute a significant threat to watershed environmental sustainability. Where warranted and desired, areas for rotational swiddens inside the protected area or PIZ should be designated for their use. It should be noted though that the transition of Vietic Type I people toward a more sedentarized lifestyle, though incomplete, may be irreversible and may be desired by the groups or sub-groups (e.g. younger generation). Though involuntary resettlement in the past has generated adverse impacts, and though administrative relocation has not resulted in any discernible improvement in attainment of services such as health care or education, many Vietic Type I people do not appear to desire a complete return to traditional hunter-gatherer lifestyles. It would appear that any arrangements that would be satisfactory to the affected groups will need to blend elements of new and old. So this option should be devised in a manner that allows access to public services, notably education (including means to enhance the Vietic language) and health care (possibly including sustainable detoxification from opium addiction and advise on health issues, including possible poisoning from toxins used in gold mining).

Some group members (e.g., younger members with different expectations, or those already more familiar with sedentary agricultural practice) may prefer access to rotational swiddens or paddy land. If any options to promote lifestyle transition are to be provided, however, they should ensure direct provision of the necessary land or other resources.

Studies and findings from the consultations suggest that the Vietic groups have unsurpassed local knowledge about forest areas and local resources. This indigenous knowledge will be explored, enhanced and supported if so desired. Employment as rangers or in some other capacity allowing them to utilize this knowledge for the benefit of the protected area could be provided.

Regardless of whether these groups eventually reside within the protected area or the PIZ, they will be provided explicit rights to traditional forest resources in a specified area of reasonable proximity. In other words, their customary rights to such resources will be recognized in a manner giving them a priority claim, in the event that it is necessary to restrict access for others, particular more recent arrivals to the areas. In this way the consultation process will also inform the FLUPAM process.

While the above options are likely intervention, the emphasis will be on the need for consultation and direct participation of affected people – no a priori plans are established because the affected people are to play a direct role in devising plans and mitigation measures during implementation. Accordingly, the "appropriate alternative arrangements" envisioned in SEMFOP should be devised in consultation with the Vietic Type I groups themselves, and most likely build on current resource use practices and indigenous knowledge rather than replacing these.

3.5: BASELINE DATA: LAND USE, LIVELIHOOD AND SOCIO-ECONOMIC SITUATION

3.5.1: Methodologies

Various methodologies were employed in assembling the baseline data for the inhabitants of the NT2 Watershed and the PIZ area. A list of the reports and surveys that were used to collect baseline data on ethnic minorities is provided in the Preface to this report. A number of different approaches were used for data collection, as follows:

- Socio-economic surveys of selected villages in the NPA were carried out in 1996 and 1997 using semi-structured interviews as part of a Rapid Rural Appraisal (RRA) approach. This involved focusing on relevant topics and open-ended questions that allow respondents to express opinions and develop discussions. An initial set of topics or guidelines was used and informants were then encouraged to reveal knowledge about subjects. Probing questions on key areas were also used frequently to clarify issues during data collection.
- Resource management techniques of various types were used to improve understanding of local resource use. These included village sketch maps, cross-sections from transect walks across village land, crop or animal calendars showing seasonal variation, labour schedules, activity sequences of resource use, decision-making patterns of representative families.
- Demographic surveys were carried out first in selected villages and then by the assistance of trained STEA (previously STENO) and district staff in the whole of the NPA and bordering villages. This was to obtain crude birth and death rates for accessing population growth and this was compared with GOL census information from 1995.
- In-depth Interviews of individuals and families were carried out on several occasions concurrent with RRA in order to obtain additional information relating to individual household economics, social organisation, cultural practices, gender relations, language classification and resource use.
- Discussions with local leaders were carried out on several occasions throughout the consultation process and during all surveys in order to update statistics on village population, migration patterns and relationships between traditional and formal positions of power within the villages.
- Public consutations were conducted in across NPA and PIZ villages in May 2004 an on-going means for the WMPA to interact meaningfully with affected villagers and other stakeholders with respect to the various sets of issues that concern the respective areas. The initial consultations were intended to inform villagers generally about the NT2 Project and the WMPA's management plans for the NNT-NPA, to explain the possible impacts on their livelihoods and to obtain feedback and ideas in regard to their concerns. These consultations are seen as the first step in the consultation and disclosure process, which will continue throughout implementation.
- Semi-structured interview surveys were carried out in the PIZ in June and July 2004 under a contract with WCS to collect information on demography, ethnicity, socio-economic status, resource use patterns and PIZ village interactions with the NPA.

3.5.2: Customary Tenure and Land Usage

3.5.2.1: Land Tenure Systems

It is acknowledged that only a very limited understanding of traditional tenure patterns exists in the NPA. Procedural steps in the FLUPAM process have been put in place to rectify this situation prior to making any decisions on appropriate tenure systems with villagers. These have been described previously in Section 3.3.6.

The majority of villages, and perhaps all, the individual families in the NPA have no legal land documents. Access to land was traditionally based on usufruct patterns in the case of swidden and gardens and customary patrilineal inheritance in the case of paddy (Alton and Sylavong 1997). The Vietic represent a special case since some have only recently begun to practice agriculture and many are reliant on the forest as a major source of food and of goods for trading.

Swidden cultivation, for the most part, depends on finding new plots every year, either on a rotational basis (some Vietic, Brou and Sek-Tai groups) or a search for primary forest areas (some Vietic, Brou and

Hmong). In the case of the Nakai Plateau, Brou and Tai Bo families had swidden fields within the village boundary (spiritual and land use) and reserved access to about a dozen areas, the average cycle being between 10-12 years (Sparkes 1997). If families wish to use land outside their traditional village boundaries, they have to ask permission from the neighbouring village. Neighboring villages usually grant approval for a number of years (sometimes in return for a small percentage of the harvest or fee) depending on the availability of land. Most of the Brou villages at the southern end of the Plateau are related and there are few problems. There seems to be a similar situation in the NPA and although the swidden systems may be sustainable under current population levels, there is a need for more productive and less environmentally destructive forms of swidden to protect the NPA's natural resource base under increasing population pressure (Chamberlain 1997a: 2.2).

The same system of usufruct seems to function for vegetable gardens along the riverbeds and around the village. Certain families have used the same patch for decades. However, once a family moves out of the village, the right to use these areas seems to disappear after a short period of time. Hence these land-use patterns can be described for the most part as usufruct.

The situation in regard to the collection and use of NTFPs involves the recognition of certain forest areas as a community resource for this purpose. With some exceptions, such as the recognition of individual rights to resin-producing trees, these forest use areas are considered the common property of one, or in some cases, a number of villages.

It is thus important to obtain correct village boundaries and land use maps through the FLUPAM process before livelihood development begins. These village boundary and forest and land use maps will inform planners as to the resource potential of each village or area and confirm estimates of resource use information gathered in previous reports. Demarcating these boundaries would be the first step in ensuring susfruct rights, equitable access and sustainable use of resources. If each village becomes responsible for the resources within their boundaries and is given the authority to enforce rules regarding their management, intruders, poachers and illegal hunters may also be halted to a certain degree. There is already a notion of village boundaries and several incidents have occurred in the Watershed, demonstrating village recognition and protection of their resources (refer to IUCN Project Report on Phase 1 Pilot Activity at Nam Phonkeo). In addition, there have been several cases of arrests made of cross-border traders by village militia in the NPA over the last few years.

It is important to note that these boundaries have both a material and spiritual dimension that are mutually enforcing. As has been documented on the Nakai Plateau (Sparkes 1997), the sense of belonging to a particular territory infers a relationship between a spirit (*phii muang*) that allows exploitation of the resources and offers protection for the inhabitants in that particular area in exchange for annual rituals (*kin seng*) and respect.

3.5.2.2: Population and Land Use

The relationship between the population and land use in the Watershed is related to issues of the performance of livelihood systems. There has been a substantial increase in the NPA population (and by implication adjacent areas) since the end of the last Indo-China war in 1975. The current NPA population in the NPA is approaching 5,000 and the issues of increased productivity and improved sustainability are primary for these communities. Sustainability is related directly to food security and indirectly to the means of supplementing diets and/or earning cash from other agricultural activities or from forest products.

There are few villages in the Watershed that have anything approaching self-sufficiency in rice production, that is cultivate enough for themselves without having to rely on trade in forest products and wildlife. Both paddy and swidden rice yields are poor due to a combination of poor soils and lack of knowledge or technology and in some areas, high population density (shortened swidden cycle). This is not to say that more general food security, when forest product and other food substitutes are considerd, is necessarily such a widespread problem. However, by increasing rice self sufficiency, not only does this stabilize the communities and improve their nutritional status, but also reduces their direct reliance on the forests. Thus the main goal of the EMDP is to improve food security through both increased agricultural

productivity and more sustainable systems of NTFP management which are developed in a participatory fashion in accordance with the wishes of villagers.

Overall food security is directly connected to poverty relief since food shortage leads to a general vulnerability and an inability to improve one's lot. The average annual household cash incomes in the Watershed are well below the Lao PDR average (cf. Chamberlain 1997a: 3-20):

- Vietic (159,448 kip)
- Brou (194,330 kip)
- Tai/Sek (218,280 kip)

Doubling the cash income to include estimated imputed income (see Income Sources in Section 3.5.4.1 – 300, 380 and 480 USD respectively) to compare these statistics with the Lao Poverty level, which was set at 750 USD in 1997, we see that all ethnic groups are well below this level. However, the general need to improve the standard of living for these communities should be seen primarily as an issue of food security and quality of life, rather than in strictly economic terms.

Any changes to agricultural production or NTFP harvesting methods raise both cultural and technical issues and require careful joint consideration with the communities involved and long-term monitoring and training. There must be continuous feedback and follow-up work to ensure that such transitions are successful in the long term. With the expected increase in population (over 4% per annum for the Brou), there is a likelihood of the over-exploitation of resources and the consequent degradation of NPA forest resources. In the long run, this will reduce the communities to an even lower level of poverty and greater dependence on a diminishing forest resource base. Hence, the productivity of the ecosystem must be increased through sustainable management to offset population increase. This is described as 'pre-demographic transition' (Alton and Sylavong 1997: 3-8).

3.5.3: Livelihood Systems and Interaction with Ecology

This section describes existing land and resource use patterns in the Watershed and organizes them into four livelihood systems. These livelihood systems cut across ethnic divisions since no ethnic group has one particular adaptive technique. Thus rather than thinking in strictly ethno-linguistic terms, these generalized livelihood systems allow for an analysis of the present situation which can then lead to developing appropriate strategies and interventions. It must be understood that the proposals in this Section are merely indicative, and final plans will be developed in a participatory fashion with villagers according to their needs and aspirations (Sections 2.1.2 and 2.1.3). How these interventions are developed on the ground will thus involve knowledge of the different values, local concepts and worldviews of the different ethnic groups in the Watershed (Section 2.1.4).

This section concludes with a discussion of the three types of shifting cultivation currently practiced in Laos, and includes a practical assessment of the nature of these livelihood systems and how they can form the basis for long-term sustainable land and resource management.

3.5.3.1: Overview of Livelihood Systems

At this point, it is necessary to present an overview of the NT2 Watershed in relation to the different indigenous groups, agricultural techniques and geographical areas before elaborating on the different livelihood systems. Vietic groups are distinguished according to Chamberlain's categorisation (Chamberlain 1997a: 3.3.1).

Figure 3.1 outlines the five generalized livelihood systems for the NT2 Watershed. Four of these are currently being practised and will be the starting point for identifying problems and interventions later on in this report. It is important to note that no single ethnic group utilizes just one type of livelihood system at present. This reveals a flexibility and adaptability within all of these cultures in relation to their environment.

With the emphasis on livelihood development and more sustainable utilization of resources in the NPA, one can assume that the more productive the agricultural method, the less reliant the communities are on the forest as their main source of food and cash income. Most of the Vietic groups settled in the area over a long period of time, including Vietic I communities (Atel, Themarou and Mlengbrou) which were

resettled after the last Indo-China war that ended in 1975 (ESMP 6.1.1). Although these groups have had serious problems in adapting to sedentary life, the proactive approach in the current situation is to improve their agriculture by working with their current livelihood (LS1 Table 3.9: swidden and reliance on forest products), giving full regard of their cultural preferences.

The other livelihood systems (LS2 - LS4 in Table 3.9) combine different elements of agriculture in progressively more complex ways which lead to more intensified settled agriculture and at the same time reducing direct reliance on the forest. The mix of the various livelihood systems in regard to use of resources is illustrated in both Figure 3.2 and Table 3.9. There is considerable scope for enhancing the sustainability of livelihoods within each ethnic group, as each group straddles several livelihood systems, thus allowing for trade-offs among the different resource use systems.

Figure 3.2: Range of Livelihood Systemspracticed by Major Ethnic Groups

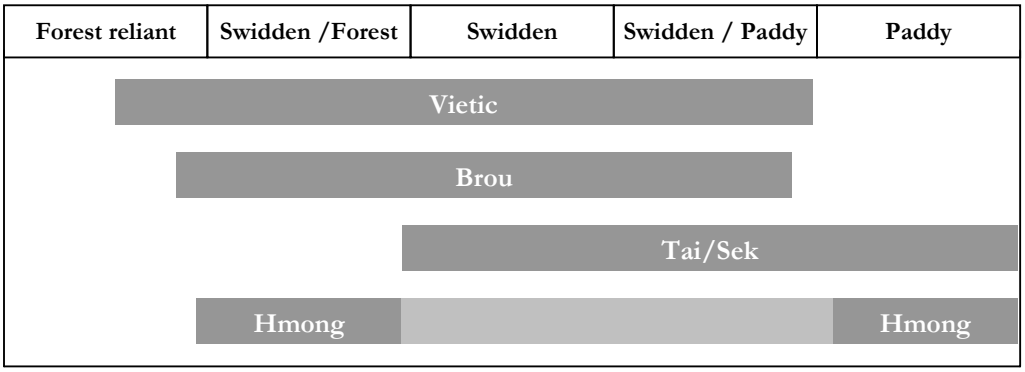


Figure 3.2 illustrates the range of livelihoods practiced by each ethnic group and reveals that various development strategies could be devised with the Vietic groups since, as a group, they span a broad range of agricultural development. The aim would be to increase productivity relative to where each group or village is located in the mix of livelihood systems. Although, the Brou are primarily swidden cultivators there is evidence to suggest that they may be receptive to paddy development and alternatives (for instance, cash crops, sustainable collection of NTFPs, terracing and improved livestock) that would result in reduced reliance on the forests. Sek and Tai groups in the NPA and in the PIZ may well require improved technology for their irrigation schemes and paddies that would reduce their secondary reliance on swidden cultivation and forest products. The Hmong in the PIZ present a special case since they are pioneering swidden cultivators, although not overly destructive. The Hmong, who tend to be highly innovative, might be to develop alternatives such as the paddy land or the introduction of viable cash crops, as in the case with the very successful Hmong village of Thong Pe. While Figure 3.2 provides generalizations, more detail regarding different livelihood options is presented in Table 3.9, however, it must be understood that these are merely indicative and planning will involve the active participation of all stakeholders.

Table 3. 8: Overview of Livelihood Systems in the NT2 Watershed/NPA

Indicator	Livelihood systems				
	Forest Reliant	LS1 Swidden/Forest	LS2 Swidden	LS3 Swidden/Paddy	LS4 Paddy
Description	Hunter-gatherer – totally reliant on the forest	Sedentary but still reliant on the forest to a large extent, some swidden	Primarily swidden cultivators with NTFPs and livestock for cash income	Combining swidden, paddy and dependency on the livestock and NTFPs	Primarily paddy cultivators with cash crops, livestock and trading
Approximate % of NPA population (1998)	Nil	5%	50%	35%	10%
Ethnic groups	Formerly Vietic group l	Vietic groups I and II	Vietic groups II and III, Brou, Hmong, Tai	Vietic groups I and IV, Brou, Tai, Sek	Brou, Tai, Sek, Hmong
Location	Formally all river systems	Nam Xot	Nam Theun, Nam Xot, Nam Noy, Peripheral areas	Nam Xot, Nam Mone, Nam Noy, Nam Pheo	Peripheral areas; Upper Nam Theun
NPA Villages Surveyed in Previous Reports (Care Report 1996; Alton and Sylavong 1997)		Tha Meuang (Arao, Malang and Atel – Vietic I & II)	Thaphaiban (Brou) Kou Ne (Brou) Song Lek (Brou) Song Khone (Malang – Vietic II and Tai) Maka (Kri–Vietic III +Phong–Vietic II) Vang Re (Phong – Vietic II)	Na Vang (Brou) Vang Chang (Brou and Themarou – Vietic I) Toeng (Sek) Na Moey (Sek)	Beuk (Sek) Na Hao (Tai and Brou)
Peripheral Villages Surveyed in Previous Reports (Care Report 1996; Alton and Sylavong 1997)			Phon Sa-at Kao (Hmong)	Suan Mone (Liha – Vietic IV) Phou Lan (Liha – Vietic IV) Phon Keo (Tai) Muang Cham (Phong – Vietic IV) Nam One (Toum – Vietic IV)	Thong Pe (Hmong)

3.5.3.2: Swidden/Forest Livelihood Systems (LS1)

This livelihood system can be characterised as heavily reliant on forest products for food and income, with some cultivation of swidden rice as a staple. Only Vietic groups I and II belong to this livelihood system classification. Tha Meuang, typical of this livelihood system, is the only village that has undergone a detailed survey in previous reports (Care Report 1996: Appendix VI -5). There are, however, other communities in the NPA that could be classified as having a similar livelihood system. Chamberlain (1997a) explains that the Atel, Themarou, Mlengbrou and Cheut groups (Vietic Goup I) have adjusted badly to sedentary life and are still basically reliant on the forest for much of their food staples, supplements and cash income. More information is required on these groups, but the example of Tha Meuang indicates that these Vietic communities have adapted to village life to some extent.

The village of Tha Meuang on the upper Nam Xot was established in its present site in 1973, but some Arao families had been living in a permanent location nearby. As part of a government drive to settle nomadic and semi-nomadic groups, other Vietic groups (Atel and Malang) were settled there in the late 1970s and 1980s. The total population in 1996 was 257 in 60 households.

Although they have probably only been practising shifting cultivation since the 20th century, their rice yields are a representative range for the NPA: only one household was completely self-sufficient, 19 households had rice for 6-8 months, 30 household for 2 months and 10 households had a deficit for the whole year. The Care Report concludes that rice productivity is relatively good but villagers utilise their time hunting and gathering instead, supplying a major portion of their livelihood.[11] Staples include wild tubers, roots and sago palm, which is the main supplementary starch. In addition, fishing and hunting are very important; much of which is sold in the market in Lak Sao or to Hmong traders. In other parts of the NT2 Watershed, trans-boundary traders buy wildlife and NTFPs in exchange for goods such as batteries[12]. The main sources of cash/barter income are buffalo, wild animals and NTFPs (damar resin, rattan and cardamom). The standard of living is low and the main concern of villagers seems to be food self-sufficiency which is far less reliant on rice than in other livelihood systems.

As was previously mentioned in Section 3.4, the Vietic groups represent the greatest range and some of the most fragile communities. All programs involving improved livelihood models for Vietic communities should be undertaken slowly, with caution and a sensitive understanding of the cultural needs and aspirations of each particular group or village.

'Social dependency' is listed as the main problem or area of focus by Chamberlain (1997a) since the Vietic groups are not self-sufficient and are exploited by others. This implies that increasing the Vietic groups' control over their own resources and providing the means to manage them in a sustainable manner must be primary strategy under SEMFOP. This can only be achieved through consultation, long-term planning with the communities and extensive exposure to and training in alternative techniques. It would be both unrealistic and undesirerable from a cultural point of view, to make the majority of the Vietic groups fully reliant on agriculture. Although their worldview and cultural values are closely linked with forest life, this does not mean that they could not achieve better food security through new agricultural techniques. But if 'social dependency' is an issue, establishing clear rights and sustaining resources in traditional village territories will be equally important in eliminating patron-client relationships with other groups.

Figure 3.1 illustrates two important aspects of the Vietic groups as a whole. Firstly, it shows that there is great variety as to the type of agricultural production and the level of technology. This means that there are variable starting points and a variety of approaches for the different communities when initiating interventions. It will be important to learn their goals, abilities, and willingness to adopt new methods and

[11] There are no precise data on village population in the peripheral areas but there is every reason to believe that a similar population increase has occurred in these regions due to proximity and similar socio-cultural and historical developments. In the whole of the NNTCA the present population is approximately 25,000 with only 5,000 residing in the Conservation Area proper. There will be no populations in the northern extension and possibly only one small enclave in the Nam Theun Corridor.

[12] While visiting Ban Maka in January 1998, several trans-boundary traders passed through the village carrying sacks full of car batteries. Upon being questioned, they stated that they were in Laos to buy pigs and chickens, items that are readily available in Vietnam and hardly worth trekking two to three days for. They were not willing to admit to the fact that they were trading in wildlife products, and villagers backed their story.

local environmental conditions. Secondly, it shows that there is a certain amount of flexibility and ability to learn new techniques from their neighbours in the NPA.

It is necessary to reiterate that the swidden cropping systems of many of the Vietic groups are characterised by poor yields, and some groups are even experiencing a population decline. This is because many groups have been forced to take up a sedentary life against their will as recently as 20 years ago. Their poor agricultural performances contrast with their effective hunting, gathering and fishing techniques (Alton and Sylavong 1997: 2-8). Consultations with villagers about agricultural development and their understanding of various methods will be imperative. Careful monitoring of improvements from an agricultural/technical and anthropological point of view will be necessary because of this recent transition. Special considerations should be given to certain Vietic groups at this and other levels, and these will be suggested in Sections 3.6 and 3.7.

3.5.3.3: Swidden Livelihood Systems (LS2)

The second livelihood system is characterized by a heavy reliance on swidden cultivation of upland rice. The largest group using this adaptation is the Brou although the Hmong in the periphery and many Vietic groups practice primary swidden and there is even one example of a Tai ethnic group (Lao Kaleung) reverting back to swidden. Upland rice cultivation by rotating swidden is by far the most common rice production system in the NPA. Swidden cycles vary greatly from 5 to perhaps up to 15 years depending on a combination of soil types and population density, and as a general rule of thumb, 8 year or longer cycles are considered sustainable. Although swidden cultivation is a useful and, at times, efficient means of growing upland rice, the evidence presented in many reports concludes that population pressure will force further expansion and shortened fallow periods, thus threatening the sustainability of these systems.

Ban Thaphaiban (population: 267 in 1996) on the Nam Theun is a typical example of a village with this livelihood system (Care Report: Appendix VI-17; Alton and Sylavong 1997: NPA Appendix-3). The Brou have been living in this area for about 100 years and are heavily reliant on swidden agriculture. No household was rice sufficient in 1996, the majority having only enough rice for 2-3 months. It was unclear whether this represented a trend or was the result of a disaster year. Although rice is the most important food item, the Brou are forced to plant corn, cassava and sweet potatoes in cleared swidden gardens or along the banks of the Nam Theun to make up the shortfall.

Livestock are also an important source of cash income, with buffaloes being sold in Nakai. This means several days of walking the animals down to the market and returning with cash, consumer goods or rice. Most of the wildlife caught in the area was reportedly eaten in the village[13] but some rattan and other NTFPs were sold or exchanged for rice. There are also occasional trips to Lak Sao to trade and purchase consumer goods.

Although the majority of Brou villagers in the Thaphaiban region can be classified as primarily swidden cultivators, during years of crisis (1996-98), they became more reliant on harvesting forest resources. This most recent crisis period was brought on by a combination of heavy rainfall (a regular problem for swidden fields) and the flowering of a particular type of bamboo, which resulted in an enormous increase in the rodent populations.[14] In 1998, large areas of the banks of the Nam Theun were used for growing cassava because there was no rice to be found in any of the villages. Men and women came down to the river with chickens and NTFPs when they heard boats arrive in order to trade these products for rice. One can conclude that groups that are reliant on swidden have adopted a 'rice mentality', that is they value rice as a staple above all else. This was often expressed in conversations in which villagers stated that maize and cassava were no substitutes for rice. These groups, for the most part, rely on agriculture for 60-70% of their food and cash barter income and the remaining part directly on the forests (NTFPs,

[13] Villagers are no doubt reluctant to admit that they hunt in order to trade with trans-boundary merchants who often come down the Nam Theun. Thus, estimates and records of hunting need to be confirmed by long-term stays in the area.

[14] While visiting the NPA in January 1998, Dr Tim Whitmore of the Panel of Experts proposed a theory as to why the rodent population had suddenly increased in 1996-97. He observed that a species of bamboo (mai phai) flowered in 1996. It does so every 17 years. The fruit of this bamboo provided ample food for the rodent populations. Upon discussing this with villagers, many agreed. One even provided an expression that connected the two phenomena: mai phai khii dok, nuu ma lai (when the bamboo flowers, the rodents appear in large numbers).

gathering wild foods and hunting and fishing, some of which is sold in markets or to traders). However, the vital importance of forest resources as a buffer against climatic and environmental risk must be recognized in any livelihood development strategy.

In the case of the Vietic groups reliant on the forest and practising a limited amount of swidden, as described in the above section, it is possible to detect a gradual evolution towards sedentary agriculture. However, there is at least one example of a group reverting back to upland rice from a paddy system, revealing the complex changes in livelihood systems and the flexibility of the different ethnic groups in the NPA. Ban Song Khone on the Nam Xot consists of Maleng and Tai (Lao Kaleung). These groups practiced paddy 20 years ago but are reported to have reverted back to swidden because of the poor water holding capacity of the soils (Care Report 1996: Appendix VI-6).

The majority of the groups in the NPA and in the PIZ express interest in wet rice cultivation with its promise of higher yields and less demanding work. However, few who now practice swidden have either the time or the knowledge to begin paddy development without proper support and training. The Hmong of Phon Sa-at Kao have expressed their desire to learn but are reluctant to do this on their own because of the initial risk to food security. Paddy cultivation, however, is not always an option due to topography, water supply and inappropriate soils. In certain locations, for instance Thaphaiban and perhaps for other parts of the NPA, a more practical approach may be an intensification of existing swidden and alternative sources of income, which are less directly reliant on the forest.

3.5.3.4: Swidden/Paddy Livelihood Systems (LS3)

Many villages in the NPA and the PIZ combine swidden and paddy cultivation. This strategy optimises food security since often one technique will fail to produce a good harvest due to a number of factors: swidden fields produce lesser yields and may be susceptible to flooding and drought depending on the weather, while rain-fed paddy often suffers from a lack of water. Again, these villages also rely on income from livestock, fishing, NTFPs and the sale of wildlife but to a lesser degree than the two livelihood systems already mentioned. This combination of elements depends less on the ethnicity of a particular village than the actual location.

Vietic groups, Brou, Tai and Sek utilise this combination of dry and wet rice cultivation. What is interesting from the point of view of development and adaptation is how these groups change livelihood systems. Two examples illustrate this well.

Ban Na Vang is located on the Nam Mone and is linked with Lak Sao by a seasonal road (Alton and Sylavong 1997). It is a fairly large village and its inhabitants are ethnic Brou who moved into an abandoned Sek village in the nineteenth century from the Thaphaiban area, augmented by more Brou from other outlying areas in the 1970s. The Brou have made use of the paddy terraces that had been constructed by the Sek. The village cultivates 12.8 hectares of paddy and approximately three times that of upland rice, and also makes use of the surrounding forests and river for food and trade items. The Brou had originally practised swidden in Thaphaiban but have seized an opportunity to acquire paddy land. The land was abandoned by the Sek due to the Siamese invasion and subsequent occupation in the nineteenth century. The name of the village means 'vacant paddy land' and illustrates a tendency in the NPA of a gradual adaptation of paddy cultivation by the Brou and Vietic groups.

Developing potential paddy areas in the NPA will not only reduce reliance on swidden and forest products in relation to food security, but will in many cases be regarded as a positive development by different groups, since wet rice cultivation represents the most desirable livelihood system in many villagers' minds. It is important to note that paddy is not restricted to one particular ethnic group such as the Sek or Tai groups, but has been practised by all groups in various forms for many years.

3.5.3.5: Paddy Livelihood Systems (LS4)

The villages in the NPA and periphery that are primarily reliant on paddy cultivation derive approximately 80% or more of their livelihood from agriculture. This livelihood system, if properly understood and functional, provides not only the best form of food security and subsequently the highest standard of living, but is the most attractive option from the point of view of conservation. Paddy cultivation combines high productivity with good sustainability and stability but requires considerable skills in water management and maintenance. Traditionally the Tai and Sek communities have had paddy livelihood systems whenever the terrain has permitted it. But there are examples of Hmong and Brou groups who are also heavily reliant on paddy cultivation while some Vietic groups are developing in that direction. This evolution towards wet rice cultivation has probably been an ongoing process in the region for centuries but it has accelerated this century due to increased mobility and contact with neighbouring groups.

An example is Ban Beuk on the Nam Phaeo is an old Sek village consisting of 143 inhabitants (Alton and Sylavong 1997: NPA Appendix-5). The Sek have been practising paddy cultivation in the area for as long as can be remembered, but what is interesting is that they have recently (13 years ago) started dry season irrigated rice and have claimed to have completely discontinued swidden practices.[15] The irrigation system consists of earthen weirs. The differences in yields are significant:

- irrigated dry season rice 2.5 t/ha,
- irrigated wet season rice 1.0 t/ha,
- rainfed wet season rice < 1.0 t/ha
- upland rice 0.5 t/ha.

It should be noted that, even if rice yields can be increased by improved techniques, storage losses and rodents remain serious and perennial problems which will also have to be dealt with.

Similar to all the other livelihood systems, the Sek at Ban Beuk rely on income from livestock, fishing and hunting to supplement family diets but it seems there is little in the way of trade. This is difficult to gauge since villagers are somewhat reluctant to talk about these issues, knowing full well that the government is trying to discourage such activities. Even so, there is reason to believe that there are fewer incentives to hunt and harvest NTFPs when food security is virtually assured every year and when income can be generated from the sale of buffalo and rice. Achieving food security through agricultural development and improved management systems for NTFPs will be a primary goal under SEMFOP as it will help to sustain current livelihood systems in a manner consistent with conservation objectives.

3.5.3.6: Assessment of Livelihood Problems

A variety of problems have been identified that affect the different livelihood systems previously described (Table 3.10). However, it should be stressed that these are only a first indication of some of the problems, and the actual situation will be explored in much more detail with villagers before undertaking any livelihood development activities or imposing any access restrictions through the VFLMAs.

[15] *In fact the report notes that as many as 21 families, that is more than half the population do not have adequate paddy and upplement this with upland rice but only 8 ha were cultivated in 1996 as opposed to more than 40 hectare of paddy.*

Table 3. 9: Principal Problems of Current NT2 Watershed/NPA Livelihood Systems

Current Problems of Respondent (Villager Perception of Problems)	Livelihood System of Respondent			
	LS1 Forest/Swidden	LS2 Swidden	LS3 Swidden/Paddy	LS4 Paddy
Lack of knowledge and experience with sustainable swidden cultivation	✓			
Low levels of agricultural technology	✓			
Rodent and insect problems	✓	✓	✓	✓
Decreasing wildlife & NTFPs	✓	✓	✓	
Distance from markets	✓	✓	✓	
Poor yields, overworked land and population pressure		✓	✓	
Livestock Diseases		✓	✓	
Lack of knowledge on irrigation			✓	
Water supply regulation/flood control			✓	✓
Floods	✓	✓	✓	✓
Post-harvest grain storage		✓	✓	✓

3.5.4: Socio-Economic Status

There have been two socio-economic studies undertaken in the NT2 Watershed. The first study was carried out by CARE International in 1996 as part of a general assessment of the socio-economic situation in the whole project area (CARE 1997). The second study was commissioned by IUCN to cover the social aspects of the ESMP (1998). The results of the second study are analysed below since they build upon the first study and provide a more detailed analysis.

3.5.4.1: Income Sources

Given the difficulties in obtaining reliable data on family income, any calculation can only be indicative of the average income levels. Data have been collected from 189 households inside the NPA and 210 households on the periphery of the various ethnic groups and is presented in a series of tables in the appendices of the IUCN Draft Socio-Economic Report (1997). These data are summarised in Table 3.11.

Table 3. 10: Household Income and Percentages for Households inside the NPA

Ethnic Group	Average HH income (Kip)	Fishing %	Hunting %	Gathering %	Agriculture %
Brou	194,330	1.38	49.13	28.42	20.33
Vietic	159,448	9.71	10.15	49.64	23.29
Tai/Sek	218,280	0	1.82	43.74	54.44
Averages	**202,694**	**0.9%**	**23%**	**35%**	**42%**

The data in Table 3.11 indicate that income sources vary considerably among the different ethnic groups reflecting the degree of integration into the mainstream economy (Tai and some Brou with good access to markets), level of technology (Sek with wet rice paddy and food surplus and Brou relying on hunting) and knowledge of the environment (gathering among the Vietic groups as opposed to hunting). These differences will be further elaborated on in the following sections. Since there is no data on consumption of agricultural and forest products it is difficult to generalise on what the total households incomes really might be, but there are indications to suggest that the Vietic groups obtain more food stuffs from the forests due to their knowledge of the environment while other groups (not strictly speaking 'indigenous') are far more reliant on hunting and extracting of NTFPs for sale or, in the case of the Sek, irrigation.

The average household income is calculated at 202,694 Lao Kip, or approximately 200 USD in 1996-1997 when the data were collected. If these data are compared with the more detailed data collected on the Nakai Plateau (EMDP, 2002), one can estimate the imputed income as approximately the same or a little less than the cash income. This would mean a total income at approximately 400,000 Kip or 375 USD per household per year. However, one can conclude that the household income of the residents of the NPA is significantly lower than the Lao Poverty Line put at 750 USD.

Interpreting the data from the relatively small sample of households in the peripheral impact zone (PIZ) is even more problematic (Table 3.12). One can only conclude that the location of the villages and the level of technology play an even more important role. The Hmong village of Phon Sa-at has extensive irrigated paddy and hence their strong reliance on agriculture, whereas the Vietic villages are far from markets and some are only recently settled, and are therefore more reliant on forest products and fishing. The difference in livelihood systems will therefore be a key factor in implementing the proposed livelihood development strategies to be elaborated on in Section 3.7.

Table 3. 11: Household Income and Percentages for Peripheral Households

Ethnic Group	Average HH income (Kip)	Fishing %	Hunting %	Gathering %	Agriculture %
Hmong	972,185	0	0	24.08	75.92
Vietic	69,050	0	12.36	10.00	77.63
Tai/Sek	514,308	25.51	6.40	32.44	35.65
Average	405,659	5.08	2.43	24.44	68.05

It is recognized that the foregoing discussion is based on data from a 1997 report, and is therefore rather outdated. It is planned to collect more detailed data under the SEMFOP M&E baseline (See Section 6.5.1) which, once available, will be used to re-analyse income levels.

3.5.4.2: Demographic Status

The general trend regarding population in the NPA is high growth. The average growth for the country as a whole was estimated at 2.6 percent in 1995. Estimates for the NPA are averaged at 3.79 percent, with some villages recorded at as high as 6.25 percent (Chamberlain 1997a: 3-3). However, there are some considerable differences among ethnic groups with lower rates among the Sek who rely less on labour because of irrigated paddy in relation to the Brou with their labour-intensive swidden cultivation. Some of the smaller Vietic groups are even experiencing a population decline or very slow growth rates. This could be due to maladjustment to sedentary lifestyle from a previous semi-nomadic life in the forests and the psychological and social stress associated with such an abrupt transition.

In general, population growth is a major factor when considering land use development. The Brou areas especially can be classified as in a state of 'demographic transition', that is to say, a population growth rate that is yet to stabilise with decreasing mortality rates but without the social mechanisms to lessen the pressure on the land.

Growth rates are also high in the peripheral impact zones and this threatens the viability of some of the livelihoods of groups inside the NPA since encroachment in search of resources will put further pressure on livelihood systems.

3.5.4.3: Health Issues

Sustained healthcare is lacking in the whole of the NT2 Watershed/NPA with malaria, respiratory diseases and gastro-intestinal diseases found everywhere. Infant mortality rates are very high, drinking water is rarely boiled and general sanitation very poor. Most people rely on the local ritual specialists for cures based on a combination of spiritual intervention and herbal medicines. It has been reported that the only medical treatment that some villagers have received over the last few years was irregular visits by some ex-military medics (Alton and Sylavong 1997). The nearest clinics and small hospitals are located in Lak Sao and in Oudomsouk (Nakai town).

Any improvement in the lifestyles of the communities of the NPA will have to involve a basic healthcare programme, combined with education regarding sanitation, disease prevention, use of mosquito nets and eventually birth control. The LWU could also play an important role in community healthcare as well, since many issues, such as childcare and nutrition, are women's responsibilities.

Health interventions will consider how to work with traditional health practitioners, incorporate traditional medicine, needs for training of health staff, and other design features which will produce more culturally sensitive interventions (See Section 2.5.3). One objective of SEMFOP is to hire and train staff from the local communities to provide health services. (See Section 3.7.3). In addition, the WMPA will explore opportunities for cooperating with the WB Ethnic Group Development Plan (a health project targeting poor and ethnic minorities currently under preparation) in the development of health care services specifically tailored to the needs of ethnic minorities.

3.5.4.4: Education

Schools are lacking in most of the villages in the NT2 Watershed and wherever there are schools the level of teaching and facilities are poor. Many villages have previously had schools but often teachers, usually from outside the village or area, have left for better jobs in towns due to low salaries and poor conditions. The result is that the majority, including nearly all the women in the Watershed, is functionally illiterate. The leading positions in villages are often occupied by men who can read and write the Lao language, something that they have acquired during military service or from working outside the area.

Education is another issue that has important implications for the development of ethnic communities in the NPA and PIZ. Basic literacy and numeracy will be absolutely essential for further integration into the market economy, that is increased trading of products, and for a better grasp of issues relating to a range of topics such as healthcare, improvements in agriculture and conservation. Improved education levels will empower the people and give them a better understanding of the processes involved in developing their own lives in harmony with the NPA and ensure a greater involvement and participation in these processes.

It should be noted that special measures to address the particular education issues of the different ethnic groups have been included in SEMFOP (Section 2.5.2) and will be refined during the planning and implementation of education activities. These education interventions will seek to consider language and curriculum, and explore how education interventions may be adapted to the particular circumstances of NPA and PIZ villages.

3.5.4.5 Gender Issues

The cultivation of upland rice or swidden and to a slightly lesser extent, paddy, is highly labour intensive work as are most of the livelihood activities followed by the ethnic minorities in the NT2 Watershed/NPA. Although both men and women are active in agricultural tasks, often dividing the work between themselves, it should be emphasised that women, in addition, are responsible for the domestic sphere. This involves fetching water, cooking, pounding (de-husking) rice, cleaning, washing clothes, looking after young children and the elderly as well as looking after the kitchen gardens, vegetable plots along the rivers, small livestock and gathering edible plants, fish and small animals in nearby streams and rivers. It would be incorrect to conclude that there is a strict segregation of tasks along gender lines, but women have far more responsibility in the domestic sphere, although they may receive periodic help from their husbands or male relatives.

Problems Specific To Women In Ethnic Minority Groups:

Although lowland Lao women face a range of health, education and livelihood problems, ethnic minority women, as a general rule, face even greater challenges. These issues affect the women of different ethnic groups in the NNT Watershed/NPA to varying degrees, depending on their remoteness, cultural values, traditions and other factors, but all are faced with the following and other challenges:

- Lack of education: until very recently, reasonable educational opportunities for girls/women was almost non-existent.
- Lao language: since few girls attended school until recently, and few women are allowed to deal directly with traders from outside the village, few females have been able to learn Lao language;
- Lack of information/training regarding health: despite the fact the women are given the responsibility for the care of children, few have any knowledge of, or access to, health care information outside of traditional beliefs;

- Access to information in general: women, as well as men, have very limited access to information of any kind that can be of use in livelihood development, health care, agriculture, etc.;
- Completely dependent on husband: almost all decisions regarding family, village, livelihood, etc. are made by the husband. Women are generally powerless to act without the consent of their husband.
- Forced to get married early: women are generally expected to get married between 15-20, as 20 is already considered too old to start a family. This eliminates many potential opportunities for training and education, since the duties of wife and mother come very early for most;
- Restrictions on giving birth: some ethnic groups have specific restrictions on giving birth, which may lead to health dangers for the woman and the child.

Economic Roles/Status Of Women:

- In the NNT Watershed/NPA, as in most other ethnic communities in the Lao PDR, money is either in the hands of the husband or controlled by the husband.
- For all ethnic groups in the NNT watershed, the use of or control over all land is in the hands of the husband. In many cases, if the husband dies, the land reverts back to the family of the husband, putting the woman in an even more powerless situation;
- Sale of any resource – livestock, forest resources, etc. – is in hands of husband

Community Support Structures for Women:

There are very few support structures available to women. In fact, the only social support seems to happen during daily work carrying water, gathering forest products, pounding rice, doing laundry, etc. Experience from special projects would indicate that women rarely get involved, although sometimes develop a reason and mechanism to meet and talk together.

Status And Social Standing Of Women

Women are rarely, if ever, elevated to positions of status in the village. An exception to this general rule is the witch doctor or shaman who is sometimes but rarely a women.

Role Of Women In Village Administration

In most cases, the involvement of women in village administration is limited to taking care of guests – providing water, food, smoking material, etc.

Role of Women in Decision-Making

There appears to be almost no female role, or certainly very little role, in decision making, regarding the use of money, going outside of the village, or in local administration. In the case of special projects, women are beginning to give their input on what kind of support the family needs (mosquito nets, tools, etc.).

LWU Roles and Activities:

The Lao Womens Union (LWU) is responsible for all aspects relating to women. Every village, at least in theory, has an LWU representative who is elected by the villagers and approved by the Party. The LWU is responsible for:

- creating an LWU organization in every village;
- economic development activities – providing support/loans for families for weaving or basket making;
- health care support (birth spacing, etc., vaccination support)

Unfortunately, the lack of training and resources of LWU personnel, together with the requirement of membership dues and other responsibilities of members (the traditional of gift giving during meetings) limit the number of members or the enthusiasm of villagers to participate. The LWU's power in regard to protecting the rights of women is further eroded due to the fact that all reporting is generally done through the Village Headman who will generally only take action after consulting with the male dominated village committee or with his peer group.

Other agenciesand organisations relevant to women's needs at the district and village levels include: health, education, agriculture, youth union and forestry.

3.5.5: Peripheral Impact Zone

3.5.5.1: Socio-economic status

Paddy rice was reported to be the dominant form of rice production. 14 villages use only paddy fields for rice production, while 27 villages reported that the majority of households used paddy fields. In 9 villages only a few of the households use paddy fields, and only 3 villages reported having no paddy rice.

Only 7% of villages surveyed reported having no shortage of rice during the year. Nine villages reported that up to 25% of households in the village experience some shortage of rice during the year. Fifteen villages said that 26-50% of households report rice shortages. Ten villages estimated that 51-75% of their households experience annual rice shortages. Almost one-third of villages reported that 76-100% of households are short of rice at some time during the year. Rice shortages reportedly last from 1-12 months with the majority of villages reporting shortages less than seven months in duration (Table 3.12)

Table 3.12: Duration of Rice Shortages.

Rice shortage duration	Percent of all villages
1-3 months	49%
4-6 months	41%
7-9 months	8%
10-12 months	2%

Residents in 51 villages reported largely 12 different types of income sources including sales of livestock and agricultural crops, forest and aquatic resources, textile products and sundries as well as employment with government and private companies.

The most frequently reported source of income across all villages was livestock sales (83% of villages). Many villages reported that livestock sales had increased over the past ten years as a source of cash. Other frequently reported sources of income included sundry sales (76% of villages), government work (67% of villages; as teachers, health care workers, or soldiers), and NTFP sales (61% of villages). With the exception of livestock sales, the sale of native forest and aquatic resources (plants & plant products, fish, and wildlife) was reported by more villages than sale of cultivated agricultural products (such as rice, vegetables, silk, and cotton).

3.5.5.2: Natural resource exploitation

Fish and aquatic animals

Fish are an important food source in the majority of villages (98%) and frogs, snails, shrimp, crabs and eels are also important food sources in many villages. Fish and aquatic animals are also an important source of cash income in 21% of villages.

The majority of villages reported that the abundance of most of their aquatic resources had dramatically declined over the last ten years. Most large-bodied native fish species have declined and some villages reported declines of up to 70% in their native fisheries. Many villages indicated that they had sold fish in the past but no longer had sufficient fish surplus to sell. While native fisheries have dramatically declined, several villages reported increasing numbers of introduced fish species (tilapia and carp) within their village area. 80 percent of villages indicated the existence of some community-based management system. This frequently included rules that banned the use of explosives and poison for fishing and closed access to certain zones of the river or ponds during fish breeding seasons or to ponds during the dry season.

Terrestrial wildlife

Although several villages reported that a variety of species were caught for food, the majority of these were reportedly rodents (rats, squirrels or porcupines), pigs, or small-bodied animals with relatively high natural densities or rates of reproduction (common songbirds, junglefowl, common civets, etc). Monitor lizards, muntjac, and sambar deer were also periodically reported as important food items but in many villages were harvested infrequently due to rarity.

When asked about the sale of terrestrial wildlife for income, 59% of villages indicated that terrestrial wildlife had been an important source of cash income in their village over the last decade. Pangolin was the most frequently reported as important for cash income (45% of villages), followed by turtles (35% of villages), primates (22% of villages), and monitor lizards (12% of villages). To a lesser degree, pythons and bears were also reported important for sale. Many villages reported that sale of wildlife was secondary to the use of wildlife for food or that sales were opportunistic if a buyer came to the village (some villages said traders come 1-2 times per month) or if the household needed cash.

The majority of villages reported that overall abundance of most species of terrestrial wildlife had declined considerably over the last decade. Several large-bodied and frequently sold species where the most frequently reported as exhibiting the most severe declines, to the point of extirpation in some areas. These species included pangolin, bear, sambar deer, turtles, hornbills, and langurs.

One-third (33%) of villages surveyed (n=49) indicated the presence of regulations in the village that prohibited use of guns, trade of wildlife and/or harvest of terrestrial wildlife to some degree. In several cases, these were said to be district government rules that were being applied by the village. In some cases, villages indicated that these regulations had come into practice in the village only within the last five years. In some villages, they reported that gun collection had been effective in curbing wildlife harvest.

Plants and plant products

When asked about the harvest and consumption of plant and plant product, 96% of villages indicated that many of the edible species were still an important food source for households in their village. The three most important edible plant products are bamboo shoots (96% of villages), rattan shoots (55%), and forest vegetables (39%), which included largely ferns and to a lesser degree, mushrooms. In addition to food, 20% of villages indicated that small rattan species were very important for household and furniture construction.

98% of villages reported that plants and plant products were important for cash income. The majority of villages (73%) said that cardamom was an important source of income. Other important sources of income are damar (51% of villages), eaglewood Aquilaria sp. (49%), and rattan (43% of villages).

While most villages reported that many plants and plant products were declining across the PIZ, reports of their present abundance varied considerably. Many villages reported that the more valuable species for cash income (especially eaglewood, many species of rattan, and damar) had declined widely and were increasingly scarce or extirpated from most areas. To a lesser degree, scarcity of cardamom was also reported. More recently, three villages in Gnommalat District (Khamhe, Nammouane, and Beung-Naa) reported that they have just started selling orchids to Vietnamese traders.

Most villages reported that populations of more common and less valuable species of plants remain stable and that edible species, such as bamboo & rattan shoots, ferns, and nuts, are still widely harvested and consumed by the majority of villages.

Many villages reported having rules for management of plants. The most common management system reported was that for controlling cardamom harvest. Many villages reported only harvesting cardamom collectively on a specified day. In some villages, this same rule was reported for controlling damar harvest.

3.5.5.3: Large scale resource extraction

Two villages (Ban Bung Sang and Ban Na Kadok in Khamkeut District, Bolikhamxay Province) reported large gold mining activities. Villagers in Ban Bung Sang reported military-operated gold mining operations approximately seven kilometers away from the NPA that may indirectly put pressure on the NPA through improved road access or through demands for natural resources in the area. Although the mining quota was awarded to the Ministry of Defense, the investment was reportedly that of a private Vietnam-based company.

Villagers in Ban Na Kadok reported gold extraction along the Huai Namhuai. Here a Chinese gold mining company had entered into an agreement with the village to award 20% of their mining quota to

the villagers. Villagers reported that the history of gold extraction in the area is causing the riverbank to collapse and reducing the water quality. Several households in the village are engaged in gold panning as a source of income.

Another village, Ban Nongbua-Naphao in Balapha District, Khammouane Province reported that a Lao company had started collecting red earth to make bricks in 2004 in an area c.1.5km north of the village and 1.5km outside the NPA boundary. Six villages in Khamkeut District reported having large scale logging in the past but none at the present time.

3.6: STRATEGY FOR LOCAL PARTICIPATION

3.6.1: Consultation Process

3.6.1.1: Definitions of Consultation

Public Consultation can be defined as the process through which the views, opinions and active participation of all interested parties or stakeholders are integrated into project planning, implementation and monitoring. Consultation is a type of communication that specifically establishes an ongoing 'feedback loop', integrating stakeholder views, opinions and ideas during the planning, implementation and evaluation of all project activities. Effective communication also requires information dissemination in an appropriate language and/or format, including discussions with non-stakeholders and media presentations of the project. Information provided to stakeholders on options and potential project impacts is often the first step in establishing the feedback loop.

Public Relations implies communication regarding all aspects of the project to the general public, including all forms of media representation and the availability of reports and documents concerning the projects. It does not necessary involve feedback although this could be an outcome of media presentation of the project and is an integral part of the transparency of the project.

A framework for mainstreaming participation at all stages of planning, implementation and evaluation will be necessary if a truly participatory consultative process to succeed under SEMFOP. This strategy is described in detail in Section 2.6.3 of this document.

3.6.2: Review of Local Consultations To Date

Stakeholders at the local level are those indirectly affected by the NT2 Project, who are residing in villages in the NT2 Watershed/NPA or the PIZ. Although no formal public disclosure on the SEMFOP has yet been undertaken, two phases of consultation have been carried out in the NPA and adjacent areas, including the NT2 Watershed Area: (i) consultations during the socio-economic surveys carried out in 1996-1997, and (ii) consultations that are ongoing as part of pilot projects, and conservation initiatives and development of the SEMFOP.

3.6.2.1: Consultations in 1996-1997

Consultations in this period were carried out by teams of consultants from CARE International (1996) and later by IUCN (1997) using RRA techniques as part of socio-economic survey work. These consultations correspond to the first two phases outlined above, that is dissemination of information and eliciting villagers' concerns and needs. This information was then incorporated into strategy and planning documents, including the *Social Action Plan* (IUCN 1998). The following aspects were covered:

i. Semi-structured interviews with individuals and small groups based on pre-selected topics and focus areas considered relevant for project interventions
ii. Eliciting villagers to engage in dialogues on indigenous knowledge of the environment and resource usage, including open-ended questions
iii. Special attention was given to resource use to ascertain understandings of local resource use. These included village sketch maps, cross-sections from transect walks across village land, crop or animal calendars showing seasonal variation, labour schedules, activity sequences of resource use, and decision-making patterns of representative families.

iv. Key informants such as village leaders, traditional leaders and ritual practitioners were interviewed for information on local history and cultural practices

Information collected was assessed based on the various methods of data collection and co-related with individual accounts and project objectives. It is important to note that interviews were carried out in a sensitive manner with ample consideration given to soliciting opinions and avoiding outside interference in steering the conversation. The survey teams consisted of international sociologists and anthropologists as well as local consultants and district and national government staff. Some training was provided in RRA techniques prior to the survey.

3.6.2.2: Consultations 1998-2000

Consultations since 1998 relate to all phases outlined above but the emphasis is on active Involvement in Project Design and Implementation, the third phase. This has involved a regular contact between specialists and GOL staff on the one hand and villagers in designing interventions in the area of livelihood improvements (pilot village projects) and conservation. PRA training was carried out for a number of NPA staff in 1998 with emphasis on soliciting villagers' priorities in relation to resource utilisation and planning.

Participatory Land Use Planning has been the main strategy relating to improving livelihood systems. This consists of the following steps:

i. Assessment of the socio-economic situation
ii. Identification of village boundaries
iii. Surveying of swidden areas
iv. Measuring of reserved agricultural land
v. Obtaining feedback from villagers and representatives from the area
vi. Assessment of potential forest and land-use zones
vii. Meeting with village leaders to discuss selection of Village Forest/Land Use Planning and Allocation Committee (VFLC)
viii. VFLC meetings to discuss and formulate forest/land use zones and regulations
ix. Finalisation of agreement through map preparation and temporary forest/land use certificates
x. Demarcation of boundaries of forest/land use zones with signs
xi. Village meetings to conclude forest/land use planning and allocation of activities

At Ban Makfeuang, the demonstration farm established by EcoLao has utilised a 'trial-demonstration-extension-adaptation-adoption' strategy whereby villagers have worked under the guidance of specialist and been encouraged to innovate and use the knowledge gained in their own fields. Villagers working on the farm have been paid in rice for their labour. This on-the-job training has consisted of a daily interaction with villagers and specialists residing on the farm.

This participatory model has been designed for 'Guardian Village' activities in which NPA and DAFO staff worked together with villagers to address conservation and development issues. This included establishing monitoring units and training them to patrol and encourage the use of conservation techniques. Joint patrol units were established and have been operating successfully from these villages. The results of the planning and consultation are detailed in the Pilot Field Activities Final Report (IUCN 1999).

These consultations and implementations in livelihood development and conservation for pilot schemes arecontinuing under the GOL and international consultants at present, centred in the villages of Ban Teung, Ban Makfeuang and Ban Navang. Considerable time and effort has been required to establish a working relationship with villagers given their suspicion of outsiders and disruption in project implementation.

3.6.2.3: Participatory Needs Assessment 2000

A Participatory Needs Assessment survey was conducted as part of the GOL review of interventions in the three pilot villages in 2000. 15% of households were sampled in order to gauge how interventions compared with the expectations of villagers. The first three priorities of the villages were the creation of

new rice fields, improvement of housing and the operation of a village health facility. The focus on food security confirms the actions undertaken in the livelihood development plan while the other two needs relate to social development which also form part of the overall strategy for enhancing the lives of the villagers in the Watershed.

3.6.2.4: Consultation by DUDCP

Participation of local villagers in planning and implementation should have been a key aspect of the District Upland Development and Conservation Project (DUDCP) that was supported by the WB in the form of a Learning through Innovation Loan (LIL). However, it is widely reported, both formally and informally, that the process of developing trust and confidence with villagers was challenging for a number of reasons. As is probably expected with such interventions, villagers were at first suspicious of the new project and were reluctant to participate at first. The delays, staff turnover and logistic problems did not help.

After a difficult start, co-operation between staff and the villagers improved somewhat as the benefits from project interventions became more apparent as the programme developed. An example is the fact that project teams were latterly posted in villages, a sign of mutual understanding and demonstration of support. The success of the SEMFOP consultation process and the project as a whole will depend to a great extent on effective and culturally sensitive communication. Training in conducting consultations and input from the ethnic minorities advisor and other specialists will be necessary. As is reported by Culas (2001), communities may be highly suspicious of outsiders and weary of interference in their lives due to a long history of disruption, war and imposition of change from outside.

The results of a workshop to review the DUDCP development initiatives provide some important lessons for SEMFOP. Despite good intentions, it is clear that the level of participation of the pilot communities, particularly in regard to incorporating and building on traditional livelihood systems and local knowledge when planning development activities. Essentially, a 'transformation' approach to development was attempted and clearly shown to fail, rather than 'building on' existing systems with their inherent strengths and locally appropriate opportunities. The major lessons in regard to participation included:

- Most development activities were essentially pre-determined by the project rather than planned with villagers.
- Inadequate attention was paid to traditional NTFP use when selecting crop species for home-garden production – some duplicated existing NTFPs and others were not even eaten by villagers.
- Similarly, traditional herbal medicine use practices were virtually ignored and villagers were probably left more reliant on modern medicines with their associated availability and access problems. Indeed, it was stated that modern medicine had entirely replaced traditional remedies.
- Promises of assistance in some areas were left unfulfilled, thus reducing the villagers trust in the partnership they had with development agencies.
- The remote location of the project office in the Thakek provincial center constrained effective participation and seriously reduced the level of cooperation with district authorities.
- GoL staff-rotation caused discontinuity and hindered trust and relationships with villagers. In addition a lack of cultural sensitivity and poor behaviour (drinking purchasing wildlife) further strained relationships and set a bad example.

3.6.2.5: Public Consultation by the WMPA

Public consultations were conducted by the WMPA, with the assistance of external consultants, in both NPA and PIZ villages beginning in May 2005 (See Section 2.6.6.7 for details). The objective of these was to fully inform affected villagers of the NT2 Project, explain the implications to them and obtain feedback and suggestions from them. The public consultations focused strongly on ethnic inclusion and identified a number of shortcoming in this regard in the current process and the methods used. These have been used to modify the public consultation process itself, but have also beenincorporated into the EMDP (and

other parts of SEMFOP), as and where appropriate. The most important lesson learned in respect to ethnic issues and changes made to the EMDP accordingly, include the following:

Issue	Explanation	Resultant change in EMDP
Additional mechanisms are needed for full ethnic inclusion.	Particularly in villages of mixed ethnic composition, some groups were either partially excluded or dominated over by others.	Recognition of the occurrence of ethnic dominance, particularly in regard to VCMUs.. The introduction of ethnically dis-aggregated discussion groups in FLUPAM, etc.
Consultations in each local dialect are required for full inclusion.	Although village facilitators were supposed to be able to explain issues in to all dialect groups, discussion was in a single language and thus excluded some	Local language capacity to be a key in WMPA staff recruitment. Preparation of public awareness materials in all dialects. The use of ethnically dis-aggregated discussion groups in FLUPAM, etc.
The occurrence of a significant degree of ethnic dominance among NPA communities.	Some groups are intimidated or even afraid of other groups.	Ethnically dis-aggregated discussion groups. Improved enforcement authority of VCMUs to deal with dominant groups
Some inter-ethnic conflict in regard to forest and land use issues in the NPA.	Some villages/ethnic groups may not have equal access to land and forest resources	Inter-village conflicts dealt with as a first step in FLUPAM
Mini-watersheds are the key ecological and social unit in regard to land use conflict resolution	Different ethnic groups may locate themselves at different places or elevations in small watersheds and thus have different impacts. LUP conflicts can usually be resolved at the level of the mini-watershed	Implementation of FLUPAM in village clusters will be modified to follow mini-watershed lines. VCMU networks will be established for all mini-watersheds in the NPA.
Problems of measuring (and thus ensuring) the equitable distribution of the benefits of development activities.	Swidden groups tend not to assess performance in returns per area but in return to labour. Relative wealth assessments tend to vary from group to group.	The development and use of appropriate 'wealth indices' to be used in FLUPAM needs assessments, planning and evaluation exercises.
The need for special support mechanisms for swiddening families during the transition period in livelihood development.	Labour foregone for development of paddy, contour strips, orchards, etc. for childrens schooling, etc. threatens family subsistence and has to be buffered against.	Establish VDFs in all villages prior to FLUPAM as a subsistence buffer during LDC activities.

3.6.3: Assessment of Meaningfulness of Consultation Process

The meaningfulness is central to the success of all consultation processes and a central element in the long-term sustainability of the programme. There are several ways of assessing meaningfulness, including gauging how local knowledge is incorporated into planning, the degree of commitment of the communities involved and the extent of the roles and responsibilities they will have in the implementation and monitoring of the project. Preliminary consultations in relation to pilot village development represent important first steps in the consultation process and provide lessons for further consultations.

3.6.3.1: Incorporation of Local Knowledge in Planning

Given the rich biodiversity of the NT2 Watershed, there is much to be learned from the accumulated local knowledge of the resident communities in terms of scientific study and the practical use of natural resources. In order for this knowledge to be fully understood and developed for the purposes of biodiversity conservation and livelihood development, certain principles must be followed and steps taken to maximize the use of appropriate local knowledge into SEMFOP planning and management processes:

- Local communities must be central actors at all levels of planning, field studies and activity management, at the village level and, preferably, at the Project Management level (See Section 3.6.1). This step will require a much slower pace in initial assessments and team building, in gathering information and planning for livelihood interventions. It is essential that working relationships between the WMPA and each village is equitable, transparent and empathetic. This will require significant training for WMPA field officers as well as for village people and committees.
- The Social and Ethnic Development Advisor must be present for initial assessments of each village, must train a subordinate who will be engaged for at least 6 months of each year during the initial phase of the SEMFOP-1, and must coordinate closely with the PICAD Advisor and other TAs responsible for biodiversity conservation and livelihood development.
- Local language and dialects must be used whenever possible, meaning WMPA field staff must speak local dialects and/or selected local people must be included as full time team members.
- Detailed surveys and studies of the biodiversity in terms of ethno-biology, that is local categories, classifications and uses for the various species (so-called folk taxonomy), must be conducted with the inclusion of 'specialists' *from* each of the ethnic groups in the Watershed.
- Chart detailed local knowledge of the area – cultural constructs (time, natural cycles, etc.) and spirit boundaries within the NT2 Watershed, with the participation and leadership of local people.
- Identification of cultural aspects that have a direct bearing on socio-economic development and conservation and integrate these aspects into the overall Plan for the benefit of the PAPs, in particular Vietic groups, the original inhabitants of the Watershed.
- Incorporate measures to protect the rights of ethnic groups in relation to potential forest products that may have a commercial value should also be considered in order to ensure that this local knowledge is used within its original context and thus remains meaningful ;
- Finally, with the eventual goal of encouraging all ethnic groups to adopt a more sedentary form of agricultural production, the SEMFOP-1 must use the skills and experience of the groups in the watershed (e.g. the Sek) who have already successfully made, or partially made, this transformation. The Sek (and other groups or individuals as appropriate) should be engaged as resource people to teach the skills necessary to adapt to paddy cultivation and other non-swidden agricultural techniques. The Sek should be given special training in order to serve as resource people for their neighbors in, and even outside, the NNT watershed. The use of local people like the Sek to serve as resource people makes good sense because their understanding of the local context and commitment to the area is unquestioned and the likelihood that they can continue to serve as resource people for years to come is high.

Preliminary studies have already been carried out by a number of scholars (*cf* Chamberlain 1997b; Culas 2001) but further work needs to be done to consolidate these studies, to cross check the lessons learned with local 'specialists' and to relate findings to implementation plans. This will be an initial priority of the Ethnic Minorities Advisor who will be engaged at the start of full implementation of the SEMFOP.

Local knowledge has already been utilised in conservation, patrolling and studies in the pilot project villages, and activities that have already been undertaken in the NT2 Watershed/NPA. This integration will continue for the duration of the project.

Local knowledge will also play a key role in activities related to NTFPs, their traditional uses and potential for domestication. It also has a significant, potential role in cultural ecotourism, which if planned and managed properly, could assist in preserving traditional practices and cultural values. It is thus important to ensure that ethnic minorities are fully involved in the planning and management of these activities to ensure that the potential that indigenous knowledge has to offer is fully utilised. It is also important that

these groups receive an equitable share of the benefits from such activities through the commercial and employment opportunities that will be created.

3.6.3.2: Commitment of Communities

Project Teams from DUDCP were latterly posted in the pilot villages, a sign that the staff were welcome and that some benefits were reaching the communities (health and education as well as agricultural support). Evidence of the commitment of the communities is the fact that 52 health volunteers were recruited and trained. After attempting to place teachers from outside the Watershed at village primary schools and facing the difficulty of recruiting and keeping these teachers, the decision was made to recruit teachers from among the villagers themselves (17 in all). These were important first steps in community commitment that the project develop further in other areas of the Watershed.

3.6.3.3: Role in Implementation and Monitoring

Several actions have already been undertaken in the form of pilot villages and conservation patrolling that have involved local communities in the Watershed. The most important aspect has been joint patrolling with technical experts and villagers from ethnic minorities. Villagers have collected data, patrolled areas along the borders of the NPA and set up camera traps.

3.6.4: Role of Traditional Leadership

Village leadership has played a crucial role in the consultation process. Many of the steps outlined in the previous section have involved discussions with village leaders and could not have gone ahead without their consent and support. An analysis of the role of traditional leadership in the villages of the Nakai Plateau probably reflects a similar situation for many of the villages in the NT2 Watershed area in terms of decision-making processes and power relations at the local level (cf. EMDP for the Nakai Plateau 2002). As with the Nakai Plateau, consultations with village leaders should be balanced by discussions with male and female groups and interviews with selected individuals in order to obtain a clear picture of the situation on the ground.

3.6.5: Cultural Development

Cultural development is a complex term that refers to the socially transmitted patterns of behaviour that characterises a particular group. These include knowledge, beliefs, art, morals, laws, customs, techniques and any other unique capabilities and habits of a society. Cultural development, thus, refers to the process of transmission involving considerable continuity of behavioural patterns but also change, modification, adaptation and alteration, both internally and through contact with other groups. In the context of the NT2 Watershed/NPA and its resident ethnic minorities there has been considerable borrowing and sharing cultural values and technologies both among these groups and with outside populations.

These changing cultural dynamics are effecting ethnic identity. The notion of how these ethnic groups may best benefit in terms of 'cultural development' from the project and at the same time how their cultural uniqueness may be protected from adverse effects needs to be taken into account. It would be impossible to insulate these groups from the dominant lowland Lao culture and the growing influence of the nation state and market place economics by attempting to preserve cultural uniqueness. One runs the risk of isolating these groups further and delaying an eventual absorption into the mainstream culture solely on the dominant culture's terms. The groups themselves have expressed a strong desire for integration economically during consultations and yearn for progress in the form of modern technology, infrastructure and improved services.

An alternative approach to preservation is to equip local peoples with the necessary means and knowledge to participate in the national economic, social and political development. This does not necessarily mean merging with the dominant culture, but rather establishing the economic basis and conditions (education, healthcare, infrastructure and assess to resources) so that these groups may compete with the dominant group on a similar level. The political reality of Lao PDR, a nation still striving to provide peripheral areas with improved infrastructure and services, and to increase the role of market forces throughout the country since liberalisation in the early 1990s, are important factors to consider. In addition, the Nam

Theun 2 project is likely to increase the tempo of these two processes. Therefore, to equip these ethnic minorities with the means to retain control over their own resources and exploit them in a profitable and sustainable manner could prove to be the best means of preserving 'their dignity, traditional rights and cultural uniqueness' (WB OD 4.20, 6). This can best be achieved through continuous public participation and taking account of the aspirations of the people themselves.

The aim is to combine elements of existing cultural values within the context of an emerging modern state. The bottom line is that without interventions which ensure food security, a sustainable use of natural resources, protected rights and improved livelihood, it is unlikely that these small ethnic minorities could withstand the advance of the better educated, better organised and more advanced dominant culture and the market forces which accompany it. In order to 'preserve' cultural diversity in this region, a realistic plan is needed that ensures socio-economic development through culturally sensitive approaches and participation. Without economic development (external inputs), cultural development (the internal dynamics of social groups) is nigh impossible.

3.7: LIVELIHOOD OPTIONS AND COMMUNITY DEVELOPMENT

3.7.1: Livelihood Development Systems

The livelihood development strategy developed under SEMFOP is described in detail in Section 2.4, but it is important to emphasise here that it embodies a number of important attributes:

- Development activities are linked to conservation in a transparent manner to ensure that preferable development options also have positive outcomes for conservation.
- The planning, implementation and evaluation of development activities is participatory involving local people in all aspects of decision making.
- It emphasises enhancements and incremental improvements to existing livelihood systems rather than the introduction of entirely new systems.
- It follows a sustainable livelihood approach under which all elements of the livelihood system are considered rather than just rice production and agriculture

3.7.1.1: Strategy for Conservation and Development

The successful introduction of livelihood improvements for the rural poor is a notoriously difficult exercise, fraught with complexities and pitfalls. There are not many examples of success, as measured by the actual adoption of introduced innovations beyond the life span of a project. Thus, at the core of the livelihood proposals is a process designed to facilitate local participation in the fundamentals of the adoption of improved livelihood practices. Ultimately this process itself will be the final arbiter of which livelihood technologies are actually tried and adopted, although the technical issues cannot be treated lightly. In identifying technologies for initial trial and adaptation, an open mind is required. A great deal is already known about the kinds of technologies that typically fail with shifting cultivators and somewhat less, but still a significant amount, about those that have a good chance of succeeding. Therefore, the process involves a particular set of 'best bet' technologies for use as starting points in the adaptive research process. Intelligent modification of these technologies based on trial by the local participants will be the best evidence of a successful process.

The successful adoption of improved livelihood interventions is made more difficult when it takes place within the context of conservation, which in the case of the NPA, is for both biodiversity and catchment values. The seriousness of the threat to biodiversity is rivalled only by the severity of food insecurity and the acute need for poverty alleviation among the inhabitants of the NPA. On the one hand, there are threats to endangered wildlife and botanical resources caused by hunting and over-use of NTFPs, compounded by the progressive destruction of forest and wildlife habitat by shifting cultivation. While on the other hand, there is a general reliance on hunting and gathering for cash income to offset chronic shortfalls in food production, exacerbated in recent years by climatic anomalies and flooding. No plan can hope to be successful unless it addresses these contradictions at their roots.

It is the position of this EMDP that the challenge can be met through a strategy which focuses on the following aspects:

- Community Driven Development and CDD-related delivery mechanisms.
- Increased food security.
- Diversification of livelihood options.
- Gradual intensification of land use away from reliance on hunting, gathering and shifting cultivation toward more productive and sustainable livelihood systems.
- Adaptive trials and extension in support of this approach on a number of livelihood alternatives.

In order for this strategy to work, however, it will require a judicious approach to implementation of the proposed livelihood improvements, one that foregoes the open-ended-growth approach that implicitly underlies most economic development efforts. The development process must be limited if the conservation objectives are not to be swept away by unchecked growth. The appropriate welfare target is a steady-state household economy based on an orientation that might be called 'subsistence plus'. Certainly if every family was able to adopt all of the livelihood improvements identified in this plan, they would exceed the 'subsistence plus' target by an unsustainable margin. That is not the intention. What is required here is to facilitate within each of the Watershed communities limited adoption of the most appropriate alternatives from a larger selection of livelihood options.

Community-driven development (CDD) and related participatory methodologies (Section 2.1) give control of decisions and resources to community groups. It treats poor people as assets and partners in the development process, building on their institutions and resources. Support to CDD usually includes strengthening and financing inclusive community groups, facilitating community access to information, and promoting an enabling environment through policy and institutional reform.

Experience demonstrates that by directly relying on poor people to drive development activities, CDD has the potential to make poverty reduction efforts more responsive to demands, more inclusive, more sustainable, and more cost-effective than traditional centrally led programs. CDD fills a critical gap in poverty reduction efforts, achieving immediate and lasting results at the grassroots level and complementing market economy and government-run programs. With these powerful attributes, CDD can play an important role in strategies to reduce poverty. These CDD principles are embodied in the PICAD strategy to be used for the planning and delivery of livelihood development activities to ensure that they not only complement, but actively promote conservation objectives. A more detailed description of the CDD approach is provided in Section 2.1.3 of this document.

There are also limits on the future extrapolation of even the most sustainable land use system. Although it is not within the scope of the current plan to offer detailed recommendations for future developments in peripheral impact zones areas adjacent to the NPA, some provision is required for siphoning off unsustainable population growth in future generations. Paradoxically, the best way to ensure that a good percentage of the next and succeeding generation will be attracted to livelihoods outside the conservation area is to ensure that they receive education and other fruits of development now.

Another reason for setting limits on development within the NPA communities is to preserve incentives for succeeding generations to move out of the conservation area to more attractive locations outside. A less restricted application of the same livelihood options developed for the NPA, together with a higher level of services (roads, health care and education) will be help to create 'magnets' conducive to voluntary out-migration. On the other hand, care must be exercised to avoid making the peripheral impact zone settlements so attractive that they draw settlers from all over Lao PDR. Nothing could be more threatening to a protected area than to have a large and mobile population sitting just outside its boundaries. It runs counter to currents deep within the psychology of most development workers, but successful accomplishment of both conservation and development objectives requires not only compromises from the conservation side but also ceilings on welfare targets.

3.7.1.2: The Logic of Intervention

In order to stand a realistic chance of being adopted by the intended beneficiaries, the introduction of livelihood improvements must match the possibilities inherent in the group's position on the continuum from less intensive to more intensive. Different options open up from different positions on this evolutionary sequence. A review of the main sequence patterns of land use evolution in Southeast Asia

will help place the above technical options in context and set the stage for a more sensitive application to the villages in the Watershed.

In rice growing areas of Southeast Asia the evolution of optimal agricultural landscapes under pressure of population growth tends to be toward a mosaic of paddy rice fields on the bottomlands and multi-storey agroforestry systems or tree gardens in the uplands. This is an ideal pattern which is best exemplified where high population densities have been reached by gradual growth with sufficient time for land use to adjust to the demand for increasingly productive and efficient use of land in support of higher population densities. The reason for this is that both components of this complex, paddies in the bottomlands and tree gardens in the uplands, tend to be the most biologically stable and sustainable land use systems representing the highest use values consistent with the cultural objectives of Asian farming populations.

The progression from long-fallow swidden to paddy fields with upland agro-forestry can be described as a 'reluctant evolution' that is typically driven by population pressure. At the beginning land is abundant, labor tends to be the main limiting factor of production, and there is a premium on systems which offer high returns to labor; whereas, at the other end land is usually the limiting factor, labor is abundant and land use tends to be correspondingly labor-intensive. The premium is on labor-intensive systems that maximize returns to land while making full use of available labor. This, again, is an idealised picture. The situation on the ground is often complex, with different groups practising a mosaic of different technologies from different stages on the intensification sequence (Raintree and Warner 1986).

3.7.1.3: Land Distribution

An important aspect that is central to many of the interventions listed below and key for realising sustainability and development is land distribution. A sense of secure land tenure at both the community and household levels will provide a heightened sense of food security and encourage investment in ways to more efficiently manage the land for the long-term. Land distribution needs to be seen as part of the Zoning Strategy of the NPA – and more specifically as part of the FLUPAM process – forest and land use planning allocation and Management (See Section 2.2). This government program will be implemented, in modified form, in the NT2 Watershed/NPA.

3.7.1.4: Matching interventions to existing livelihood systems

Table 3.13 presents a list of some possible livelihood changes that underlie a shift from unsustainable to sustainable natural resource use practices while Table 3.14 provides an analysis of the current livelihood systems in the NT2 Watershed/NPA on which these indicative proposals are based.

Table 3. 13: Summary of Livelihood Alternatives for the NT2 Watershed/NPA.

Current Practices	Alternative Practices
Upland rice production on swidden land	Rainfed or irrigated paddy cultivation on permanent terraces Improved fallows Evolution to permanent agroforests
Foraging for dietary supplements and non-timber forest products for sale	Growing of forest foods for home consumption and other NTFPs for cash in: - Home gardens - Swidden fallows - Agroforests
Unrewarding and unleveraged sales of NTFPs to itinerant traders at low prices	Organized group marketing Value-added local production of handicrafts Sustainable NTFP management and harvesting systems
Hunting protected wildlife for dietary protein and cash income	Semi-intensive production of vaccinated farm animals Aquaculture systems for indigenous fish species Controlled wildlife offtake for consumption only
Extensive free-range herding of low-quality, disease prone livestock on fire-induced grassland	Cut-and-carry feeding of fewer but higher quality, more productive vaccinated livestock
Use of child labor for hunting, gathering and swidden farming.	Settled agricultural lifestyles which allow children to be educated, thus opening opportunities for off-farm employment - improved education will be required

Table 3. 14: A Diagnostic Approach to the Identification of Interventions

	Livelihood System			
	LS1: Forest/ Swidden	**LS2: Swidden**	**LS3: Swidden/Paddy**	**LS4: Paddy**
Approx no. families	15	135	80	25
Analysis	Sedentary but still reliant on forest gathering to a large extent	Primarily swidden cultivation with NTFPs and livestock for cash income	Combining swidden, paddy and dependency on livestock and NTFPs.	Primarily paddy with cash crops, livestock and trading
Diagnosed Problems	• Relatively low levels of technology; • Flooding, rodent and insect infestations of fields; • Decreasing Wildlife and NTFPs; • Dependency Problems	• Flooding of swidden, rodent and insect infestations of fields; • Decreasing Wildlife and NTFPs; • Poor yields, overworked land and population pressure; • Livestock diseases; • Distance from markets;	• Flooding, rodent and insect infestations of fields; • Lack of knowledge of irrigation methods and water control; • Decreasing Wildlife and NTFPs; • Poor yields, overworked land and population pressure; • Livestock diseases; • Distance from markets;	• Regulation of water supplies and flood control; • Rodent and insect infestations; • Storage of grain after harvests.
Conservation Threats	• Overexploitation of NTFPs	• Overexploitation of NTFPs • Destruction of habitat due to expansion of swidden • Destruction of Watershed function • Potential for habitat destruction if livestock numbers increase • Livestock competition with wildlife	• Overexploitation of NTFPs • Destruction of wildlife habitat due to expansion of swidden	• Free ranging livestock
Intervention Strategy 'Subsistence Plus'	• Household economy (food security + cash income) • Sustainable land use intensification • Work with what they know best (NTFPs?) • Substitute more robust crops in swiddens • Facilitate marketing of NTFPs	• Household economy (food security + cash income). • Sustainable land use intensification • Help them get what they want (rice paddies?) • Improve what they have (swidden, livestock, NTFPs) • Alternative cash crops for income • Facilitate marketing of NTFPs	• Household economy (food security + cash income). • Sustainable land use intensification • Facilitate marketing of NTFPs	• Household economy (food security + cash income). • Sustainable land use intensification • Facilitate marketing of cash crops, rice.

	LS1	LS2	LS3	LS4
Livelihood Options (In approximate order of priority for demonstration and trial)	Domestication of subsistence foods (wild tubers, roots and sago palm) and other NTFPs in home gardens, swidden fallows and agroforests for home consumption and sale Transition from swidden to permanent multispecies agroforests (NTFPs, fruit trees etc.) Paddy development where appropriate: • Expansion of paddy land with irrigation and water control • Employment in conservation work	Paddy development • Expansion of paddy land; • Improved irrigation and water control Domestication of NTFPs in home-gardens, swidden fallows and agroforests Accelerated swidden fallows for more rapid and complete recovery after cropping Transition from swidden to permanent multispecies agroforests Livestock improvements • Vaccination; • Pen feeding; • Cur & carry fodder banks; • Living fences; • Enrichment of fallows with fodder species; • Undersown fodder in plantations Intensive home garden development for increased food security and cash income (fruits, vegetables, domesticated NTFPs, etc. – less important than for groups with less swidden	Paddy development • Expansion of paddy land; • Improved irrigation and water control • Green manure crops Domestication of NTFPs in home-gardens, swidden fallows and agroforests Intensive home garden development for increased food security and cash income (fruits, vegetables, domesticated NTFPs) Accelerated swidden fallows for more rapid and complete recovery after cropping Transition from swidden to permanent multispecies agroforests Livestock improvements • Vaccination; • Pen feeding; • Cur & carry fodder banks; • Living fences; • Enrichment of fallows with fodder species; • Undersown fodder in tree plantations • Composting Permanents fields with contour bunds, terracing, green manure and composting to maintain fertility Improved rice storage facilities	Paddy development and intensification through: Better water control; • Green manure crops • Crop rotations and multiple cropping Improved rice storage facilities Intensive home garden development for increased food security and cash income (fruits, vegetables, domesticated NTFPs) Permanents fields with contour bunds, terracing, green manure and composting to maintain fertility Livestock improvements • Vaccination; • Pen feeding; • Cut & carry fodder banks; • Living fences; • Composting;

3.7.1.5: Improved Livelihood Options

This section contains a more detailed discussion of the proposed livelihood interventions and the variables that influence their appropriateness for particular communities. In order to distinguish between initiatives that will and those which will not have significant impact on biodiversity, each livelihood option below is assessed in terms of potential impact on globally significant biodiversity values of the NPA. Furthermore, each livelihood intervention is evaluated based on an assessment of impact on socio-cultural values as well. During the term of the SEMFOP each livelihood intervention should be evaluated on a regular basis to determine the impact on biodiversity conservation.

Expansion and intensification of paddy

Development of rice paddies wherever possible is a high priority intervention. Not only is it one of the most biologically sustainable of tropical land uses, it also enjoys nearly universal popularity among the inhabitants of the NT2 Watershed. Even those with little or no experience with intensive agriculture seem to perceive it as a desirable development target.

Irrigated paddy cultivation should be considered as the 'default option' in all bottomlands in the vicinity of settlements. The only exception to this intervention might be in cases where the household economy is advanced enough to give precedence to cash crops in the form of high-value domesticated NTFPs normally found in a riverine environment (e.g. certain highly sought species of bamboo shoot). However, given the importance of rice to food security in the NT2 Watershed this option should not generally be promoted over paddy. Rainfed paddy is another good option for many areas, but would have to be compared to alternative forms of permanent field farming as well as to the more remunerative agroforestry options.

Food security within the NT2 Watershed as a whole does not necessarily require that every household be self-sufficient in paddy rice, there is unlikely to be sufficient potential paddy land in current locations. For households that are able to develop a successful cash cropping strategy, not producing their own rice should not be a major concern as long as enough of the people who do have paddy are able to generate sufficient surplus to sell to their fellow residents.

In situations where paddy yields are low or declining due to decreasing soil fertility, green manure may be indicated to raise and maintain fertility. In this connection the Rice-Sesbania rostrata green manure system developed by Chiang Mai University's Multiple Cropping Centre is very interesting. Since the seeds of Sesbania rostrata do not germinate immediately it may be broadcast into the rice paddy while the rice is still in the field. Then after the rice is harvested the sesbania grows up and takes over the field. A growth period of 50 days is sufficient to restore fertility for another cropping cycle. The sesbania is easily cut and then puddled into the wet paddy soil and allowed to decompose for a week before preparing the land for transplanting rice. If the sesbania is allowed to go to seed before being cut, the seeds will remain in the soil and germinate over a long period of time. Thus, once the system is established it can continue indefinitely without replanting. This is a very low-labour, low-input system that may appeal to experienced paddy cultivators in the Watershed who have a need to raise soil fertility.

Rice-soybean and other leguminous crop rotations are another fertility maintenance system. The soybean is simply sown into the rice paddy as a dry season crop. It would probably be inadvisable to encourage farmers in the Watershed to grow soybean as a cash crop, however. This internationally traded commodity has notorious price volatility and, in any case, the remoteness of NT2 Watershed communities would put the local farmers at a competitive disadvantage. This is a cash crop that is better left to the lowlanders.

The research at the Multiple Cropping Centre has shown that these two innovations can be combined, with Sesbania rostrata fallow for 50 days, followed by rice, followed by soybeans in the dry season.

Domestication of NTFPs

Domestication of NTFPs is proposed as a key intervention, to relieve pressure from the over-use of natural resources and to attract shifting cultivators to more sedentary livelihoods (ca. 50% of income is from NTFPs). Candidate NTFPs will be selected for cultivation, along with other crops, in home gardens,

swidden fallows and agroforests. A number of potential products which have already been identified are presented in Table 3.15. Further work will also needed to safeguard the knowledge concerning NTFPs in the NT2 Watershed/NPA.

Table 3. 15: Preliminary list of candidate species for domestication in the NT2 Watershed/NPA

Livelihood Group	Domestication for cash income		Domesticate for food security
	Forests/Swidden, Swidden, Swidden/Paddy, Paddy		Forests/Swidden
Yams, tubers			• Dioscorea hispida • Dioscorea esculenta • Ipomena sp.
Rattans & bamboo	• Calamus spp. • Various bamboos, e.g. for wall-mats	• Calamus spp. for furniture • Various bamboos, e.g. for wall-mats	• Calamus sp. • Bambusa tulda • Oxytenanthera parvifolia • Dendrocalamus • Schizotachys zollingeri
Palm hearts			• Caryota sp.
Spice	• Zanthoxylum rhetsa		
Medicinal plants	• Amomum (cardamom) • Coscinium usitatum ("kheua hem"/berberine)		
Cottage industry raw materials	• Notaphoebe umbelliflora ("bong" bark) • Broussonetia papyrifera (paper mulberry)	• Notaphoebe umbelliflora ("bong" bark) • Broussonetia papyrifera (paper mulberry)	

(Source: Foppes et al. 1997)

Intensification of Home Gardens

Intensification of home gardens is one of the most ubiquitous and successful features of intensive land use systems in Southeast Asia and should be a priority focus, on a par with paddy expansion. This recommendation is based on the traditional role of multistrata home gardens as the mainstay of household subsistence wherever the practice is highly developed.

The home gardens seen in the conservation area at this point in time can be described as, at best, 'incipient'. This is not surprising for an area in which swidden is the dominant land use, since most of the products that could be grown in home gardens can be found in the forest or in swidden fallows. As long as the natural forest is providing for household needs within reasonable distance from the residential area, home gardens may not become well developed. Although this might be the situation in the NT2 Watershed/NPA at the present moment, depletion of undomesticated NTFP resources is rapidly creating a condition very favourable to the emergence of fully functional home gardens.

Extension and adaptive research activities should focus on women, because the home garden falls predominantly in their domain. Any effort to assist women to develop diverse and productive home gardens will automatically benefit the household food security, small livestock production, child rearing and other areas of the domestic economy. The LWU will be involved in the participatory analysis and planning of home garden development activities under PICAD. In summary, the effort will address:

- The key lessons learned from DUDCP in respect to home garden development (See Review of ICDPs in the Appendices of this Volume of SEMFOP).

- Analysing the current situation and needs and thereby determining what villagers want to have in their home gardens.
- Women's roles in home garden development (in cooperation with the LWU).
- Participatory research and extension on propagation techniques (preceded by an concerted effort to access what is already known internationally)
- Provision of sufficient suitable planting material - initially from external nurseries, but later through village or household nurseries, if local adoption warrants this.
- If demand warrants, nurseries could be developed as a micro-enterprise through training assistance to appropriate villagers.

In the case of some perennial crops (e.g. aged fruit or resin producing trees), plantations may have to be replaced; in which case, a brief period of swidden annual cropping may occur, while the new plantation is planted. Here the occupation time and the relative economic importance of the crop and 'fallow' phases of the swidden cycle are reversed from what is normal.

Agroforestry development

An agroforest can be defined as 'mature trees with shade tolerant understory plants' (ICRAF). As long as annual crops do not have to be grown on the plot, a far more attractive alternative for slopes over 25% is to use the existing swidden system to establish perennial crop plantations which provide continuous soil cover and high economic yields of cash crops in orchards, timber stands, fodder banks, or complex multistoried, multispecies agroforests. While the trees and other perennials are growing the farmer simply continues to practice swidden on another plot. Eventually, when the perennial crops mature and begin to provide a steady income stream, they may be deemed more attractive than swidden as long as the crops can be marketed. Permanent perennial crops have long been effective in the promoting sedentary agriculture amongst swiddeners in other countries.

Management systems for naturally occurring NTFPs

Apart from the entry point through swidden fallows, another livelihood option is simply to intensify the management of NTFPs in existing forests. This is appropriate if community forest areas are identified and the villagers provided with tenure. Peters (1994) identifies two approaches to this kind of management, as summarised in Table 3.16.

Table 3. 16: Silvicultural Management of NTFPs in Agroforests

Passive Management	Active Silvicultural Management
Sustainable management through selective harvest based on: • Selection of appropriate species • forest inventory • yield studies • regeneration surveys • harvest assessments • harvest adjustments	**Active management of Silvicultural conditions through**: ***1). Selective cleaning of understory*** • to reduce undesirable species • to increase the survival and growth of young plants of desirable species • to stimulate the productivity of adult trees ***2). Selective thinning of canopy (e.g. vines)*** • to open up the canopy and allow more sunlight into the understory • to assist establishment of understory plants by management of light ***3). Enrichment planting*** • to increase the abundance of economically important species • to improve genetic quality through better quality material

(Source: Peters 1994)

A recent review by Foppes (2001) suggests the following steps for sustainable management of NTFPs:

- Field teams should build NTFP user groups who meet at least once a month and go through a documented process of participatory diagnosis and planning
- Field teams should map local knowledge as a basis for land-use planning. Village Development Facilitators know how to do this, they need to be encouraged to carry out these this task.
- The Project should explore the possibilities of co-operating with botanists from the Dong Dok National University's forestry faculty to record local ethno-botanical knowledge.
- Project should test existing NTFP market analysis and development approaches
- Project must improve access, e.g. by implementing footpath/ferry as designed by IUCN
- Field teams should spend more time to assist the District to develop NTFP/wildlife trade control systems, based on agreed rules and locally managed checking mechanisms
- Project must address NTFP quota systems and other policies through stakeholder workshops
- To strengthen District capacity adequately, the Project needs to establish at least three technical support units at District/Province level: a) a professional training unit, b) an action research unit and c) a marketing support unit.
- The Project should adopt a District-based focus for administration and cooperate with the relevant district offices on technical matters and implementation. It should also address the management issues identified by the mission to create a better climate for learning.

Accelerated fallows for short-rotation swiddens

For upland annual crop fields (swiddens) whose distance from penned livestock and compost bins is too far for transport of compost to be an attractive way to maintain soil fertility, farmers may continue to practice their traditional fallow-based fertility maintenance strategies. Where fallows have shortened to less than 10 years, trials of accelerated fallow systems can be introduced which are effective in fertility maintenance and weed control. Promising short-rotation fallow systems (2-4 years) based on fast-growing, weed suppressing species such as Chromolaena odorata and Eupatorium inulifolium (for highland conditions) are under investigation by ICRAF researchers in the Alternatives to Slash-and-Burn programme in Indonesia. Another attractive alternative is to enrich the natural fallow by sowing fodder crops (leguminous trees or shrubs and grasses) near the end of the cropping cycle in order to create a fodder bank for livestock. In whichever system is trialed, it will almost always be a good idea to incorporate large numbers of nitrogen-fixing leguminous trees into fallows to accelerate fallow regrowth and quicker restoration of soil conditions for crop growth.

Contour hedgerows

Labour-intensive erosion control methods like alley cropping have sometimes performed well on research stations but have, with a few exceptions, had a dismal adoption record in the real world. Most farmers would rather grow crops directly; whereas, classical alley cropping is basically about growing an input to grow a crop. This adds to both the labour requirement and the management complexity. Hedgerows of fodder trees on contours between crops are often much more attractive to farmers. Complex diversified contour hedgerow systems like SALT (Sloping Agricultural Land Technology) can be very attractive, but these system should be introduced initially on a limited trial basis and only in communities long accustomed to labour-intensive permanent field farming. The only reason for attempting such systems would be to create a stable space for annual cropping between hedgerows on slopes over 25%, for which terracing would be an intolerably labour-intensive and costly alternative.

Formerly the temperate climate low-input agricultural wisdom was that one should never attempt permanent field farming without animals to help maintain a healthy condition of the soil. Fertilisers and green manures have partially replaced this strategy under some conditions but it continues to be a mainstay of low-input organic farming in the Temperate Zone. The proposals under the current heading derive from this tradition.
In the upland areas near settlements on slope of 0-25% it is recommended to develop terraced fields (contour bunds & self-building terraces) for permanent rain-fed upland cropping systems with fertility maintenance by application of compost from nearby livestock pens. Cut-and-carry fodder (grasses, legumes) for cattle can be produced on contour bunds in the upland fields).

Composting with manure from cut-and-carry livestock will probably be perceived by the participating farmers as a better option than in-situ green manure hedgerows for the simple reason that most farmers would generally prefer to grow a crop (fodder) than an input (green manure) to grow a crop. In many cases it could be the same species; the relevant point is that farmers would rather use the stuff to feed their animals than their soils.

Labour requirements of composting will be a barrier to adoption in many cases, so care has to be given to reducing unnecessary labour as much as possible. Having the compost bins next to the pens, and the pens inside or near the fields will be a distinct advantage. This will probably limit the adaptability of this approach to areas near the homes. Hence, the characterisation of this approach is as a classic 'near-field' technology.

Livestock husbandry

Livestock (principally cattle and buffalo) are kept extensively by villagers on the plateau and by some villages in the NPA. They are used as a food source but more generally as an accumulation of wealth, for cash income and as insurance for crop failures and hard times. In many instances the livestock are allowed to roam through forest areas, and fires are used to promote pasture improvement. Unrestricted expansion in livestock numbers poses a problem for intensified land use near villages and to forest management or conservation.

lntensification of livestock management can be approached through:

- vaccination and improved veterinary care
- pen feeding of small stock
- cut-and-carry fodder banks
- use of living fences to protect fields
- enrichment of fallows with fodder species
- under-sowing of fodder crops in tree plantations
- use of manure for composting

River fisheries and aquaculture

The fishery situation in the upland streams appears to be worsening due mainly to overuse of gill nets (ESMP 1998: 7.6.3). This is part of a general decline in fish stocks all over Lao PDR that is due to:

- overuse of gillnets
- blast fishing
- use of poisons
- pumping out of wetlands
- inappropriate use of fence traps

Among the reasons responsible for the use of unsustainable methods are:

- lack of knowledge of viable alternative methods
- lack of affordable alternatives
- economic pressures such as the failure of rice crops, leading to the need for a commodity to exchange for rice
- desire to gain maximum advantage from newly opened markets

Although little is known about traditional management of fisheries in Lao PDR, some traditional practices seem to be intact and provide a basis for an effort to encourage improved community management of local fisheries based on:

- Permanent or seasonal closure of certain areas to certain fishing practices
- Prohibitions or limitations on specific harvest techniques

- Protection of particular fish species or groups

Aquaculture is also a potential avenue to increase fish protein, and should be taken up by the village PRA process. However, care would be taken against the introduction of detrimental alien invasive species. Apart from the implementation of community fisheries management, the development of small-pond private aquaculture would be a natural component of a sedentary livelihood and would complement the development of the full lowland wet rice complex. In this, fishponds are an integral part of the lowland home garden, providing not only fish for household consumption, but also water and fertility for the home garden crops. Other interesting variations on this theme include the Mulberry-fish-pond-dike complex found in southern China, and many other pond culture systems and species used in the region.

Apiculture

Apiculture is another option that should have good potential in the NPA where bee forage is abundant. Domestic bee keeping can be approached at different levels of management complexity, but it certainly could be an attractive low-labour small enterprise option that would require technical advice and marketing support. The first activity would be to gather information on current apicultural knowledge and expertise in Lao PDR, to include an assessment of the risks associated with normal bee keeping practices (e.g. introduction of exotic bee species).

Community forest management

'Community forestry refers to the management of forests under some form of common property management regime irrespective of legal tenure' (Blockhus et al. 1997). Community forests (ESMP 1998: 10.2.3) differ more in tenure than in technology from the other types of agroforest already discussed in this SAP. The differences in technology that do arise from community management can probably be characterized as a preference for a more extensive approach to management with lower labour but management-intensive practices. This would certainly include the 'passive' management practices of selective harvesting cited in Table 3.17 in Section 3.7.1.5, which could be effected by the institution of community managed controls (ESMP 1998: 9.6.4). It could also include more 'active' management approaches such as selective management of canopies and understories as well as a certain amount of enrichment planting.

The aim of management could be to improve a valuable community resource on which villagers could rely as a food security reserve against seasons of agricultural adversity, along with opportunities to generate income for community development (school buildings, public irrigation works, etc.). Investment in such development will automatically generate greater interest in protecting the enhanced community resource from illegal exploitation by itinerant foragers and other outsiders. Given the nature of these incursions, particularly along the international border, enforcement of village management plans (ESMP 1998: 10.2.3.2) may require assistance from government agencies, particularly along the international border where foraging parties for high value NTFPs may be heavily armed.

Community forests may be the most promising location for using subsidised inputs such as food for work to develop land use systems that address conservation issues that might be hard to motive on the basis of private initiative alone. As such it could be a major focus for raising awareness of conservation concerns through participatory planning activities. In any case, the development of management systems for community forests will be an important long-term activity, requiring patient and sensitive facilitation. It carries with it the potential for strengthening village institutions and local governance.

Employment in biodiversity conservation work

The SEMFOP specifically plans to fully involve villagers in the participatory monitoring, management and protection of the NPA. While initially it was planned to actually employ them as 'village auxiliaries' or the like, current experience suggests it is more appropriate that they be paid on a pro rata – dsa –basis for time spent in the forces and on patrol. Village monitoring teams will be formed, to include village militia, and they will receive training and equipment and be responsible for natural; resource monitoring ad patrolling in the village area, and jointly responsible –with other villages and the army/police, for monitoring and patrolling in both CUZ and TPZ areas.

Good advantage can be made of this opportunity by hiring individuals from some of the more vulnerable ethnic minorities such as the Vietic groups, whose traditional reliance on the forest for their livelihood has

undoubtedly conferred special ethno-scientific knowledge and skills of great value to the conservation work. In the context of the socio-economic changes being visited upon these people by the larger world, this is perhaps the one area of employment in the modern sector for which they might actually enjoy a comparative advantage. This assumption would have to be validated on a case-by-case basis, of course, but it could be recommended that these groups be given priority for these jobs and for the required training, if necessary. This could be a realistic, proactive and positive step toward preservation of valuable ethno-scientific knowledge.

Ad-hoc employment as research assistants, guides and, ethno-scientific experts will arise as organizations or individuals gain permissions to conduct research in the NPA, and the Village Natural Resource monitoring teams will be an invaluable asset for these activities. However, this may only be an option at a later stage in the SEMFOP (Phases 2 or 3) since considerable time and training will be required for such positions.

Employment in ecotourism

Plans for a community-based ecotourism program in the NPA, described in more detail in Section 5.4.8.1, will offer a number of employment opportunities for NPA villagers. These include work as guides, cooks and cleaners for the tourists. In addition the presence of tourists will provide market opportunities for handicrafts, food, fruit and other locally produced goods.

3.7.1.6: Review of Livelihood Interventions

Since the strategy for interventions was outlined in the Social Action Plan over 5 years ago (IUCN 1998), a number of interventions have been carried out in relation to pilot project development (IUCN 1997-2000 and later under the LIL project). The results of these interventions have been analysed by IUCN (1999) and by an independent consultant, Laurant Chauzée (GOL 2000). Below is a summary of these assessments in light of issues relevant to ethnic minorities and utilisation of natural resources.

In 1998, a livelihood pilot scheme was initiated by IUCN/EcoLao in the village of Ban Makfeuang using PRA, agricultural trial and demonstration farm, wet rice cultivation interest group, agricultural focal families, irrigation assessment, village health volunteer training and village primary schooling among other things. The establishment of a trial-demonstration plot of 9,530m² in Ban Makfeuang allowed for the demonstration of wet rice, intensified upland cropping and improved gardens as wells as a rice-for-work scheme to address rice shortages. 40% of the village (23 households) then started to cultivate ca. 7 ha of paddy. In the neighbouring village of Ban Pung, 1.7 ha was started with assistance from Ban Makfeuang and technical assistance.

The interventions at Ban Makfeuang addressed the central issue of food security (IUCN 1999: Part 3). Initial findings indicated that rotational swidden provides food security without the use of imported inputs such as fertilisers, pumped irrigation, etc. This is not rice self-sufficiency (probably not attainable) but rice and cassava, maize, yams and other crops. Rice acts to enhance the sense of food security since it can be more easily stored, transported and even traded. Irrigated rice is limited so upland production will remain crucial to food production. High-productive pumped irrigation is not feasible. Extension in upland production, therefore, should be the continued focus of trails.

It was concluded from this trial that the livelihood concept for expansion in the NPA should consist of the following elements:

- Rainfed wet rice cultivation
- Intensified upland cropping systems
- Improved gardens
- Improved husbandry of pigs and chickens
- Investigations into possibilities for cash or barter, including domestication of NTFPs, pen-fed cattle and sustainable harvesting of high value timber
- Other income generation initiatives as appropriate.

The emphasis should be on increased food production and agricultural surpluses to offset reliance on hunting and diminishing natural resources due to population increase. The main strategy will be repeated

use of plots and reduced rotation with manure, mulching crops, supplemental gardens, NTFP orchards and perhaps limited use of chemical fertilisers.

After a gap in funding and discontinued field activities, DUDCP started pilot projects at three sites: Ban Makfeuang (different to the above mentioned IUCN initiatives), Ban Navang and Ban Teung. The DUDCP concentrated efforts on overall project planning and strategy, organisational and institutional development and awareness programmes. Some activities relating to livelihood development were carried out, including:

- Equitable rice field re-distribution and irrigation potential surveys (land distribution agreed-to by community beforehand)
- Provisions for new rice varieties and wild sunflower plants (for green manure)
- Supply of vegetable seeds to interested families
- Training of village extension workers in grafting techniques and other skills
- Distribution of fruit tree seedlings
- Initial efforts at fencing off of village boundaries and building buffalo shelters
- Initial efforts to establish Buffalo Banks
- Continued cultivation of cardamom at Ban Makfeuang (after IUCNs project)

3.7.1.7: Linking Community Development to Conservation Benchmarks

The indicative community development activities described in the 3.7.1.5 and elsewhere, that will be identified as the project progresses must, of course, be complementary to the conservation objectives of the SEMFOP and NT2 Watershed/NPA management. In the context of Southeast Asia, and in the Lao PDR in particular, conservation as a singular objective is neither politically palatable nor realistic at the community level. Too many factors, perhaps none more tempting than the lure of easy money for forest products, tempt officials and village people to sell off (or others to take) their resources at an unsustainable rate without sufficient management inputs. Even within the context of a larger project, with a regulatory framework and restrictions on access and use, careful monitoring and enforcement is necessary to ensure compliance.

As an additional incentive for conservation, the SEMFOP-1 will ensure that local people secure necessary resource use and management rights, and will link specific community development activities to the maintenance and enhancement of conservation values. The details of the incentive mechanisms will be described and operationalized during the first set of PICAD activities of the SEMFOP-1 (See Section 2.1 for additional details).

3.7.2: Planned Infrastructure Investments

3.7.2.1: Review of Infrastructure Investments to date

Few significant infrastructure investments have been made in the Watershed to date, except for:

- Roads (two tracks 3 meters wide) along sections of the Nam Theun near Ban Makfeuang and sections of the Nam Noy south of Ban Teung;
- Radio system now in three NPA villages – zone office;
- Upgrading of schools at pilot villages; and
- Upgrading of health facilities at pilot villages

3.7.2.2: Access Improvement with Feeder Roads and River Transport

Access into and within, the Watershed is difficult. Access in the Watershed is limited to footpaths (although two 3 m tracks have recently been constructed) river transport which varies seasonally and is subject to rapids and gorges in certain places.

Access into the Watershed is limited to a seasonal 4 wheel drive road to Ban Navang on the Nam Mon river, river transport up Nam Xot and Nam Theun, which is difficult in terms of rapids and gorges in certain places, and floods, and various walking tracks. Basically, the transport of tradable items in the Watershed is very difficult, and thus many small goods come from Vietnam, while the large scale export of products also faces considerable physical and logistic difficulties. The only positive aspect is that this also deters large scale immigration and large scale export of forest products, thus providing a measure of protection for the NPA and Watershed

The approach to transportation improvements will be to emphasize river transportation to Nakai Town and improved foot-paths throughout the NPA rather than roads since access to the NPA should be limited for conservation reasons As there are major problems associated with road development in remote, natural resource rich locations, improved access to the NPA is perhaps the greatest threat to the management and protection of the NT2 Watershed. However, the people consider roads as an important aspect of development, representing market access. It will be important to balance the economic needs of the villagers (access to markets) with conservation needs (threat of exploitation of resources by outsiders. It is envisaged that in the future the proposed NT2 reservoir will make river transportation more feasible and be the desired modality to develop. It will also orient NPA communities towards the district town of Nakai, rather than to Lak Xao in the neighbouring province of Bolikhamxay, or to trans-border traders (See Section 2.1.6 for details of the SEMFOP Access Strategy).

3.7.2.3: Public Transportation Infrastructure

The WMPA will build and mange a public transportation system to facilitate the publics transport, and passage of cargo, from the inner Watershed areas to the Nakai, or southern reservoir shore. This will include the commissioning of boats of appropriate type to travel across the reservoir and up the Nam Theun and Nam Sot rivers. Infrastructure to support this water based public transport system will be also developed, and may include piers, jetties and ramps, as appropriate, and warehouses at appropriate locations. The existing transportation network and proposed improvements are detailed later in this report in Section 7.10.4.

3.7.2.4: Irrigation Systems, Micro-hydropower and Water Supply

Where appropriate and wherever requested by villagers, irrigation systems, mainly to service rice paddy fields, village water supply and micro-hydropower (off-grid) sites will be investigated, designed and constructed. All phases of this process will, to the extent possible, involve those local villagers who will use the systems.

There are examples of irrigation systems (Sek villages along the Nam Noy and Nam Phao) and micro-hydropower (Ban Teung) in the Watershed. These examples should be examined and can function as models for further development in terms of organising villages and establishing long-term institutions to manage these interventions.

Village water supply systems are found throughout the region and involve mostly piping water from streams and springs to locations close to the village using bamboo or plastic pipes. Identification of new sources and installation of systems should be done with the full co-operation of villagers.

3.7.2.5: Buildings

A number of improved service initiatives are planned that involve the upgrading or construction of buildings such as dispensaries or clinics and schools. In addition, village meeting halls are an essential structure for communal meetings, workshops and discussions as well as having the possibility of functioning as locations for training and adult literacy classes.

Provisions included in the Operational Plan are: (i) a review of the current status of community buildings, (ii) an assessment of the needs in terms of community use and demands (school attendance, healthcare, staffing, planned programmes, etc.), and (iii) a participatory construction plan for buildings

3.7.3: Planned Service Improvements

Experience elsewhere has shown that it is extremely difficult to place and keep staff in remote areas, such as the NT2 Watershed. Wherever possible, SEMFOP will focus on developing capacity within the local communities to fill teachig, health-care, etc. positions, thereby increasing the likelihood of retaining qualified people, sensitive to local conditions and culture. This will necessarily be a longer term measure and will require careful selection, sensitive placement for training and adequate support. In the short term, salary supplements and additional benefits will be offered to attract high quality and committed GoL staff.

3.7.3.1: Health Interventions

As has been mentioned in Chapter 4, health and education facilities are fundamentally lacking in the NT2 Watershed. Based partly on the assumption that a healthy population is far more responsive to change and the introduction of new ideas than an unhealthy population. The following activities will be included in the health program aimed to improving the lifestyle of the villagers living in the NPA communities:

- Impregnated mosquito nets to combat malaria
- Improving maternal and child health care
- Information on improved nutrition and hygiene
- Immunization against polio and other childhood diseases
- Training of village paramedics to keep records and distribute simple medicines
- Regular visits by a medical team, including a doctor, based in Nakai town and/or Lak Xao
- Medicine chest – revolving fund

Another aspect related to healthcare is tackling the problem of population increase that threatens the conservation area. Promoting family planning, however, would only make sense if it were introduced together with improved childcare and possibly alternative livelihood systems that are not as labour intensive. Many women, however, have indicated a desire to have smaller families and would probably be receptive to family planning services. Methods and consultations should be done over a period of time to avoid any misunderstandings and complications. There is the belief among some ethnic groups in Lao PDR that limiting reproductive ability influences the strength of a person in a negative manner. A strategy for demographic management within the NPA is described in more detail in Section 2.1.7.

The LWU will take the lead in regard to healthcare since this issue directly affects the lives of women, who are responsible for the children, nutrition and taking care of the sick at home (See Section 3.5.4.5). Information concerning any improvement in diet and hygiene should be directed towards women. This information could be combined with improvements in household vegetable gardens and small livestock.

Health and education needs will be addressed in a participatory manner during FLUPAM and may include support for existing traditional practices, training of village health volunteers, and the establishment of a village medicine supply to be administered by the villagers themselves. 52 health volunteers were recruited as part of the DUDCP and these will be supported by medical teams based in the District at Nakai.

3.7.3.2: Education Interventions

With regard to education, a major problem in addition to the absence of schools appears to have been keeping teachers in villages where there are schools. Qualified teachers receive little pay and are not interested in being based in remote areas. Many villages have school buildings but no teachers. The medium of teaching will be Lao, which is the language of the national curriculum. Locally recruited villagers who are literate and trained by an NGO or government organisation could be trained to teach non-formal classes in literacy and numeracy. The following recommendations cover the issues relating to education:

- Restore and improve existing school buildings
- Supplement existing regular teachers' salaries
- Train teachers to conduct non-formal literacy classes for adults
- Supply of teaching equipment
- Supply of school books and materials for the children
- School lunch program with WFP (to be explored)

3.7.4: Interventions in Surrounding Areas

3.7.4.1: Impact of the Construction of the Nam Theun 2 Dam Project

The planned construction of the Nam Theun 2 Dam is likely to have significant social implications for the NPA and peripheral areas. There will be a large influx of labourers stationed at the dam site at Keng Naun, approximately 4 kilometres downstream from the present site of Ban SopHia. Several villages are near the proposed construction site: SopHia, PakKatan Mai and Nam Nian as well as several Hmong villages on Route 8. There are already clear indications that these villages aim to benefit from the construction by working as labourers[16]. The influx of workers from outside also provides a potential market for food such as vegetables grown by villagers and wildlife. The experience of the recently constructed Theun-Hinboun Dam reveals that along with workers there are usually large numbers of camp followers and this has a considerable impact on the surrounding environment.

Although managing and running the camp and planning for camp followers will the responsibility of the developers, NTEC, the initiation of a Joint Implementation Task Force, consisting of NTEC, GOL and the NT2 WMPA would be beneficial in co-ordinating these efforts (ESMP 12.2.2). Locating the camp outside the NPA or proposed extension boundary and transporting the labourers to work by bus will alleviate the problem and is recommended. However, irrespective of the location of the camp, there will be market and settlement issues to be addressed. Some common issues may be:

- Patrolling the NPA boundaries and imposing fees and punishments for illegal activities
- Education and awareness programs for the workers and camp followers
- Monitoring the movement of people in and out of the NPA/ Nam Theun Corridor extension
- Monitoring the sale and trade in wildlife and forest products
- A signed agreement, incorporated into the contracts of the workers, that will necessitate their removal from their positions should they be found to indulge in activities contradictory to the conservation and protection objectives of the NPA.

3.7.4.2: Peripheral Impact Zone Management

Peripheral impact zone management and development will be specifically considered as part of the WMPA's Operational Area. These villages, type 2, 3 and 4 villages (villages outside the NPA but using or extracting its resources), are equally relevant to Protected Area management in the Lao PDR as are type 1, NPA villages. A definition of eligible PIZ villages is presented in Section 1.4.2. All PIZ villages will receive compensation in the form of livelihood development under SEMFOP-1 according to the schedule presented in Table 2.3, Section 2.2.7. Development activities will be implemented through a partnership between the WMPA and local authorities, according to priorities based on the level of reliance of each village on NPA resources (See Section 3.1.4).

Recently established Hmong villages along Route 8, bordering the Nakai Nam Theun and the Nan Chat Nam Phan NPAs pose a specific management problem, in contrast, for instance to the more established Hmong population of Ban Thong Pe, who have adapted to wet rice cultivation. The Hmong have traditionally practised a type of pioneering swidden agriculture on mountaintops and slopes, planting, in addition to upland rice, corn, cassava and some poppy. Their population rate of increase per annum is the highest recorded in the PIZ villages, ranging from 4.69% to 6.1% (Chamberlain 1997a). Their efficient capture and extensive use of natural resources (swidden fields, wildlife and NTFPs) potentially threatens the conservation area and brings them into conflict with neighbouring communities. Their conspicuous presence in the Nam Theun Corridor was noted and commented on by the International Panel of Experts in January 1998 (POE 1998). The Hmong in the periphery have strong kinship ties with Hmong groups in Vietnam and there has been significant in-migration over the last years. These new arrivals tend to practice swidden in the areas near the established villages.

An accelerated PIZ programme will target the Hmong communities close to Route 8b and the Nam Theun Corridor. It is proposed that this sub-programme be undertaken by an NGO experienced in Hmong community development issues. A ToR for this work will be developedas an early priority under SEMFOP, based on the results of the PIZ village survey and on additional information from follow-up surveys under SEMFOP.

Management within peripheral impact zone will be through a cost-sharing partnership approach with the WMPA and local authorities according to the following sequence:

- Survey of PIZ villages, definition of village type (type 2,3 or 4) and initial prioritisation according to level of reliance on NPA resources.
- The development of a close linkage between the NT2 WMPA and provincial and district authorities.
- Initiate FLUPAM/PICAD in priority PIZ villages under a partnership with local authorities.
- The participatory identification and implementation of appropriate development activities to compensate for access restrictions.
- Expand the FLUPAM/PICAD process across all PIZ villages under SEMFOP-1 according to the schedule in Table 2.3, Section 2.2.7.

3.8: INSTITUTIONAL CAPACITY

3.8.1: Assessment of Capacity

Given the fact that the scale and complexity of the Nam Theun 2 Hydropower Project and the ambitious goals of conservation and livelihood development in the Watershed are new phenomena in the Lao PDR, it is not surprising that there is a need for extensive capacity building and institutional strengthening. The successful establishment of institutions and regulations as well as training and enforcement will determine the success of the intervention measures in general.

Since there is a need to create new responsibilities and roles, new institutions have been created, including the Executive Secretariat of the WMPA that will manage the NT2 Watershed/NPA. Local, district and national level government staff have been deployed in the field for some time, conducting a variety studies and evaluations. Initially most of the work was led by international consultants or at least supervised by them. However, as pilot projects have progressed, GOL and local consultants are playing an increasingly important role in their management and implementation.

In the future, due to the size and scale of the interventions and the demands that other components of the NT2 Project (especially the RAP/RMU) will have on GOL staff at the provincial and district levels, there will undoubtedly be a need to increase capacity. Already activities undertaken at a pilot level have highlighted the lack of capacity to fill positions and to carry out tasks. The weaknesses and problems encountered in implementing the DUDCP (2nd Annual Activity Report, November 2001) include a lack of capacity and management skills. Steps were taken to address these shortcomings and problems in the 3rd Annual Plan, but success continued to be minimal, due mainly to the fact that:

i. most of the project administration was in Thakhek, and not in the District and therefore District staff project implementation capacity was not strengthened;
ii. district field staff were not assigned permanently to the project, meaning that the field work was led by the longer term local consultants, not by Government staff (who often change); and
iii. inadequate local participation and thus poor recognition of villagers' real needs and aspirations.

A number of institutions with varying mandates and skill levels will be involved in implementing the SEMFOP in the NPA and the PIZ. These are listed, along with initial assessments of their technical capacity, participatory skills and cultural sensitivity in Table 3.17.

Table 3. 17: Involved institutions and initial assessment of capacity.

Involved institution	Technical capacity	Participatory skills	Cultural sensitivity skills
Village institutions	Low, but with some development from DUDCP	Good	Indigenous
The WMPA Executive Secretariat	Generally high	Some skills in key staff	Very limited
Local authorities (provincial and district offices)	Generally adequate in field of responsibility	Generally poor	Genreally poor but good in staff from an ethnic minority
Military and police (provincial and district based)	Poor in development and conservations	Generally poor	Generally poor
NGOs	Good in field of expertise	Generally high	High in some specialist NGOs
National institutes	High in field of expertise	Generally fair	Generally poor
Intertnational organisations	Very high in field of expertise	Generally good	Generally fair

3.8.2: Availability of Funds

The NT2 Power Company Limited has agreed to fund activities of the Operation Plan as outlined in this SEMFOP, and as committed in the Concession Agreement (Section 5), where it is stated that a sum of one million USD will be provided for the period PCD until CPCD, and then 5.5 million USD during the construction phase (the period covered by the SEMFOP-1) After commencement of operation, one million USD will be transferred each year to the WMPA (for the duration of the concession) to cover institutional development, technical assistance and training as well as village level interventions. The funding allocated for various activities under the SEMFOP-1 is discussed in Section 7.7.

3.8.3: Assessment of Professional Staff

Parts 6 and 7 of the SEMFOP provide details on the type of professional staff that will be engaged by the WMPA and the tasks they will be required to undertake. A review of capacity the professional staffing to date is presented in the following sections.

As part of the Pilot Field activities carried out by IUCN from 1998-2000, staff were recruited from GOL organisations for the NPA project. This included staff from the Provincial Forestry Section of both Bolikhamxai and Khammouane Provinces and staff from the Nakai District Forestry Section and one LWU-Nakai District representative. Staff numbers were subsequently reduced in 1999. A major constraint in regard to staff continuity and capacity development was the short time-frame of the IUCN project and the uncertainty regarding continuation and funding for the future phases.

Staff received training in participatory assessment and planning and support in terms of facilities and equipment. Although initial assessments of project results and staff capacity were in general satisfactory, the final evaluation revealed a number of serious shortcomings in regard to capacity, particularly in regard to local participation and cultural sensitivity (See DUDCP review in Appendix 3).

The problems in regard to the capacity of DUDCP staff were due in part to the large turnover of staff and thus difficulties with sustained capacity development. A training needs assessment, carried out between October and December 2000, determined that capacity was indeed lacking and considerable training was required to improve this capacity. Unfortunately, emphasis was on technical capacity with insufficient attention paid to participatory methods/skills and cultural sensitivity. Considering these lessons, the diversity of tasks to be undertaken and the recognised lack of capacity in GOL staff, the SEMFOP-1 must:

i. Hire (national) professional staff with appropriate experience and capacity to form the nucleus of the Executive Secretariat at remuneration levels commensurate with the high quality required.
ii. Ensure that national and international TA have adequate skills and experience in participatory methods.
iii. Wherever possible hire local people and/or staff from the ethnic groups represented in the NPA.
iv. Following training needs assessments, accordingly organize a wide range of training activities for both the Secretariat's professional staff, implementing partners, (mainly staff of government line agencies at the District and provincial levels) and village leaders as appropriate.
v. Ensure that technical skills development is balanced with sufficient participatory skills and methods training.
vi. Provide cultural sensitivity training to all WMPAand partner institution staff, organised and designed by the community development advisors.

Capacity development will be a continual process supported by hands-on training during field work, in which the Technical Assistance Team will play a key role.

3.8.4: Ethnic Minorities and Local Organisations

Because local leaders are selected from communities, and not from outside the area, local administrative authorities already include ethnic minorities. Thus village-level representation such as the members of the LWU (*sahaphan maeying*), the Development Front (*niaw hom*), the militia (*kon hong*) and the Youth Organisation (*sao num*) as well as village headmen (*nai ban or phau ban*), assistants (*hong nai ban and kamakan*) and leaders of village sections (*hua na nuay and hong nuay*). Local taxation, maintaining law and order and resolving local disputes are the responsibilities of village leadership. In all villages in the NT2 Watershed, ethnic groups are represented in local leadership. Formal village structures often overlap with traditional and ritual positions, such as those of the thau khun or council of elders and founding families and clans tend to play important roles in local politics and maintaining contact with the outside world.

The participatory methods have involved the local population and leadership in conservation, and development activities were rated as one of the most successful aspects of the pilot village programme by IUCN (1999: 73). Villagers showed enthusiasm at the idea of participating in programmes and encouraged interaction with NPA and DAFO staff. The affect of motivation and morale on GOL staff was also noteworthy.

3.8.4.1: Village Conservation Monitoring Units

An example of how the skills of the local ethnic populations can play an important role in the fulfilling aspects of the Plan is the Village Conservation Monitoring Units (VCMUs) which were established in six pilot villages under DUDCP. Prior to their formation, villagers were consulted on the roles and responsibilities of these units and on appropriate compensation packages for them: rice stipends, a proportion of the fees collected or salaries.

The units consist of 4-6 volunteers, primarily from the Village Militia and Village Security, who are appropriately trained, and equipped with basic knowledge, skills and equipment. The purpose of these units is to monitor the condition of natural resources, and to enforce the national laws, local, and protected area rules and regulations. Their specific duties are to:

i. gather information and monitor the presence of wildlife and the occurrence of impacts;
ii. patrol against poachers, traders illegally dealing in wildlife and other forest products, and to implement law enforcement activities;
iii. disseminate conservation awareness to fellow residents, residents of neighboring villages, and other stakeholders (e.g., army and police).

Logbooks are kept and discussions are held with NPA staff on a regular basis.

3.8.4.2: Involvement in Development Initiatives

Livelihood development and improvement of services were conducted with community co-operation in three pilot villages by DUDCP. District personnel worked with local leaders to address a range of development concerns. The planning of food security initiatives and rice production were co-ordinated by DAFO and PAFO and carried out by District extension workers in co-operation with villagers. Village leadership provided the overall organisational mechanism for organising villagers' inputs and labour, selecting volunteers and sites and assigning roles and responsibilities.

In regard to health training, volunteers were selected by villagers and then trained by District Health staff with regular follow-up visits. The health-needs of villagers were assessed through interaction between the volunteer and health support staff. Issues such as transportation for health centres and medical supplies were addressed and acceptable solutions worked out.

Regarding improvements in schooling, the villagers at Ban Makfeuang organised themselves and constructed a building for teachers and agreed to provide a moderate rice stipend fund for children attending classes. It appears that the participation of community members in organising and implementing these development programmes was high and is another example of how local organisational capacity can be strengthened through participatory implementation of project activities.

3.8.5: Mobilization and Field Presence

3.8.5.1: Mobilization and Field Presence in Pilot Programs to Date

There was a significant mobilization of staff drawn from a number of government agencies to assist with the co-ordination, planning and supervision of the NTSEP programmes, including DUDCP and the WMPA's sub-committee undertaking conservation activities The involved agencies were:

i. The NT2 WMPA
ii. The Ministry of Agriculture and Forestry, Department of Forestry
iii. GOL Nam Theun 2 Office, Prime Minister's Office
iv. Division of Forest Resources Conservation (DFRC) Department of Forestry
v. Provincial Agriculture and Forestry Offices in Bolikhamxai and Khammouane Provinces

At the field level the following organisations and agencies have been implementing and monitoring programmes in the villages of the Watershed:

i. NPA Management Unit
ii. District Extension workers from District Agriculture and Forestry Office
iii. District forest/Land-Use Planning and Allocation Committee
iv. Local Leaders in villages
v. LWU at the District and local levels

3.8.5.2: Planned Mobilisation and Field Presence

The planned mobilization of staff and their field presence is presented in detail in Part 6: Institutional and Management Framework; and Part 7: Operational Plan and Budget, of this SEMFOP-1 report.

3.9: MONITORING AND EVALUATION

Monitoring and evaluation will consist of internal and external monitoring systems.

3.9.1: Internal Monitoring System

Internal monitoring and evaluation will be undertaken by the Executive Secretariat of the NT2 WMPA by the inclusion of a 'lessons learned' and a 'good points and bad points' sections of its monthly and annual reports to the BoD and the IMA.

Village monitoring and evaluation procedures will be established to monitor and evaluate the implementation of village activities relating to conservation and development, including joint patrolling and extension to farmers. Since a participatory approach has been and will be used for planning, a feedback loop has been established not only for ensuring participation by local people in all aspects of implementation, but also to identify new areas of intervention and foresee problems before they become difficult to solve. Formal grievance mechanisms and conflict resolution procedures have been established that will deal with problems in a fair, transparent and culturally sensitive manner, and these are described in Section 6.5.3. In addition, the guiding principles to be used for all decisions under SEMFOP include a number of clauses to ensure that the traditional and customary rights of ethnic minorities are not infringed (Section 6.5.3).

3.9.2: External Monitoring System

The main objective of this EMDP is to enhance existing livelihood systems in the NT2 Watershed Area in a way that directly maintains and even enhances biodiversity conservation and sustainable management of natural resources. Achievement of this objective may be difficult to judge by those implementing the EMDP, particularly in the early years before monitoring data is sufficient for the purpose. To overcome this, monitoring and evaluation by an independent organisation, termed the Independent Monitoring Agency, will be regularly (annually) undertaken. This IMA will have 2 international and two Lao team members, and one international and one Lao member will be selected specifically for their extensive experience in social and ethnic development issues and programmes and familiar with the local language and socio-economic conditions.

To ensure that the best candidates are selected, the recruitment of external monitors will follow a competitive bidding process. A request for proposal will be advertised and sent to potential candidates, including NGOs and social science institutions. Based on a review of their work plan and qualifications, the most suitable organisation will be selected to carry out the external monitoring and evaluation work. Selection will take place upon NT2 WMPA Executive Secretariat approval.

3.9.3: Monitoring and Evaluation for the EMDP

3.9.3.1: Social and Cultural Benchmarks

Base line benchmarks are being developed as a prerequisite to evaluating progress towards SEMFOP's stated objectives. Idicative baseline benchmarks are presented in Table 6.7 and Section 6.5.5.1, along with data sources and further monitoring needs. They include the following indicators that will be important for monitoring the progress of the EMDP:

Villager quality of life:

- Health status of villagers
- Education levels among villagers
- Access to markets
- Access to government services
- Population trends
- Up-take levels of external employment

Socio-cultural cohesion

- Retention of traditional culture/customs
- Ethnic population numbers
- Inter-village cooperation levels
  Retention of customary rights

Livelihood systems

- Farming system types & productivity
- Forest resource dependency - types/levels
- Alternative livelihood systems

Land use

- Village land use patterns
- Village agriculture land areas
- Inter-village boundary agreements
- Village land use agreements

Forest resource use

- Access to forest resources
- Sustainable use of NTFPs
- Community fisheries conservation
- Sustainable hunting regimes

Very little socio-cultural data that can be used for baseline purposes currently exists, and thus monitoring systems will have to be designed, and mechanisms established to ensure that relevant data are collected for the baseline and on an ongoing basis for monitoring and evaluation purposes. This process will be initiated as a priority under SEMFOP and will involve (i) finalisation of the log-frame, (ii) identification of appropriate indicators, (iii) collecting baseline data, and (iv) operationalising monitoring systems. The community development advisors and the LDC Division Deputy Director will play key roles throughout this process to ensure that the SEMFOP M&E system is able to capture and manage the information necessary for tracking progress of the EMDP towards its stated objectives.

3.9.3.2: Risk Management in the EMDP

The approach to risk management under the SEMFOP will be to identify those proposed plans or activities with a significant level of risk, identify the sources of potential risk and lay out options for dealing with or mitigating the risk. The ultimate aim of such a risk management strategy is to be able to not only identify potential risks and their source, but also quantify these and assess the extent to which available options will provide mitigation.

Section 6.5..2.1 describes SEMFOP's Risk Management Strategy. As with the M&E system, a number of potential risks have been identified, directly relevant to the EMDP, which may jeopordise it successfully meeting its objectives. As far as possible, these risks have been considered during the design of SEMFOP and measures have been taken to mitigate against them. This strategy in regard to the risks most relevant to the EMDP is summarized in Table 3.18.

Table 3. 18: Source of risks to the EMDP and mitigation measures adopted by SEMFOP

Source	Risk or threat	Mitigation measures
Institutional	EMDP objectives conflict with those of local authorities	Local authorities are engaged as full partners to instill EMDP ownership in them.
	Capacity of GOL partner agencies is inadequate for the tasks required under the EMDP	WMPA staff and TA will conduct both formal and 'hands-on' capacity development programs for EMDP partner organization staff.
	WMPA's conservation objectives conflict with EMDP's livelihood objectives	Continuous dialogue with PPAM Division and a partnership approach under the FLUPAM.
Management	WMPA has insufficient management authority over PIZ communities	A partnership, cost-sharing approach with local authorities will be adopted to develop co-ownership.
	Lack of cooperation from local authorities for EMDP in the PIZ	Cost-sharing and capacity development incentives will be used to ensure full cooperation.
Political	Legal recognition of NPA village rights of abode and livelihoods is withdrawn by GOL	Recognition of customary rights in VFLMAs and appropriate conflict resolution procedures in place.
	WMPA's autonomy is eroded by central government interference	Assistance will be sought from provincial governors, NTPC and WB to put pressure on GOL.
	Support for the EMDP ceases to be a government policy priority	SEMFOP's financial and decision-making autonomy
Technical	WMPA unable to fill LDC Division staff positions with adequately qualified people	ExSec staff salary structure, incentives system and capacity development programs developed.
	Alternative livelihood systems fail to promote change	Livelihood development build on existing systems using an incremental rather than a transformational approach.
Economic	Extreme energy/power price fluctuations affect NTPC's ability to fund the EMDP	Guarded against in Concession Agreement and later trust fund development will mitigate against instability in funding.
	Value of wildlife/forest resources become greater than returns from livelihood activities	Improved enforcement and alternative livelihood activities such as ecotourism will mitigate against this.
Social	EMDP livelihood development activities attract in-migration of people into the NPA	In-migration strategy already developed under the SEMFOP to be implemented with district authorities.
	Dam construction crews cause problems in local communities	Constructio-risks task force proposed to enhance cooperation amongWMPA, local authorities, NTPC and major contractors.
Natural	Extreme climatic conditions cause NPA village livelihood systems to fail	Climatic instability is considered in livelihood development planning and robustness of current systems will be enhanced.

3.10: IMPLEMENTATION SCHEDULE AND FINANCING PLAN

Parts 6 and 7 of the SEMFOP present a detailed management framework, operational plan, schedule and budget for all activities that are planned for the NT2 Watershed Area. Here, it is necessary to highlight aspects that are important from an ethnic minority perspective and indicate which aspects have been incorporated into the overall approach to livelihood, service and infrastructure improvement.

3.10.1: Social and Ethnic Minority Issues in relation to Implementation Schedule

A number of specific aspects relating to scheduling and implementation have been incorporated into the OP that prioritise social and ethnic minority concerns which have arisen during the consultations and data

collection that have already been carried out in the NT2 Watershed Area. These can be highlighted as follows:

- The general approach to planning has been one of establishing an effective, long-term relationship of trust and co-operation between government agencies and the WMPA on the one hand and communities and local organisations on the other;
- Institutional strengthening and training for both villagers (pilot projects) and for government agencies (NPA, DAFO, PAFO and other staff at the district, provincial and national levels) have been central elements from the start of project planning and pilot field activities and should continue throughout the implementation period;
- NPA and PIZ Villagers are part in an ongoing consultation process wherein their concerns and viewpoints are elicited along with feedback on the various aspects of livelihood interventions;
- Villagers will continue to be directly involved with – as leaders and participants – (not only consulted with) on the various planned interventions, including the use of FLUPAM participatory methods in identifying suitable interventions and confidence-building, trial adoption and adaptation of techniques and encouraging local developments and initiatives;
- Enhancement of land and resource use tenure security, acknowledging the customary rights of the ethnic groups in the FLUPAM process;
- Health and education interventions will focus on improved infrastructure, training and supplying needed materials and equipment – emphasis will be on provided sustainable and improved services to each village or groups of villages and measures have been put in place to address particular issues pertaining to ethnic minorities;
- Special measures are being planned to address the Vietic groups which are most at risk;
- Information and awareness raising concerning the rights of the ethnic groups will be strengthened through the use of Global Village's NGO extension materials for villagers on rights and responsibilities in regard to forest resource and land use rights;
- The development of ethnic and cultural development plans (See Section 2.5.1);
- Training and support for Village Development Committees to facilitate the village development planning and implementation process;
- Participatory approach to improving infrastructure, including buildings, paths, storage, transportation facilities, etc. (shared responsibilities and local inputs to foster a sense of ownership);
- Establishment of village rice banks, savings groups and establishment of necessary institutions to support the development process in the long-term;
- Input from national and international community development advisors should ensure that the concerns of all ethnic minorities, especially those designated as 'vulnerable', are addressed and 'culturally-sensitive' approaches are used that take into account the different needs, understandings, experiences and worldviews of the different groups;
- Measures to ensure that Indigenous Knowledge is fully recorded and studied in terms of general conservation, and for possible benefits for local stakeholders in terms of development;
- Social and livelihood interventions in the peripheral impact zone;
- Monitoring by the affected communities in the NT2 Watershed should involve members of the communities themselves and the committees that have been mobilised to carry out interventions in addition to elected leaders and members of government organisations – continuation of the feedback loop
- Proposed cultural sensitivity training for all WMPA staff by the community development advisors;
- Provision for a long term international community development advisor supported by a national community development advisor in the SEMFOP technical assistance team plan;
- Local and ethnic peoples recruitment emphasised as part of the WMPA staffing policy.

In order to ensure that social and ethnic minority concerns are addressed, constant interaction between villagers and the NT2 WMPA staff and other government agencies as will be necessary. Only this can

ensure a 'ethnic-sensitive' approach by allowing concerns to be voiced openly and as they arise. There is every reason to believe that this will be the case in the NT2 Watershed Area since the ongoing consultation and participatory livelihood development activities have taken ethnic concerns largely into consideration when appropriate. The Pilot Field Activities have provided important insights and lessons for the actual implementation of the programmes in the whole NT2 Watershed Area.

3.10.2: Social and Ethnic Minority Issues in relation to Budget

In regard to budget, it important to note that all participating communities in the NPA and the PIZ are ethnic minorities and as such the entire budget concerns ethnic minorities one way or the other. A number of key features of the budget of the Operational Plan specifically address the concerns and considerations of social conditions and ethnic minorities in the NPA and PIZ. Such key items include:

- The development of ethnic and cultural development plans
- Establishment of land and resource use tenure security (through the VFMA process and additional village based instruments)
- Capacity building and strengthening of local institutions
- Special measures for the Vietic groups
- Establishment of necessary support infrastructure and facilities for long-term programmes;
- Community field stations, restoration of school buildings and health facilities;
- Improved access by land and water;
- Small-scale irrigation systems, micro-hydropower systems and village nurseries;
- Community based eco-tourism as an alternative source of income;
- Supply of various equipment, including health equipment, solar power units, water pumps, tools, field equipment, teaching equipment and transport.

Technical Assistance has been designed to strengthen WMPA capacity in regard to ethnic issues/concerns and in relation to local participation in social development. Provision under SEMFOP for 42 person months of an international Community Development Advsior and 14 months for a local advisor/trainer, the details of which are presented in Sections 6.3.2 and 6.3.3. The primary role of these advisors is to sensitise and upgrade the capacity of the WMPA directors and staff of their respective divisions. This will emphasise skill development and technical competency, particularly in relation to ethic issues and concerns. The Community development Advisors will work with all the Deputy Directors with the objective of mainstreaming ethnic issues into all three technical programs. They will work in close collaboration with the 3 WMPA Technical Divisions to ensure that ethnic issues and concerns are fully incorporated into the activities of each.

In addition, many villagers will be trained by a variety of local and national experts in the fields of health, sanitation, education, community development, marketing and livelihood development. Support for social development, provision of services, infrastructure and livelihood development emphasizes consultative and participatory approaches to ensure that ethnic issues and concerns are fully incorporated into the plans (see Section 2.1 for details).