

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 2

APPROACH AND METHODOLOGIES

(JANUARY 2005)

TABLE OF CONTENTS

2.1	PARTICIPATORY INTEGRATED CONSERVATION AND DEVELOPMENT	1
2.1.1:	<i>Introduction</i>	1
2.1.2:	<i>Use of Participatory Tools</i>	4
2.1.3:	<i>Community Driven Development</i>	6
2.1.4:	<i>Incorporation of Local Knowledge in Planning</i>	7
2.1.5:	<i>Cultural Development</i>	8
2.1.6:	<i>Access Development and Management</i>	9
2.1.7	<i>Demographic Management</i>	11
2.2:	FOREST AND LAND USE PLANNING, ALLOCATION AND MANAGEMENT	14
2.2.1:	<i>Forest and Land Use Monitoring and Mapping</i>	17
2.2.2:	<i>Socio-Economic Data Collection and Mapping</i>	18
2.2.3:	<i>Floral Biodiversity Data – Collection and Mapping</i>	18
2.2.4:	<i>Fauna Biodiversity Data – Collation and Baseline Surveys</i>	18
2.2.5:	<i>Zonation and Regulations Development</i>	19
2.2.6:	<i>Family/Village Level Data Collection and Assessment</i>	20
2.2.7:	<i>Schedule of FLUPAM Activities</i>	20
2.3:	PARTICIPATORY BIODIVERSITY MANAGEMENT AND MONITORING	22
2.3.1:	<i>Methodology Overview</i>	23
2.3.2:	<i>Implementation Partners</i>	24
2.3.3:	<i>Patrolling Infrastructure</i>	24
2.3.4:	<i>Patrolling Equipment</i>	25
2.3.5:	<i>Monitoring and Patrolling</i>	26
2.3.6:	<i>Posts and Gates</i>	27
2.3.7:	<i>Control of Transborder Poaching and Wildlife Trade</i>	28
2.3.8:	<i>Biodiversity Research</i>	30
2.3.9:	<i>Wildlife Programs</i>	31
2.4:	VILLAGE AND LIVELIHOOD DEVELOPMENT	32
2.4.1:	<i>Planning and Implementing Livelihood Development Activities</i>	33
2.4.2:	<i>Extension and Development Approaches</i>	39
2.4.3:	<i>Indicative Extension and Development Activities</i>	42
2.5:	COMMUNITY AND SOCIAL DEVELOPMENT	46
2.5.1:	<i>Cultural and Ethnic Development</i>	46
2.5.2:	<i>Education</i>	46
2.5.3:	<i>Health</i>	47
2.5.4:	<i>Electrification</i>	47
2.5.5:	<i>Access Infrastructure</i>	48
2.5.6:	<i>Community Outreach and Conservation Awareness</i>	51
2.6:	PUBLIC CONSULTATION STRATEGY	52
2.6.1:	<i>Background and Objectives</i>	52
2.6.2:	<i>International Guidelines on Stakeholder Participation</i>	56
2.6.3:	<i>Framework for a Comprehensive Participation Process</i>	57
2.6.4:	<i>Phases of the PCPP Strategy</i>	65
2.6.5:	<i>Intended Target Groups of the PCPP Strategy</i>	65
2.6.6:	<i>Tools and Methods for Consultation and Disclosure</i>	66
2.7:	PERIPHERAL IMPACT ZONE STRATEGY AND OBJECTIVES	67
2.7.1:	<i>Prioritisation of Support to PIZ Villages</i>	68
2.7.2:	<i>PIZ Village Support Strategy</i>	69

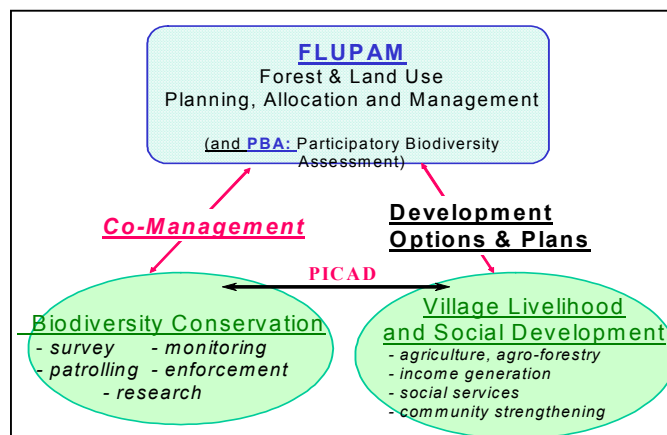
2.1 PARTICIPATORY INTEGRATED CONSERVATION AND DEVELOPMENT

2.1.1: Introduction

The Participatory Integrated Conservation and Development approach (PICAD) adopted under the SEMFOP provides the link between the 3 main component activities of NPA management (Figure 2.1).

- A: Forest resources & land use planning, allocation and management (FLUPAM)
- B: Participatory Protected Area Management (PPAM)
- C: Livelihood Development for Conservation (LDC)

Figure 2.1: PICAD and the relationship of the main components of NPA management.



PICAD is central to the three major SEMFOP programs and the activities associated with each. It has a number of attributes which make it extremely appropriate and directly relevant to the needs of SEMFOP:

- It is generally accepted and already widely used by relevant GoL agencies for resource management throughout the country.
- Its use of interdisciplinary and multi-agency teams facilitates the cooperation between government departments which will be critical to the success of SEMFOP.
- It has been tested and refined for use in NPAs throughout the Lao PDR.
- User-oriented manuals¹ and training materials are available in the Lao language for rapidly developing capacity in WMPA staff in its use.
- It's inherent flexibility makes it amenable to the special and unique needs of SEMFOP.

PICAD will play a key role in developing and promoting a number of important SEMFOP initiatives:

- As an entry point for initiating community rapport and developing participatory processes with villagers.
- Participatory needs assessment and planning of resource use, conservation and development activities and other interventions to be implemented by the WMPA.
- Fostering community organisation and cooperation for community conservation initiatives and the formation of locally-based patrolling and biodiversity conservation teams.

¹ (Anon., 2001) Land use planning and management practices in NPAs – a users manual. Lao Swedish Forestry Program, Department of Forestry, Lao PDR. See General Annex 5, Folio of Annexes.

- Defining forest zones, based on traditional uses, which can later be integrated into a more macro NPA zonation system.
- As a first step in developing community networks for stronger and more effective NPA protection and conservation, particularly from trans-boundary and external threats.

Effective, meaningful local consultation will be central to the success of PICAD and a framework for mainstreaming participation in the SEMFOP has been developed (Section 2.6).

The PICAD approach developed for the SEMFOP draws heavily on both the positive and negative lessons learned from other Integrated Conservation and Development Projects (ICDPs) previously implemented in Lao PDR and the region, in particular, the District Upland Development and Conservation Project (See Appendix 3 of this Volume). A review of the lessons learned from previous ICDP experiences was conducted during the design phase to ensure that it incorporated the lessons learned (both positive and negative) from these ICDPs.

2.1.1.1: Review of Integrated Conservation and Development Projects

Integrated conservation and development as an approach to participatory biodiversity conservation is an appealing concept and has attracted considerable attention in recent years. ICDPs conducted throughout the world have generated a wealth of lessons (both positive and negative) which will be valuable to the SEMFOP. This section reviews the lessons from the following literature sources on ICDP projects from both Lao PDR and the region:

Author	Publisher	Year	Title
Anon.	National Statistics Center	2001	Participatory Poverty Assessment
Berkmuller, V. <i>et al.</i>	Government of the Netherlands	1998	Results of Rules Considerations in Villages Near the Dong Hua Sao NBCA.
Berkmuller, V. <i>et al.</i>	Government of the Netherlands	2002	Coffee or Conservation. Experience from the Dong Hua Sao NBCA
Chazee L.	DUDCP	2002	Farming Systems and Agroforestry Mission Report.
Craig, I.A.	Lao Swedish Forestry Program	2000	Participatory NBCA Management in Lao PDR
Flint, C. and Chantavong, K.	CPAWM/IUCN	1998	Participatory Protected Area Management (PPAM)
Flint, C. <i>et al.</i>	IUCN	2000	Integrating Conservation and Development (ICAD)
Foppes, J. and Ketphanh, S.	IUCN	2000	Non-Timber Forest Products in Lao PDR
In prep.	DUDCP	2003	DUDCP Review Workshop, Thakek. June, 2003.
Kramer, R. <i>et al.</i>	Oxford University Press	1997	Last Stand – Protected Areas & the Defense of Tropical Biodiversity
Lao Swedish Forestry Program	DOF	2001	Review of the National Protected Area System in Lao PDR
MacKinnon, K.	Parks. Vol. 11, No. 2: 1-5	2001	Editorial on “integrated Conservation and Development”
MacKinnon, K.	Parks. Vol. 11, No. 2: 50-59	2001	ICDPs: Imperfect Solutions for Imperiled Forests in South-East Asia
Nurse, M and Soydara, V.	IUCN	2002	Conservation and Development: Finding the Linkages.
Raintree, J and Soydara, V.	Unpublished draft	2001	Human Ecology and Rural Livelihoods in Lao PDR
Raintree, J.	Lao Swedish Forestry Program	2001	Completion Report of the Long-term Research Advisor to FRC in Lao PDR
Sage, N.	ICDP Working Group, Hanoi	2001	Analysis of Constraints and Enabling Factors of ICDP in Vietnam
Wells, S. <i>et al.</i>	World Bank	1999	Investing in Biodiversity – a review of Indonesia’s ICDPs

The common thread underlying the ICDP approach in all the projects is the attempt to link conservation and livelihood development in such a way that rural development activities have positive outcomes on conservation and conservation initiatives benefit and improve the quality of life in stakeholder communities in a tangible and demonstrable way.

By linking conservation to development, ICDPs offer a number of potential benefits:

- Local stakeholders benefit from both the fruits of development and the rewards from the improved conservation of natural resources.
- Local stakeholders become active partners in the conservation process.
- Local stakeholders are compensated for foregoing those livelihood activities that are detrimental to conservation by other livelihood options with positive outcomes on conservation.

ICDPs have a number of potential risks which could have negative impacts on conservation:

- The inefficient use of resources which are diverted from conservation to development.
- Uncontrolled development with negative impacts on conservation.
- Distracting attention away from conservation imperatives to development objectives.

The review reveals a generally more positive experience with ICDPs in the Lao PDR than in other countries in the region, and suggests a healthier 'enabling environment' for such an approach here compared to elsewhere in South-East Asia. An analysis of the current social, economic and political situation pinpoints a number of enabling factors which include:

- the economic importance of forests (including watershed functions) to the Lao economy;
- GoL policy of allowing villagers to remain and reside (and thus assist with conservation) in PAs;
- GoL's commitment to providing secure and equitable land use rights to NPA communities;
- a well established system of participatory land use planning;
- devolved protected area management authority to provincial and district authorities, rather than being centrally-based.

A number of impediments to successful implementation of ICDPs also exist in Lao PDR, including:

- the shortage of staff and financial resources for both development and conservation initiatives;
- the lack of clear laws/regulations in regard to Protected Areas and the use of natural resources;
- poor capacity levels in the agencies and staff involved in conservation and development;
- the political imperative for development which may distract from a balanced ICDP approach.

The review identified a number of recurrent issues which were commonly cited as being key determinants to the success or failure of the project in question. Among the most frequently cited topics, were the need for ICDPs to adequately address:

- (i) poverty and food security issues of protected area stakeholder communities;
- (ii) local participation in planning, implementing and monitoring both development and conservation initiatives;
- (iii) close involvement of district authorities and proactively involve and engage all government agencies active at the local level;
- (iv) providing economic or other incentives (such as secure land use rights) to villagers for participating in conservation activities;
- (v) selecting only those livelihood development activities which have direct linkages to and positive impacts on conservation;
- (vi) identify what villagers have and build on that, rather than what they lack and assuming it should be supplied;
- (vii) the benefits and/or incomes from ICDP activities should be seen as supplemental rather than replacements for traditional practices;

- (viii) the community management of NTFPs, with benefits accruing to villagers in an equitable manner. This was most commonly cited as being of importance in the Lao ICDP context.

The generally positive outcome of the review is not to say that ICDPs have been without problems in the Lao PDR. The World Bank FOMACOP project has come under criticism from a number of quarters, not least from within the Bank itself. The major problems associated with FOMACOP largely reflect many of the key findings of the review described above:

1. Artificial 'project' structures within FOMACOP, meant that real authority was never adequately devolved through normal government channels to the provincial and district level.
2. Delays in releasing funds by DOF was a major constraint in the field, and devolution of authority in '1' above needs to include adequate levels of fiscal authority as well as management control.
3. The problem of the slow release of funds impacted heavily on the project's participatory processes. Promises and deadlines for village development activities were broken time and again, creating serious problems for field staff in building rapport and actively involving villagers in project planning.
4. Because of the poor local participation, livelihood development interventions did not reflect real villager needs and the links between development and conservation were either entirely absent or, at best, rather weak.
5. Protected area management plans for each FOMACOP NPA were written in Vientiane by a short term expatriate consultant, who had no understanding of realities at the field implementation level. The resulting top-down nature of the plans, meant that quite apart from failing to be integrated with village livelihood needs, they were actually in direct conflict in many instances.

In conclusion, the findings of the review support the adoption of an ICDP approach in SEMFOP. At the same time, the review has helped to pinpoint key areas where SEMFOP design has been weak and amendments have been made accordingly. Overall, the findings also suggest that the political, economic, administrative and social conditions in the Lao PDR generally, and in the SEMFOP situation in particular, favor the ICDP approach. At the same time, SEMFOP offers the opportunity to provide further lessons and leverage to overcome the potential drawbacks and weaknesses of the ICDP approach in the future.

At the implementation level, the SEMFOP has taken on board the key issues identified by these reviews. It recognizes the link between food security and forest destruction, which forms the basis for livelihood development under SEMFOP. Local participation is emphasized throughout the major programs (FLUPAM, Livelihood Development and Biodiversity Management. Economic and other (service provision) incentives are incorporated in SEMFOP's development programs. FLUPAM aims to provide villagers and communities with secure land use rights. The proposed Conservation Impact Assessment (CIA) technique for selecting appropriate livelihood development activities helps to identify and ensure direct linkages to and positive impacts on conservation. The community management of NTFPs, is frequently cited as an indicative activity likely to be undertaken by SEMFOP.

2.1.2: Use of Participatory Tools

PICAD makes use of a variety of participatory tools to promote local involvement and ownership. SEMFOP follows a 'basket approach' under which appropriate tools are selected and used according to the situation, the task in hand and the capacity of villagers and WMPA staff. Examples of these are presented in Table 2.1.

The use of these tools is also aimed at promoting the inclusion of all disadvantaged groups, particularly ethnic minorities, women, the poor, youth, etc. Ethnically and gender dis-aggregated groups (plus others where appropriate) are used with many of the tools to conduct the analysis independently and then share and discuss the different outcomes of the groups in a plenary session. This helps to raise awareness and sensitize the dominant group (the major ethnic group, men, the rich, village committee, etc.) to the needs of the minority or less influential elements in the community.

Table 2. 1: Indicative Examples of Participatory Tools Used by SEMFOP

NAME OF TOOL	PURPOSE OF TOOL	USES
Facilitation Tools		
Rapport building	Building trust and promoting local community ownership, in particular fostering trust & the participation of women.	All programs
Group facilitation	Fostering the active participation of all group members, especially women and providing help and encouragement towards desired outputs	All programs
Ethnically dis-aggregated group discussions	Ensuring that each ethnic group is able to discuss issues freely in their own language and making sure that their unique beliefs, needs, and perspectives are considered and incorporated	All programs
Gender dis-aggregated groups	Ensuring that women's needs, views and perspectives are considered and incorporated	All programs
Community empowerment	Enhancing the ability of villagers to participate in project activities and negotiate with government and project authorities	All programs
Community networking	Fostering intra-community cooperation and mutual support, including womens group activities	PPAM LDC
Information Gathering Tools		
Semi-structured interviews/focus groups*	Gathering information/ideas from local people in an unbiased way, allowing in-depth follow-up on key issues relevant to different interest groups including women.	All programs
Forest and land use assessment walks*	Collecting local NRM and NTFP information, stimulating questions & ground-truthing existing information	FLUPAM PPAM
Village geographical mapping	Developing a spatial understanding of resource use and management and prompting questions	FLUPAM PPAM
Village conservation monitoring	Collecting information on flora and fauna and identifying impacts and threats	PPAM
Problem & Needs Assessment Tools		
Wealth ranking*	Identifying different groups/classes in a community and the unique needs and perceptions of each through gender dis-aggregated groups	FLUPAM LDC
Key informants*	Obtaining specific and detailed information on key issues of various interest groups including women's issues.	LDC FLUMAP
Problem-cause diagrams*	Gaining (and generating) a better understanding of the nature & causes of key problems using gender dis-aggregated groups	LDC
Historical profiles	Assessing long-term trends and analysing change and the development of problems	LDC FLUMAP
Comparative Analysis Tools		
Scoring*	Rating or scoring factors/activities for a variety of criteria.	FLUMAP PICAD
Weighting*	Weighting specific factors/activities for different criteria.	FLUMAP PICAD
Pairwise ranking*	To objectively prioritise problems, proposed solutions, activities, etc. by community groups.	PICAD FLUMAP
Solution tree analysis*	To assist in developing and analysing potential solutions to any problem	PICAD
Monitoring and Evaluation Tools		
Gender impact assessment	Assessing the impact of activities, rules, regulations, etc. on men and women separately.	All programs
Conservation impact assessment	Analysing and evaluating the impact of livelihood development activities on biodiversity conservation	LDC
Social impact assessment	Analysing the impact and effects of activities on community cohesion, structure and relationships including gender roles.	LDC
SWOT analysis	Assessing strengths, weaknesses, opportunities and threats of an activity or course of action.	All programs
Innovation assessment	Evaluating the benefits and constraints of an activity.	LDC
* Denotes normal use with gender dis-aggregated groups to conduct the analysis independently and then share and discuss the different outcomes of the male and female groups in a plenary session.		

2.1.3: Community Driven Development

As part of its participatory strategy the SEMFOP will use elements of the Community Driven Development² (CDD) approach in an attempt to further strengthen the mainstreaming of community participation in its programs.

Community-driven development (CDD) and related participatory methodologies gives control of decisions and resources to community groups and should be applicable to management activities within the NT Watershed. CDD treats poor people and vulnerable groups such as women 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.

According to the Voices of the Poor study (Narayan *et al.* 2000), based on interviews with 60,000 poor people in 60 countries, poor people demand a development process driven by their communities. When the poor were asked to indicate what might make the greatest difference in their lives, they responded:

- (a) organizations of their own so they can negotiate with government, traders, and NGOs;
- (b) direct assistance through community-driven programs so they can shape their own destinies; and
- (c) local ownership of funds, so they can end corruption. They want NGOs and governments to be accountable to them.

These stated needs of the poor have been taken on board in the PICAD philosophy and are embodied in the various methods and tools that it incorporates.

CDD is an effective mechanism for poverty reduction, complementing market and state-run activities by achieving immediate and lasting results at the grassroots level. Experience has shown that CDD can enhance sustainability and make poverty reduction efforts more responsive to demand. CDD has also been shown to increase the efficiency and effectiveness of poverty reduction efforts. Because it works at the local level, CDD has the potential to occur simultaneously in a very large number of communities thus achieving far-reaching poverty impact. Finally, well-designed CDD programs are inclusive of poor and vulnerable groups, build positive social capital, and give them greater voice both in their community and with government entities.

CDD, as a delivery mechanism for community development activities:

- Complements market and public sector activities
- Enhances sustainability
- Improves efficiency and effectiveness
- Allows poverty reduction efforts to be taken to scale
- Makes development more inclusive of the interests of women and other vulnerable groups
- Empowers poor people, builds social capital, and strengthens governance

² Dongier, Philippe, Julie Van Domelen, Elinor Ostrom, Andrea Ryan, Wendy Wakeman, Anthony Bebbington, Sabina Alkire, Talib Esmail, and Margaret Polski Community-Driven Development Chapter in Poverty Reduction Strategy Sourcebook.

These attributes are all considered entirely compatible with SEMFOP's primary objective of biodiversity conservation and prepares communities for their active participation in this endeavour.

2.1.4: Incorporation of Local Knowledge in Planning

Given the rich biodiversity of the NT2 Watershed, there is much to be learned from the accumulated indigenous knowledge (IK) of the local people in terms of scientific study and the practical use of natural resources. The PICAD approach, by 'building on' rather than transforming traditional livelihood systems, aims to mainstream the use of local knowledge in the planning of both livelihood development and conservation management activities. In order for this knowledge to be fully understood and developed for the purposes of biodiversity conservation and livelihood development, certain principles will be followed and steps taken to maximize the use of appropriate IK into SEMFOP planning and management processes:

- Local people 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. 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 International Ethnic Development Advisor will be responsible for incorporating IK into project planning and implementation. He/she must be present for initial assessments in each village, train a national colleague 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 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 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 IK is kept within its original context and thus remains meaningful;
- Cooperative programs with appropriate research institutions such as the Institute for Cultural Research will be encouraged to assist in identifying valuable IK that can be incorporated into SEMFOP programs and activities.
- Finally, with the eventual goal of encouraging all ethnic groups to adopt more productive and sustainable forms of agricultural production, the SEMFOP-1 must use the skills and experience of the groups in the watershed, for example, the Sek, who have already successfully made, or partially made, this transformation. These and other groups with specialist skills or knowledge could be promoted as resource people for neighboring communities. Vietic groups, who are the indigenous people of the area, could be particularly valuable in this respect. However, a cultural and ethnic understanding and sensitivity must underly this approach if it is to be used successfully.

Preliminary studies have already been carried out by a number of researchers (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.

IK has already been a factor in conservation, patrolling and studies in the pilot project villages, and activities that have already been undertaken in the Watershed. This integration will continue for the duration of the project.

IK 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 IK 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.

2.1.5: Cultural Development

Culture is a complex term that refers to the socially transmitted patterns of behavior that characterizes a particular group. This includes knowledge, spiritual belief, art, morals, laws, customs, techniques and any other capabilities and habits of a society. Cultural development refers to the process of transmission involving considerable continuity of behavioral patterns but also change, modification, adaptations and alterations, both internally and through contact with other groups. In the context of the NT2 Watershed/NPA ethnic minorities, there has already been considerable borrowing, shared cultural values and technology and influences from outside.

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 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 people 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 access to resources) so that these groups may compete with the dominant group on a similar level. The political reality in the Lao PDR is a nation still attempting to provide improved infrastructure and services to peripheral areas within the country. The Nam Theun 2 project is likely to increase the tempo of these two processes. Therefore, to equip ethnic minorities with the means to retain control over their own resources and manage them in a profitable and sustainable manner could prove to be the best means of preserving 'their dignity, human rights and cultural uniqueness'. (WB OD 4.20, 6). This can best be achieved through a process of local participation which takes into account the needs and 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. The aim of SEMFOP is to ensure cultural development by supporting the communities to retain control over their own resources and decision-making mechanisms to promote biodiversity conservation.

2.1.6: Access Development and Management

2.1.6.1 NPA Access Strategy

Improved access to protected areas can result in more poaching, increased extraction of natural resources, in-migration of shifting cultivators with inherent problems for PA management and biodiversity conservation. However, consultations to date with NPA villages do indicate their desire for improved inter-village and outside communications. It should be noted that the proposals later in this section are merely indicative and no plans will be finalized until full consultations have been conducted with villagers as to their needs in this respect.

Improved access is required to -

- i) market household supplies from Nakai District as an alternative to the current trans-boundary supply route (in this respect, this Plan does not support border markets as proposed in the 1998 ESMP) as the current transboundary traders either hunt wildlife or exchange goods for wildlife ;
- ii) facilitate the transport (export) of produce to the Nakai plateau and beyond;
- iii) facilitate easy and relatively quick travel by NPA villagers to the District centre of Nakai;
- iv) facilitate the provision of rice and other essentials from Nakai;
- v) improve access for development, management and patrolling personnel and goods.

In order to address this dilemma of conflicting needs and threats to biodiversity conservation related to the issue of access, an access strategy has been developed as the basis for detailed planning and design of communications infra-structure development under the SEMFOP. The NPA access strategy aims to reduce the porous nature of the NPA boundary by re-orienting access for both people and commodities through Nakai. The strategy focuses on establishing a single, dominant entry and exit point linked to a well-controlled water borne transport system on the reservoir. By providing a cheap and efficient service, coupled with stringent control and regulation over passengers, their personal possessions and cargo, it is anticipated that current problems of poaching, illegal resource extraction and transborder trade (with the inherent problems associated with it) will be reduced, and at the same time market access, public service availability and the general quality of life of NPA communities will be improved.

The planned, reservoir-based transportation system offers a number of opportunities for improved control and regulation, including:

- A single access point (boat dock) into and out of the NT2 Watershed/NPA which is easy to monitor and regulate.
- Through close cooperation with the RMU from the outset, the WMPA will be able to ensure that the system is designed and implemented in line with SEMFOP's primary goal of biodiversity conservation.
- The highly visible nature of water-transport on the reservoir facilitates the identification and detection of illegal activities.
- The public nature of the transport system makes illegal activities more difficult to conceal.
- Trained boat operators and personnel employed by the WMPA will be able to assist in control and enforcement.

Under this strategy, it will be possible to improve ground-based access routes within the NPA to the benefit of both NPA communities and NPA management, without the concomitant increase in risks from external threats that this normally creates. Improved communications within the NPA, all linking with a single access point via the boat transport system will provide a number of benefits to NPA management and biodiversity conservation:

- Reduced reliance on the currently dominant transborder supply route for household supplies with its inherent dangers for the extraction of NPA resources by the cross border traders.
- Improved access for rangers and enforcement teams for the rapid response to reported impacts, poaching, wildlife trade and other incidents.

- The potential to move larger items of conservation and protection equipment (for fire-fighting, survey, research, development, etc.) within the NPA.
- Easier access for the Village Conservation Monitoring Units and better cooperation and coordination within the Watershed Conservation and Development Networks due to improved inter-village communications.
- Improved market access to Nakai for NPA communities, thus providing alternative economic opportunities in place of their current reliance on forest resources.
- Enhanced access for ecotourism, thereby providing alternative sustainable livelihoods for NPA communities (guides, sale of handicrafts, cultural tourism, etc.).

2.1.6.2 Access to the NT2 Watershed

Thus, the access development planned for this SEMFOP-1 is composed of;

- A. Development and maintenance of a few selected ground/track access routes;
- B. Focus development on river and boat routes. Any vehicle routes may be closed after reservoir impoundment; and
- C. Establish and staff checkpoints at strategic points on these access routes.

Vehicular Access

- (i) The road from eastern Khamkerd District into the Nam Xot valley (Ban Thameuang) of Nakai District will be maintained at a low level, but a mobile military guard team will be stationed in Ban Thaipaban. This road may not be necessary, and will thus be closed if the reservoir impoundment significantly improves the river/boat access via the Nam Sot.
- (ii) The two logging roads into the lower NPA will be closed.
- (iii) The road running from the Ban Houa Phou – Ban Talang road south-west through the corridor to the Nathon-Nabon area of Nakai will be maintained pre-reservoir impoundment, but after the reservoir is filled, the route via Nam Malou will be impassable. An alternate route must be found.
- (iv) The small, 2.5 m track opened from Ban Done (under DUDCP), skirting east of the Nam Noy, and almost reaching Ban Hoauy Sarn on the Nam Pheo, will be maintained as a power tiller track only. 4 (or more) wheeled vehicles of all sorts will be banned. Upon reservoir impoundment, access to this track from the reservoir may be impossible.

Walking Tracks.

- i) The walking track from Keng Meo to Keng Luang, along the Nam Theun will be improved with small bridges and the like, as it will be a component of the reservoir/river based system.
- ii) Assistance will be provided to annually maintain the B. Sopphen to Navang walking track, up until reservoir impoundment, after which this route may not be feasible

Water Borne Access

To be developed as fully as possible, as water borne transport is:

- a) most compatible with the longer term scenario including the NT2 Reservoir, which will make water transport up both the Nam Thern and Nam Xot considerably easier. In addition, all travel or goods transport to and from Nakai will have to use boats at some stage (to cross the reservoir).
- b) most amenable to control the entry into the NT2 Watershed/NPA which is crucial to the long term viability of the NPA and ultimately the hydropower generation facility.

Development the Nam Theun river route will include the establishment and operation of a public transport system along the reservoir. Up until reservoir impoundment, the WMPA will ensure that a truck service operates daily from Nakai to Ban Sop On, and a boat service from Sop On to Keng Meo, where a warehouse will be established. From Keng Meo. A different type of boat will navigate the rapids up to Keng Luang (including a portage system along the track) after which a private boat operation will be encouraged to operate from Keng Luang, past Ban Makfeuung up to about Ban Thaipaban. After

reservoir filling and operation, a public boat would be operational from the Nakai jetty (or similar) all the way to Keng Meow (or further, when the reservoir level is high).

A public boat service will be organised along the Nam Xot River from Ban Talang to Ban Thameuang. Boat operators will be assisted to annually clear the river route to facilitate transport. Post reservoir impoundment (SEMFOP-2), this route may be more attractive, and navigable in most seasons.

2.1.6.3 Access Within the NT2 Watershed-NPA

The strategy for intra-NPA, inter-village access is to foster the maintenance of current tracks (already built firstly with NTSEP/IUCN and then with LIL/DUDCP assistance) and to open new tracks considered appropriate and feasible. Thus, access between villages within valleys, and between valleys will be improved, in most cases to a standard allowing passage of hand tractors (power tillers).

Thus, tracks of width 2.5 will continue to be cleared and constructed to connect all major villages. The NTSEP/IUCN and then the DUDCP projects constructed such tracks using food-for-work (paid on a daily, not quantity basis), and the methodology has proved both feasible and useful. While food-for-work is used to pay for the construction of the tracks pavement and of wooden bridges or culverts, some funds and appropriate materials may be supplied for the construction of culverts or small bridges etc, to facilitate hand tractor transport, usually in the form of metal clamps for wooden bridges.

The exact location and alignment of such tracks will be developed in consultation with villagers, overseen by the Executive Secretariat rural engineer, and facilitated by the CD officers.

2.1.7 Demographic Management

The populations of NPA villages are increasing at high rates - the population in NPA villages has increased by 17 % between 1996 and 2002. Such a growth rate threatens to exacerbate the current unsustainable and declining livelihoods of most of the NPA villages and some of the surrounding communities. The improvements in the quality of life in local communities anticipated from the LDC livelihood development activities may even attract additional in-migration, particularly from relatives of NPA villagers, further exacerbating the already acute demographic problems in the NPA. Thus, strong, but fair, equitable and culturally sensitive demographic-safeguards need to be established from the outset.

The SEMFOP strategy for demographic management addresses both natural population increases in the existing populace, and the potential problem caused by in-migration from surrounding areas.

2.1.7.1: Population Control in Existing Communities

The SEMFOP strategy for population management in existing communities embodies 3 major components:

1. Safeguards to ensure adequate agricultural land for current and likely future population in the NPA villages.

FLUPAM provides for the development of land use agreements with communities that mitigate against future encroachment into undisturbed forest areas, while at the same time, taking account of current and future populations by defining village agriculture and reserve agricultural land areas. FLUPAM proceeds simultaneously with clusters of neighboring villages and thus allows for the possible rationalization of agricultural (and reserve agricultural) land areas between villages according to the population needs of each.

2. Awareness raising and capacity development to enable communities to better make their own decisions on family size, and the capability to be able to act on these decisions.

The assessments of population trends conducted during FLUPAM will be undertaken in a participatory manner with villagers in order to increase community awareness of population issues and to table the problems (and the potential benefits of family planning to them) for consideration when designing livelihood development activities. Wherever appropriate, assistance

with family planning will be provided as a key livelihood development activity under the SEMFOP.

Other initiatives in the SEMFOP in regard to helping communities generally, and women in particular, make their own decisions in regard to the sustainable management of population include:

- improved maternal and child health care;
 - capacity development and empowerment programs for women in conjunction with the LWU;
 - supporting female economic activities
 - developing and implementing policy on in-migration in conjunction with the NPA communities;
3. Improved education and vocational training opportunities to facilitate the out-migration of capable youth and adults to take up new occupations outside the NPA.
- promotion of literacy and numeracy through non-formal education;
 - education of youth, especially girls through improved formal education opportunities;
 - support for vocational development and professional training to enhance career opportunities and allow NPA villagers find employment outside the NPA.

2.1.7.2: In-Migration Strategy.

Although high rates of in-migration to NPA villages are not anticipated, some inward population movement might occur, mainly from neighboring PIZ villages. Any such in-migration is expected to be at least partly balanced by out-migration from the NPA, particularly after capacity levels of local people have been raised by SEMFOP training and development programs, and these villagers are able to seek employment elsewhere. In-migration is likely to be for two reasons:

Type 1 - due to marriage, family re-organisation of existing inhabitants, or other compassionate reasons. This type of in-migration will normally be into existing villages and, under the law requires prior approval from the Village Chief and then ratification by the district authorities.

Type 2 – due to perceived benefits accruing to NPA villagers through the WMPA’s livelihood development program. This type of in-migration could be into existing villages, but may also involve the establishment of new villages which requires approval from the district authorities.

An in-migration control strategy has been developed under SEMFOP which deals with the first type in a fair and sensitive manner, while at the same time imposes adequate checks and controls on the second type.

Under the Law, ‘residency’ is defined by house registration documents (*Bai Ban*) which contain the names of all family members living in each household. These documents are maintained by the Village Chief and ratified by the District Authorities. Identity cards for Lao nationals, currently being introduced in Vientiane, and to be issued in other areas over the coming years, will, in the future, provide an additional means of confirming residency. Under the SEMFOP in-migration strategy, house registration documents (and later ID cards) will be used as the basis for defining NT2 Watershed/NPA residency and thus eligibility for livelihood development assistance.

Because of the key role played by village chiefs and district authorities, the SEMFOP in-migration strategy will begin with an awareness program to explain the potential problems caused by inward population movement and to clarify WMPA policy in this regard.

Land use planning will be used as the entry point to explain and discuss in-migration issues with villagers, and the LUP process will form the basis for their decisions on whether to allow new settlers into the village. During the LUP process, a limited area of ‘reserve agricultural land’ is normally set aside to allow for natural population increase within the community. This land-type initially comes under village

ownership, but can be allocated to individuals or families, based on the collective decision of the community as a whole. Under SEMFOP's in-migration strategy, reserve agricultural land can also be allocated to families or individuals who settle in the village due to compassionate reasons as described for 'Type 1' in-migration. Once again, this will be a collective village decision and any land allocation to newly settled families will have to be weighed against the needs of the existing population and any expected increases. Specific guidelines in this respect, and a clear definition of the types of in-migrants who can qualify for such land allocation will be developed in a participatory manner with villagers during the LUP process.

Similarly, agricultural land becoming available due to out-migration or death (without legal heirs) of existing residents cannot be sold or transferred, but will revert to community ownership and thus become part of the village reserve agricultural land.

Land use planning will also be employed as the major means of controlling the establishment of new settlements, as described under Type 2 in-migration. Village land and forest areas are delineated and zoned during the LUP process, and after a period of testing, will be ratified by the district authorities. Following LUP and official ratification, all land within the NPA which does not fall within these village customary use areas will be defined as Totally Protected Zone and will thus be unavailable for new settlement under the Forest Law.

The stimulus to in-migration that SEMFOP's livelihood development activities in the NPA might create will be off-set, as far as possible, by similar activities in the PIZ. These will be combined with education and awareness programs in PIZ villages, aimed at explaining the importance of the NPA and the reasons for controlling access and in-migration. It is expected that SEMFOP strategy on in-migration will evolve and strengthen over time through the active engagement of villagers and relevant district authorities.

2.2: FOREST AND LAND USE PLANNING, ALLOCATION AND MANAGEMENT

Forest and Land Use Planning, Allocation and Management (FLUPAM) is a process of resource management planning aimed at ensuring equitable access to forest and land resources and providing the basis for their sustainable management by local communities. It has the following major objectives:

- Stabilizing forest and land use patterns under a sustainable management system.
- Ensuring equitable access and to forest and land resources for all community members and formalizing land use rights within the existing legal framework.
- Ensuring customary use rights are respected and not infringed upon
- Establishing resource use and conservation agreements and rights with local communities.
- Developing a partnership between villages and government for the joint management of community development and conservation activities.

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 the introduction of any new tenure systems being considered (particularly TLUCs).

During FLUPAM, it is intended to clearly identify the customary tenure systems of local communities in each and every NPA and PIZ village and incorporate these into the respective VFLMA. This will require an additional series of steps in the FLUPAM process over and above those currently included in the FLUPAM manual (Annex 5 in the Folio of Annexures, SEMFOP Volume 2). This participatory assessment will be conducted concurrently with village land use zoning (and may require that the current list of land use zones is expanded) and identify the customary tenure systems associated with each zone. It will include the following topics.

- Community land: types definitions, descriptions, uses delineation and tenure systems.
- Community natural resources: types, uses, allocation, access and tenure.
- Family land: types, uses, allocation and tenure.
- Family managed natural resources: types, uses, allocation, access and tenure.

The VFLMA will be the primary instrument to recognize the customary rights of local communities, who will have the control over the designated agricultural and forest resource use areas (with some qualifications as agreed to in the VFLMA). By this means, local communities will be able to decide how they want to allocate the land within their territories, and they need not necessarily proceed to the issuance of individual TLUCs. As part of this process, awareness raising will be conducted with local communities in regard to land tenure issues, including their rights under Lao law (which recognizes customary law), and possible adverse impacts of the TLUC system. Materials produced in the Lao language and designed specifically to inform villagers as to their rights in this regard have been produced by the NGO, Global Village and will be used, with some modifications, by the WMPA.

Community and individual rights to land and forest resources are enshrined in Village Forestry and Land-use Management Agreements (VFLMA) and Temporary Land Use Certificates (TLUC), respectively. The types of rights and responsibilities that are guaranteed under VFLMAs are shown in the VFLMA template in the Manual for LUP in NPAs presented in Part 5 of the Folio of Annexures. Essentially the VFLMA formalises the agreements reached during discussions of boundaries, zones and local rules, and ensures the villager's long term usufruct rights rights. This is an exchange of commitments. Villagers receive formal recognition of tenure rights and continued legal access to specific areas and resources. Likewise, they make commitments to respect the rules that they helped to create. These rules are recognized to be in villagers' own long-term interests, even though they may limit use of certain resources in the short-term. In this exchange, the protected area management team acquires a dependable partner, but also takes on responsibilities for support and livelihood development assistance.

FLUPAM is a phased but iterative process which proceeds through five stages run simultaneously in each village with the PPAM and LDC programs by joint teams (Table 2.2). FLUPAM procedures and methods are now well developed and widely used in Lao PDR. However, early attempts to apply these procedures to land use planning (LUP) in NPAs revealed that they were lacking in a number of respects when applied to the unique situation and specific needs of protected areas. In particular, the standard procedures:-

- Did not take sufficient account of specific biodiversity values that may often be unique to individual NPAs.
- Were not entirely compatible with the legal framework and some of the provisions embodied in Prime Minister's Decree 164 pertaining to protected areas.
- Did not adequately encompass the conservation co-management roles and responsibilities of villagers in the Forest and Land Use Agreements resulting from the process.
- Focused on individual villages and did not pay sufficient attention to issues critical at the level of the entire NPA.
- Did not give adequate attention to the collection and analysis of data and information of conservation importance in reaching forest and land use zoning decisions and establishing management agreements.
- Tended to be used to stop shifting cultivation by limiting the area under cultivation allocated to each family.

Although FLUPAM employs many of the methods and tools which are common to standard LUP procedures, the process has been modified in a number of key areas to make it more appropriate for use in Protected Areas:

- It proceeds more slowly than the standard LUP process, thus allowing time for trial, testing and modification to agreements before they are ratified. Formalisation of the agreements only occurs after villagers have shown, through participatory monitoring and evaluation, that they can follow and manage the agreements.
- FLUPAM does not necessarily proceed to formal land allocation to individuals or households. The distribution of agricultural land amongst families is often a community decision which allows for the dynamics of family size and community needs. If desired by the village, formal land allocation can be made to the entire community who then manage individual parcel allocation according to traditional norms. Ususfruct rights are still legally guaranteed, but through an agreement with the entire community rather than by the issue of individual TLUCs.
- It takes careful account of existing norms and current and future land use patterns. Although the opening of new land is not condoned, no attempt is made to reduce the area of fallow swidden and any land in excess of current requirements can be earmarked as reserve agricultural land for future population increase.
- It considers bio-diversity and conservation values throughout the entire planning process. It gives responsibility for and participation in some aspects of conservation management to villagers themselves. Finally, rather than working in one village at a time, it is conducted simultaneously in a number of contiguous villages, which are slowly developed into a community network to promote co-operation in both conservation and development activities.

Table 2.2 Steps and procedures for FLUPAM and simultaneous PPAM and LDC activities

Stage	FLUPAM Steps	PPAM Steps	LDC Steps
<u>Stage 1.</u>	1. Village classification		
Setting priorities	2. Selection of priority villages	Priorities w.r.t. conservation	Priorities w.r.t development
<u>Stage 2.</u>	1. Village FLUPAM orientation & preparation	PPAM orientation	LDC orientation
	2. Village land use data collection	Village biodiversity data collection	Village needs assessments
Land use management planning	3. Village boundary delineation	Village forest and land use zoning	Problem analysis by land use zone
	4. Draft village forest and land use management agreements	Conservation rules and regulations	Draft village development plans
<u>Stage 3.</u>	1. Networking activities	Network conservation issues Establishing/organizing VCMUs	Network development (watershed) issues
Follow-up, support and period of testing the agreements	2. Land use management activities	Participatory conservation activities	Implement livelihood development activities
	3. Monitoring activities	Monitoring activities	Participatory evaluation
	4. Information storage & management	Conservation data	Livelihood data
<u>Stage 4.</u>	1. Land data analysis	Conservation data analysis	Analysis of livelihood outcomes
Land allocation	2. Land allocation decisions	Modifications of PPAM activities	Modifications of LDC activities
	3. Land parcel measurement		
	4. Land use certificate preparation & transfer		
	5. Ratification of land use agreements by District Authorities.	Conservation agreements	Development incentives
<u>Stage 5.</u>	1. Land allocation records	NPA management plan	Village development plan
Information management and monitoring	2. Socio-Economic Information 3. Conservation information		
	4. Ongoing M&E and support	Ongoing M&E and support	Ongoing M&E and support

FLUPAM has a number of important attributes which must be adhered to if it is to achieve its desired objectives. It is:

Participatory:	It involves villagers in every step of the process and encourages them to make their own decisions about sustainable natural resources management.
Empowering:	It strengthens community organisation and capability and provides villagers with the skills and tools to solve their own problems and make improved decisions about the sustainable management of natural resources in the future.
Gender responsive:	It promotes the active participation of women in all decisions regarding resource allocation and management and addresses the unique problems of women by the use of gender dis-aggregated discussion groups with feedback in plenary.
Ethnically sensitive:	It promotes the active participation of all ethnic groups in decision making by the same mechanisms as used for gender and also follows a linguistically sensitive approach by the use of pictures, cartoons and diagrams.
Networking:	It promotes inter-village cooperation to solve resource use conflicts and creates linkages and networks between villages to facilitate mutual support and cooperation in both conservation and community development activities.
Holistic:	It focuses at the level of the entire ecosystem, including community livelihood systems, and addresses the key interactions between habitats, wildlife and people.
Interdisciplinary:	It involves group tasks by teams comprising land use planners, conservationists, agriculturists, gender specialists and district officials who work with villagers in an interdisciplinary manner.
Integrated:	It links conservation with development in an integrated manner through two-way agreements whereby villagers are compensated for curtailing certain resource use practices by government assistance with livelihood development activities.
Stepwise:	It follows an adaptive management approach with a logical sequence of discrete steps and provides ample time for both villagers and Protected Area staff to consider the outcomes and implications of each step in the process.
Iterative and flexible:	As villagers implement agreements and adopt new resource management and livelihood practices, conditions change, new problems emerge and additional lessons are learned requiring that certain steps are repeated in the light of the changed circumstances.

2.2.1: Forest and Land Use Monitoring and Mapping

The status of Watershed/NPA forests and land use will be monitored and assessed on an ongoing basis in order to:

- describe the status of the area's forest resources;
- provide a basis on which to delineate macro level zones, such as the 'totally protected zones' and 'controlled use zones'; and
- monitor the change over time of forest cover and land use for agriculture, and thus the effect of NPA management on these and other parameters.

This monitoring and mapping is achieved by (the parallel activities of) (i) review and mapping from aerial photos and (ii) field/forest level verification. The data collected and maps produced to date are not sufficiently accurate or diagnostic enough to be considered as "baseline data". Thus, a basic forest inventory and forest cover (and land use) mapping exercise needs to be re-done during SEMFOP-1. This will be conducted through two major tasks.

Task 1: A baseline forest inventory, requiring at least 10 months of field (forest) work by experienced and dedicated staff, such as from DOF's Forest Inventory and Planning Centre (FIPC), and villager team. This will be done over a period of 2 or 3 years.

Task 2: A forest cover and land use mapping exercise, using (a) aerial photos of 1998/99 at 1:50,000 and (b) recent satellite data, printed at 1:50,000, to provide up to date information for the aerial photo interpretation. Both the experience of the forest inventory team and of local staff and villages will be used to reach agreement on the appropriate forest categories and land use types that will be used (not necessarily those categories used at the national level), now and in the long term (in order to make valid comparisons of change of forest cover and land use over time).

These tasks will be undertaken by the Executive Secretariats FLUPAM Division and the GIS Unit in cooperation with FIPC, via a sub-contract specifying that the office work will be undertaken at the Nakai HQ, not in Vientiane. The resultant data will be added to the GIS database, maps produced, and will effectively become the baseline data.

This forest cover and land use mapping will be repeated every 5 years, using satellite photos (or aerial photos, if new flights are undertaken) as the basis for monitoring land use changes and as a means of checking that village land use agreements are being followed.

2.2.2: Socio-Economic Data Collection and Mapping

Concurrent with the development of a forest and land use baseline data set and maps, detailed socio-economic baseline data will also be collected for all households in each village. This will be used to help plan LDC and PPAM activities, and will also form the M&E baseline for the SEMFOP (see Section 6.5.1).

There are various methods and approaches to the collection of village level baseline socio-economic data, and the choice of these will dictate the type, quantity and quality of the data obtained. In this case, the data will be collected at the household level to ensure coverage of particularly vulnerable groups. The process will be participatory and involve gender dis-aggregation techniques, where appropriate. This Task will be undertaken with implementing partners, especially the District offices and their staff.

2.2.3: Floral Biodiversity Data – Collection and Mapping

Flora biodiversity is more difficult to assess than wildlife biodiversity (if only because of the vast number of species, and difficulties in identification), and thus there is very little concrete data currently available. A detailed understanding of the NT2 Watershed/NPA floral biodiversity in terms of species, numbers and distribution, will take a long time to develop, and can only come from recurrent field trips and compilation of data gathered, at both the village and forest level, over many years. Most flora studies to date in the watershed have not involved the systematic collection and identification of specimens, and thus it is not possible to draw up a reliable list of known plants.

The proposed training and capacity development work by Edinburgh Botanic Gardens, to be funded under the Darwin Initiative, is expected to lay sound foundations for the future work needed to ameliorate the current situation of poor botanical information. This work is described in more detail in Section 4.2.3.1. The NUOL Botany Department, assisted by an international/regional expert, will also be contracted to undertake botanical and ecological surveys so that, by year 3 a baseline data-set will be established. This activity will be linked to the forest inventory and mapping exercise (2.2.1 above) and be included in the GIS database.

2.2.4: Fauna Biodiversity Data – Collation and Baseline Surveys

A more detailed understanding of wildlife biodiversity in terms of species, numbers and distribution, will also take considerable time to develop, if it is only to come from the recurrent field surveys and the compilation of data gathered by the VCMUs, and the army conservation monitoring units. However, a start must be made, and a baseline benchmark will be established in the first year of SEMFOP by the proposed biodiversity monitoring survey and baseline described later in Section 4.3.4.

A first step will be to compile, computerize and, where possible, map all the wildlife survey information collected over the last 10 years or so. Analysis of this data will reveal any major gaps, and a two to three year survey program will be planned to gather sufficient data to establish an acceptable baseline database.

2.2.5: Zonation and Regulations Development

It is intended that the entire Watershed will be divided into either CUZ or TPZ, giving a macro-level zonation for the NPA. Initially, all areas outside village customary use areas will be categorized as TPZ, and all village use areas as CUZ, with some possible excisions in areas of high biodiversity value such as salt-licks, but only with the agreement of the village concerned. Initially, all CUZ/TPZ zonation will be provisional and will be modified and refined according to the lessons learned during a trial period of testing under FLUPAM of around 3 years.

2.2.5.1: Preliminary Macro-level Zonation

The FLUPAM Division will delineate provisional controlled use zones (CUZ) and totally protected zones (TPZ) based on:

- areas of priority flora and fauna biodiversity importance;
- village and family customary land use and socio-economic data;
- forest inventory, forest cover and land use maps;
- discussions with and consideration of the concerns of all stakeholders.

Within this framework, other micro-level zones will be further delineated. Parallel to the forest and land use zonation, the drafting of regulations relevant to the CUZ and other specific zonations delineated within them, will be conducted. These regulations thus give effect to the rationale for the 'zonation'. These regulations will include:

- protected and managed wildlife species, and management of the same;
- forest and land use zones, permissible practices and management agreements;
- NTFP and forest products management and extraction;
- rights and responsibilities of stakeholders to implement the regulations; and
- penalties for infringement and the treatment of offenders.

These zonations and the description of their management and the rules and regulations applying to them will constitute the first 'NPA forest and land use management Plan'. It will provide the framework within which the Executive Secretariat will work, and within which villagers will seek to develop their livelihoods and participate in the management of the NPA.

2.2.5.2: Stakeholder Consultation on Zonation

The various NT2 Watershed/NPA stakeholders will then be presented with;

- a compilation of the baseline socio-economic, biodiversity and forest cover and land use data;
- a clear map of the proposed controlled use zones, totally protected zones and other special management zones within these; and
- the proposed regulations relating to each of the zonations.

for their review and discussion. The zonations, and the proposed regulations will also be put on public view in all affected villages and in the Executive Secretariats headquarters library and display room.

Public comments on this zonation and their regulations will be elicited and received, and the issue discussed at the annual BoD meeting. Assuming consensus is found, the zonations and land use plans and regulations will be promulgated as legal zones and regulations, with the proviso that amendments to the zonation or regulations can be proposed by any party for consideration at each annual BoD meeting. In addition, the NPA forest and land use management Plan will be fully reviewed every 5 years, in parallel with the recurrent assessment of forest cover and land use, and re-collection of socio-economic data.

2.2.6: Family/Village Level Data Collection and Assessment

In cooperation with district authorities, family level socio-economic data will be collected in order to assist village development planning and village level FLUPAM, and also to contribute to the baseline data set for measuring project influence over time.

The first step will be to review data currently collected, although this is likely to be inadequate to serve as a baseline. On this assumption, a plan will be made to progressively conduct Participatory Village Assessments (PVA) in all NPA and peripheral impact zone villages. PVA requires the project team reside in each village for at least 5 days to collect both qualitative and quantitative data from all. Employment of group participatory investigations and analysis techniques will be used for some issues, while family level interviews will be standard. Field and forest walks will also be undertaken in order to develop base maps of the village and surrounding agricultural land and forest lands, including hill and stream names, and village boundaries. The data, information and maps will be progressively be added to the WMPA database

2.2.7: Schedule of FLUPAM Activities

To date, the protected area management team, assisted by IUCN, and then the DUDCP have undertaken land and forest allocation in a number of villages. However, these activities probably do not approach the quality required by Executive Secretariat (SEMFOP-1) for FLUPAM and PICAD planning. They will however, have provided good experience on which staff and villagers can more effectively participate in more realistic forest and land use planning in the future.

Thus, to ensure consistency and long term understanding of all stakeholders, these villages will have to go through another cycle of forest and land use planning, allocation and Management (FLUPAM), linked to integrated conservation and development planning. Care must be taken to ensure the process is participatory, does not infringe on customary rights, and above all realistic and does not expose villagers to unworkable land use plans or plans that would lead to increased poverty or hunger.

Experience to date suggests that FLUPAM under a PICAD approach will take at least 1 month per village and usually need to be done in the dry season to allow supporting agricultural livelihood activities to be implemented without a delay of a whole year as would be the case if plans were not in place before the onset of the rains. In addition, it must not coincide with any major farming activities, or important festivals. Thus, the period in which these activities can be undertaken is restricted to 6 months from December to May. This means that a team of about 15 staff can only do 5 or 6 villages per year. A tentative schedule for initiating FLUPAM planning exercises in villages is given in Table 2.3.

Table 2. 3: Indicative schedule for initiating village FLUPAM activities

Area	No. villages	Year of the 1 st SEMFOP						
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
NPA Villages :	31							
1: Nakai District	31							
Khet Navang zone	9	5	0	4	0	0	0	0
Khet Makfeuung zone	9	0	5	4	0	0	0	0
Khet Dteung zone	13	0	5	5	3	0	0	0
PIZ villages:	54							
2: Khamkeut District	38	0	3	3	6	7	11	8
3: Gnomalart Dist.	11	0	2	0	5	4	0	0
4: Boulapha District	4	0	1	0	0	3	0	0
5: Nakai	1	0	0	0	1	0	0	0
<i>Total</i>		5	16	16	15	17	11	8

- Notes:**
- 1: Nakai villages will be undertaken by a Nakai/WMPA team;
 - 2: Khamkerd villages will be undertaken by another team for Khamkerd/WMPA District;
 - 3: Gnomalart and Boulapha villages will be undertaken by a separate team, with WMPA assistance; and

A number of issues regarding village level FLUPAM implementation should be noted, as follows.

- i) the exercises should be conducted in a group or cluster of villages;
- ii) FLUPAM planning and implementation must take full account of ethnic differences both within villages and between villages in the cluster to ensure full inclusion, eliminate any ethnic dominance and to cater for any special cultural needs or disadvantages;
- iii) the exercise could be undertaken in a few steps, stretching over the whole dry season for any particular village cluster, if considered desirable;
- iv) FLUPAM is an on-going process which must be reviewed and modified over time. Thus, the schedule shown in Table 2.3 is actually the schedule for the 1st phase of the process. Monitoring is required annually, while a re-iteration (of the forest and land use zonations and agreements) is preferable every 5 years or so.
 - i) Forest resource allocation will be based on developing sustainable forest product harvesting in specified CUZ forests, and on allocating village control over these resources. This is based on the assumption that ownership of the resource will result in responsible management. It is assumed that timber will be harvested for dwellings only, while commercial NTFPs will be harvested according to negotiated and agreed-upon regimes.

PICAD activities are normally planned during the first stage of FLUPAM, with implementation beginning soon thereafter. Because of the key role it plays in establishing trust, developing a partnership and building community capacity, FLUPAM is necessarily a slow and careful process and it will take some years before it can be completed in all villages (See Table 2.3 in Section 2.2.7). This will leave some villages waiting for some years before they receive development assistance.

In order to demonstrate WMPA's commitment to providing support for villagers' needs, an assurance will be given to all NPA and PIZ villages that they will receive development support at least equal in value to the livelihood losses that they incur by abiding by the Village Forest and Land-use Management Agreements (VFLMA) that are developed during FLUPAM. The economic value of resource use foregone and the cost of the development support to be provided by the WMPA will be explicitly laid out in each VFLMA (see Section 5.4.4). By linking development support to FLUPAM in this way, no village will be asked to forego any resource use rights until support is available to replace these losses with alternative livelihood options. This is another reason why it is important to conduct FLUPAM in clusters of adjacent villages so that neighboring communities receive support at the same time, thus avoiding any perceived unfairness caused by the timing of FLUPAM.

All villagers will be informed of this pledge in the first year of SEMFOP as part of the ongoing consultation process. This will be conducted by the FLUPAM Division and will act as an initial entry point for SEMFOP while also demonstrating WMPA's good faith and commitment to villager needs. It will also provide the opportunity for:

- Village orientations to SEMFOP and an explanation of planned activities, expected benefits and the respective roles and responsibilities of both villagers and the WMPA.
- Informing all villages of the FLUPAM schedule and when they will receive livelihood development support.
- Providing continuity and maintaining the momentum generated by the initial round of public consultations already conducted in the NPA and PIZ (See Section 2.6.7).
- Establishing and actively engaging Village Integrated Conservation and Development committees (See Section 6.4.3) in preparation for future planned activities.

2.3: PARTICIPATORY BIODIVERSITY MANAGEMENT AND MONITORING

Participatory Protected Area Management (PPAM) recognizes villagers as NPA management partners. The approach gives all stakeholders an integral role in the planning and management of Protected Areas, the term stakeholders usually referring to:

- a) Villages living in and around the Protected Area;
- c) Government agencies such as DAFO, PAFO, and District and Provincial Authorities; and,
- d) the Military and the Constabulary.

The exact nature or system of 'participation' is guided by the respective rights and responsibilities of these stakeholders, which may depend on various factors, such as:

- the stakeholders location (w.r.t the NPA);
- the nature and history of their interest in the NPA;
- their use of, or dependence on resources in the NPA; and
- their administrative, customary or professional duties and rights as recognized or directed by the government.

Villagers as Primary Stakeholders

In most cases, PPAM reflects and attempts to systemize the Governments policy of giving villagers a focal role in the definition of boundaries and zones, in the development of rules and regulations guiding resource utilization and management, and responsibilities to implement such regulations and management procedures. It devolves both responsibilities and privileges to the local level. It is consistent with the Government policy of transferring (or allocating) rights and responsibilities regarding land and forest use and management to local villagers, commonly referred to as Land/Forest Allocation.

The prominent role for villagers in NPAs is both necessary and logical for various reasons, including :

- i) Villagers have, usually for many generations, been born in and sought a living from the land and forests, and thus management practices that are developed by them are likely to be appropriate and realistic. If they are meaningful to villagers then they will support them, and the NPA 'function' is likely to be sustainable.
- ii) NPAs are national reserves and thus part of the national estate. Villagers are that segment of this nation state closest to this particular national resource. Thus, they logically must have a key responsibility in its management.
- iii) Village boundaries, both customary and those recognized by the Government, often overlap into the NPA. In many cases villages were given areas/boundaries to protect in times of war, or for the general protection of society, and now these boundaries can also be used and patrolled to protect national biodiversity assets.

In the long term, PPAM hopes to instill in villagers a sense of pride in and co-ownership of the Protected Area, along with a real understanding of and support for biodiversity conservation. Full, official recognition of village (stakeholder) tenure rights and responsibilities would appear to be an important pre-condition for PPAM. The role of Government staff would then shift from a focus on resource protection to that of monitoring of PPAM, helping resolve disputes between villages and especially upholding village rights against outside incursions. PPAM seeks to develop appropriate links between the Government and village communities.

There are usually large numbers of villages and other stakeholders with diverse interests in the NPA and its resources. Additionally, there is usually a complex, if not unknown, biodiversity resource base. Considerable time and effort is required to develop participatory management procedures and practices,

and link them to resource assessment and protection, plus the necessary development needs of the rural populace.

It is useful to recognize and define three (3) main phases in the development and implementation of participatory protected area management. It is important to note that these phases are integrated with run in parallel to FLUPAM and LDC and many of the steps and activities are the same for each.

Phase 1: participatory planning and negotiation phase;

In this first Phase, staff and villagers work together to collect and review information on (i) land and forest resource use by villagers, and (ii) the biodiversity status of the resource in the village area. Problems could be identified and solutions suggested (as such, this phase is a type of PRA). At the same time, more accurate definition of village and NPA boundaries is reviewed and mapped and, if possible, zones are *tentatively* identified in the NPA.

Rules and regulations are then developed to not only guide resource utilization, entry and protection, but also to allocate responsibilities and privileges to villages. Ideally, this planning phase could result in a strategy/plan to develop both (i) agricultural productivity, and (ii) the sustainable utilization of forest resources such as NTFPs and wood products. The villages' role in patrolling or enforcement must be clarified, while incentives and community development initiatives could also be reviewed at this stage.

Phase 2: Collation of data, maps, agreements etc.

This Phase is primarily be the responsibility of WMPA and District Authority staff, who must collate and organize information, documents and agreements (preferably computerization of this information), getting all appropriate signatures. Maps (important but problematic) must be drafted to show relevant boundaries, zones etc., All the documents and maps must then be copied and (i) filed in an organized manner, and then (i) distributed to relevant agencies and stakeholders/villagers.

Returning all information and maps to village leaders is particularly important. If possible, the WMPA will make a small 'management manual' for each village, containing agreements, results of surveys, regulations, maps etc, while large maps would be displayed on village notice boards.

Phase 3: Implementation of participatory management of the NPA, including:

- i) sustainable forest product utilisation and management (wood, NTFPs etc);*
- ii) implementation of forest use rules and regulations;
- iii) joint monitoring, patrolling and enforcement;
- iv) implementation of cooperative activities through the WCDN network
- v) implementation of extension activities; and
- vi modifications to rules, regulations, boundaries etc, as required.

2.3.1: Methodology Overview

The establishment of a regular and effective biodiversity monitoring and protection program is a high priority of the SEMFOP-1. Activities started during the NTSEP/IUCN project and carried on by the DUDCP, and the emergency activities funded by NTEC and the PAFO and local security agencies will be reviewed, and good aspects of these activities continued and strengthened.

The main methods to be employed in the on-going biodiversity monitoring management and protection will include;

- joint monitoring whereby staff, villagers and the military all participate in forest level wildlife surveys and monitoring (of impacts etc), the respective role of each dependant on the area or zone of concern. The gathering of information during these exercises must be standardized, and information collated in the GIS data base;

- gates will be established (or continued) at key transit points to check persons and goods, usually manned by the constabulary, assisted at times by the military
- “mobile” checkpoints set up by staff (military, police, villagers) to be conducted at posts and gates;
- regular data collection by the VCMU regarding wildlife usage at the village level.

2.3.2: Implementation Partners

2.3.2.1: Village Institutions

Monitoring of biodiversity resources near villages will be undertaken by joint teams of village militia and village security staff. The transformation of village militia into Village Conservation Management Units has already been initiated, and will be continued and expanded. As a general rule 3 to 6 villagers may be part of this team, but only about 3 would go out on patrols at any one time, sometimes accompanied by WMPA staff or military partners. On days patrolling, dsa’s of 25,000 kip/day would be paid. The teams will also be issued with shared field equipment such as tents, binoculars, cameras etc, and sets of personal field equipment such a sleeping bag, shoes, backpacks etc.

2.3.2.2: District and Provincial Military.

These agencies have the mandate and ability not only to monitor resource use violations but to take action to enforce laws and regulations. The need for official inclusion of the military as implementing partners is due to;

- a) the large area of forests which are not controlled by, or contained within the boundaries, of villages who thus have insufficient means to patrol the areas alone; and
- b) the extent and nature of the poaching problem (in some cases, well armed poachers), which is beyond the capacity of villages alone to control.

Patrolling in the larger TPZ areas, far from village boundaries, will be primarily the responsibility of military units, assisted by village militia as required or feasible. They will be designated as Military Conservation Monitoring Units – MCMU's. The only problem with the military being engaged as partners in this activity is the tendency for them to change or rotate staff, and the young age of some new recruits. Nonetheless, the approach and coverage if the military is very consistent with the need to protect a Protected Area.

Both village and military patrolling groups (VCMUs and MCMUs) will receive training in technical subjects related to wildlife and plant biodiversity, and the systematic recording of observations. Thus, these teams will not only patrol but also function as biodiversity monitoring groups, providing regular reports which will be used to develop the ecological data base. They will also act as guides for biodiversity research groups which are supported by implementing partners or other organisations.

2.3.2.3: District/Provincial Police and Provincial Border Police.

Police are primarily concerned with personnel and goods security (rather than land and forest protection) and thus they will be the main implementing agency monitoring resource extraction at NPA entry and exit points, and in the ad-hoc establishment of mobile checkpoints.

2.3.3: Patrolling Infrastructure

A network of permanent field stations, patrolling posts and gates will be developed by the WMPA to facilitate biodiversity monitoring, management and protection, and to facilitate research. While the configuration of this network will require detailed review, discussions and planning with local implementing partners, an indicative configuration of the network is presented in Table 2.4. In this regard, it is not considered that such a network of 'buildings' will automatically result in effective biodiversity protection – far from it. By themselves such gates and posts may merely provide a convenient location to be avoided by parties intent on illegal biodiversity extraction. However, it is necessary to provide physical shelters and a locus for patrolling and monitoring staff, and for mobile gates, in what is a difficult physical environment.

Table 2. 4: Indicative Configuration of Biodiversity Monitoring and Protection Infrastructure

Zone	Location	Type of station, post etc,	Type of activity
<u>Nakai District</u>			
1: Nam Pheo	1.1: above Ban Kunaie	Post near village	patrolling, border post
2: Nam Noy	2.1 Ban Dteung	Zone office	coord & patrolling
	2.2 Ban Maka	Post in village house	border post, patrolling
	2.3: Nam Noy headwaters	Forest hut,	Patrolling, mobile checkpoints
3: Nam Theun	B. Makfeuung	zone office	coord & patrolling
	B. Vangchang	village house (need boat)	patrolling & post
	Nam Theun headwaters	Forest hut, mobile checkpoint	Patrolling
4: Nam Mon	B. Navang	zone office	coord & patrolling
5: Nam Xot	B. Thameuang	Village house	coord & patrolling
	B. Thameuang	road gate post	24 hr gatekeepers
	Huay Kanin	Forest hut	patrolling
	Nam Xot headwaters	Forest hut	Patrolling
6: Nam On and Nam Yang		No permanent post	Patrolling
7: River/Reservoir	Gang Meo/Nam Theun	Gate post	gatekeeping and river reservoir patrols
	Talang	Gate post	gatekeeping, land and water patrols
	Nam Nian	Gate post	gatekeeping, land and water patrols
8: PhouHinPhou corridor	Ban Donkeo	No permanent post	patrolling
	Ban Nabon	No permanent post	patrolling
<u>Khamkerd District</u>			
9: Downstream corridor	Ban Phamuang	Village house	patrolling
10:Downstream corridor	Ban Khamoune/Dtarn	Village house	patrolling
11:western buffer/road	Ban Nam Kata	Gate post	gatekeeping
12: road into NPA	Ban PhuPieng	Gate post	gatekeeping, patrolling
13: northwestern buffer	B. Nameuang (upper Kata)	Village house	
<u>Boualapha District</u>			
14: HinNamNor corridor	Ban Napha	Village house	Patrolling, and mobile checkpoints
15: HinNamNor corridor	Ban Jalor	international gate	
16: Upper Nam On	access from B. Napha	No permanent post	patrolling
<u>Gnommarlart District</u>			
17: southeast PIZ	Ban Khilek	Village house	patrolling
Reservoir			
Special Conservation Area	Embayments/1000 Islands	Sign boards	Boat patrols by WMPA rangers

2.3.4: Patrolling Equipment

Communications Equipment:

The current radio communications systems (of the Government, army, and the DUDPC) will be reviewed to ascertain if it is the most appropriate system to be adopted and integrated into the WMPA. The systems required must facilitate at least:

- voice communications from the main posts and stations to Nakai;
- voice communication from mobile teams or small posts to stations or Nakai.

A plan will be made and agreed upon as to how to improve and expand this system for the shared use with the WMPA, or, if it is not appropriate, to design a better and more useful system.

Field Equipment:

Purchase of field equipment to be shared (and keep on the durables inventory) will include tents, binoculars, cameras, camera traps, gps units and the like. Some items of field equipment will be issued directly and permanently to staff (core and seconded) including durable items such as sleeping bags, backpacks, cooking tools, compass, and less durable items such as shoes, torches, etc.

Transportation:

Motorbikes and boats will be used in certain areas to assist patrolling. Off-road, 4-stroke motorbikes are quite effective, but they are also heavy. Some staff or areas may prefer smaller, non-offroad bikes because they can be lifted over obstacles. The exact type of boats required will be decided in the future.

2.3.5: Monitoring and Patrolling

Monitoring and patrolling will be conducted by the VCMUs comprising joint teams of villagers, military and WMPA staff, sometimes termed 'joint patrolling'. The tasks required to develop and implement this program will include;

Task 1: Review and assess the activities and success of Village Conservation Monitoring Units already formed by the NTSEP/ICN project and then followed up by the DUDCP project.

Task 2: Review the implementation (and effectiveness) of those official Government documents regarding these VCMUs, including;

- a) "Village Conservation Monitoring Unit Guidelines" Issued By the Nakai District Agriculture and Forest Office in October 1998;
- b) "Additional Recommendations" issued by Nakai DAFO, 15 December 1998; and
- c) any other documents,

Task 3: Conduct a workshop – of at least 3 days – including all stakeholders to discuss these reviews, the recommended network of posts and teams (below) and to develop a plan for joint monitoring and patrolling.

Task 4: Finalize the Joint Monitoring and Patrolling Plan. The likely plan will include VCMUs established in all villages, military CMU's established at the District level, and border police and other police included in the program. The teams would be allocated areas on work, similar to the indicative plan presented in Table 2.5 below.

The establishment of this joint monitoring and patrolling network will take several, if not many years. Thus the PPAM Division and its partners must decide which areas to concentrate on in the early years.

Task 5: Ensure that the village component of the joint monitoring arrangement are included in the FLUPAM and PICAD planning exercises

Task 6: Provide training, as and when required, to partners in the LMP. Part of this training will focus on improving or developing monitoring and patrolling plans and techniques, and the standardized recording of observations.

Task 7: Ensure teams have adequate and appropriate equipment. Ensure teams have appropriate maps. Ensure smooth payment of dsa or rice rations to teams, as agreed.

Task 8: Ensure the compilation of all monitoring forms and reports and make sure these are returned to the WMPA PPAM division office as described in "Task 9" below..

Task 9: Develop a routine scheme for forwarding completed monitoring forms and reports through the coordination system described in Section 6.4.3, as follows: (i) VCMU to VICAD, (ii) VICAD to sub-district, (iii) sub-district to district for collection by PPAM Division during the monthly WMPA partner meetings.

Task 10: With the assistance of the WMPA's GIS and Database Unit, develop a dedicated GIS/attribute data storage system for conservation monitoring data.

Table 2.5: Indicative plan for participants in joint monitoring and patrolling

Area	Location	VCMU's	MCMU's	Police
Nakai District				
1: Nam On – lower		B. Done and B. KhonKean	3 Nakai staff	
Nam On – upper	(see no. 17)	Gnomalart/Boualapha	3 Prov staff ?	
2: Nam Yang		(as required)	3 Nakai/Prov staff	
3: Nam Pheo	B. Kunae	Assist		Border police
	Forest patrol	5 villages	3 Nakai staff	
4: Nam Noy	2.1 Ban Dteung	9 villages	3 Nakai staff	
	2.2 Ban Maka and Nam Noy headwaters	1 village (3 hamlets)	3 Nakai staff	Border police
5: Nam Theun	B. Makfeuung	9 villages	3 Nakai/Prov staff	
	B. Vangchang, Nam Theun headwaters	3 villages	3 Nakai/Prov staff	
6: Nam Mon	B. Navang	6 villages	3 Nakai/Prov staff	
	Upper Nam Mon	(as required)	3 Nakai/Prov staff	
7: Nam Xot	B. Thameuang	5 villages	3 Nakai/Prov staff	
	Nam Xot headwaters	(as required, Atel families)	3 Nakai/Prov staff	
8. Rout to Luk 20	Ban Talang	B. Talang		
	Ban Nam Nian	B. Nam Nian		
8: NNT-PHP corridor	Ban Donkeo	?		
	Ban Nabon	?		
Khamkerd District				
9: D'stream corridor	Ban Phamuang	Village house	patrolling	
10:D' stream corridor	Ban Khamoune/Dtarn	Village house	Patrolling	
11:western buffer/road	Ban Nam Kata	Gate post	gatekeeping	
12: road into NPA	Ban PhuPieng	Gate post	gatekeeping, patrolling	
13: northwestern buffer	B. Nameuang (upper Kata)	Village house		
Boualapha District				
14: NNT-PHP corridor	Ban Napha	?	?	
	Ban Jalor	?	?	
16: Upper Nam On	(see no. 1 above)			
Gnomalart District				
17: Road No. 12	Ban Khilek	13 villages		

2.3.6: Posts and Gates

Checkpoints and gates are, or will be manned by either border police or District police.. These staff will be fully involved in the review and planning of biodiversity monitoring and patrolling to date and the planning for the program to be funded and managed by the WMPA. Checkpoints and gates will be of four main types

1. border checks, where visitors and goods get stamped, and visitors and exports get stamped out [usually manned by border police];
2. boat-dock access checkpoint where all reservoir ferry traffic (people and goods) will be subject to checks
3. internal checkpoints along roads to check to traffic of commodities [usually manned by District or provincial police];
4. mobile (temporary) checkpoints, established by combined military, police or other officers in any location, usually based on information re the proposed transport of illicit goods or some other illegal activity.

2.3.7: Control of Transborder Poaching and Wildlife Trade.

While the depletion of wildlife and some NTFPs in some areas of the NT2 Watershed/NPA is due to over extraction by residents, in the northern, eastern and southern areas (where some of the most globally threatened wildlife lives, such as Saola) depletion of biodiversity is by transborder poachers. Both survey reports and anecdotal evidence suggests that intense transborder poaching is the principal threat to the biological integrity of the NT2 Watershed/NPA.

This problem will be resolved, not only to stop depletion of biodiversity, but also because transborder poaching hinders efforts by NPA management to bring the hunting and snaring practices of Lao residents in line with NPA regulations. For example, Lao villagers may be understandably reluctant to follow rules against snaring if commercial snaring by foreign poachers continues unchecked within a few kilometers of their villages. It is unfair to ask concessions and sacrifices of Lao residents of the NPA without applying energy and resources towards protection of wildlife from illegal incursions into the protected area.

Transborder incursion is also a local development problem, as upper catchment villagers are afraid to travel very far into their villages' own traditional use areas for fear of encountering armed incursionists. This reduces their access to subsistence and cash income from forest resources, at a time when some villages are already quite impoverished. Some commercially valuable NTFPs, such as rattan, have already been depleted in part by crossborder pressure. There are also occasional thefts of livestock (including water buffalo) by transborder poachers.

Furthermore, the poaching from NNT of commercially valuable wildlife, luxury woods, rattan and timber represents a loss to the Lao national economy. A strategy for dealing with the transborder issues are covered in more detail in Section 4.5.1.2. The major elements of the strategy include the following.

Improving trade links with Nakai. Improve trading links between NPA villages and Nakai District Center to reduce their reliance on transborder traders who may barter goods for wildlife, and are also often poachers.

Improving border post operation. Improvements will be made to the operation and effectiveness of the border post at (near) Ban Maka to help control wildlife and NTFP trade and the activities of crossborder visitors, and also to provide a base for patrolling and enforcement teams.

Improved patrolling. Control of poaching by outsiders will require a strong enforcement and patrolling capacity as outsiders are not susceptible to PICAD, not susceptible to behavior modification through the provision of rural development benefits.

Possible closure of the border crossing in the NPA. A more drastic measure would be the closure of the border crossing to all travelers. Obviously staff would be maintained but would provide patrolling and enforcement functions rather than issuing border passes. This option should only be considered following thorough consideration, and only after essential household supplies for villagers can be guaranteed via the Nakai market.

Establishing Watershed Village Conservation and Development Networks. This strategy aims to link and coordinate villages along mini-watershed boundaries into networks to assist each other in both conservation and development initiatives. It is anticipated that the WCDNs will give villages a greater combined strength in which individually they currently lack. The areas of responsibility of existing VCMUs, would be expanded to cover the entire sub-watershed, and the patrol and enforcement units would be re-organised along the same watershed lines and linked more closely with the network. Through this coordinated system of monitoring, patrolling and enforcement, covering the entire NPA, the identification, control and enforcement of cross-border poaching will be strengthened.

Transborder dialogue. Maintaining a proactive dialogue with Government and related agencies in Vietnam in order to share information and experience and develop appropriate control measures.

2.3.7.1: International Cooperative Action Plan WMPA Collaborative Research Programs

A proactive dialogue has been established with Government and related agencies and authorities in Vietnam in order to share information and experience and to develop appropriate control measures to

control trans-border trade in wildlife. This strategy employs a number of mechanisms including province-to-province dialogue, and GOL in collaboration with international agencies working on transboundary issues with the Vietnamese authorities. A number of cross visits between GoL/WMPA and Vietnamese officials have taken place, and these have resulted in regular and frank exchanges of ideas with officials from relevant Vietnamese agencies at both the national and provincial levels. In 2004, cross visits of both Vietnamese and GoL led to the joint development of a Cooperative Action Plan for the control of illegal crossborder hunting, trade and transport of fauna and flora, which was signed in late 2004.

This cooperative action plan between Ha Tinh/Quang Binh and Bolikhamxay/Khammouane provinces was developed by field level officers of the two countries and reviewed for approval by FPD (Vietnam) and DOF (Lao PDR). This plan will be implemented by relevant local agencies at the field level of the two countries, as part of and in addition to ongoing implementation of cooperative programmes signed between the provinces.

The objectives of this plan are threefold: (i) to restrain and progressively stop the illegal hunting, trading and transporting of wild fauna and flora in the border area; (ii) to develop linkages and strengthen cooperation among localities and relevant agencies of the four provinces; and (iii) to raise awareness on biodiversity conservation in general and wildlife trade in particular among communities in the border areas of the four provinces, while simultaneously working to improve local livelihoods.

The agencies involved and their respective roles and responsibilities are as follows:

	Vietnam	Lao PDR
1. Steering Agencies	Provincial People's Committee, Forest Protection Department	Governor's Offices, Department of Forestry
2. Implementing Agencies	Forest Protection Departments of Quang Binh and Ha Tinh provinces	Bolikhamxay and Khammouane PAFOs.
3. Coordinating Agencies	Border Army, Police, Customs, Market Management Boards, Committee for Ethnic Minorities and Mountainous Areas, Department of Agriculture and Rural Development, District and Commune People's Committees, Management Boards for Special Use and Protection Forests.	Watershed Management and Protection Authority, Border Police, Customs Agencies, National Protected Areas
4. Supporting Agencies	International Organizations, NGOs	International Organizations, NGOs

Under the action plan, the respective implementing agencies have responsibility for:

- Action plan development and the production of annual workplans.
- Organizing and chairing meetings.
- Acting as a focal point for management and information exchange among all concerned protected areas.
- Organising and leading patrols and dealing with violations.
- Implementing awareness raising programs for local communities.
- Managing and coordinating protection and control programs in border districts in both countries to promote direct transboundary collaboration;
- Developing proposals and eliciting funding for additional activities in support of the action plan.

2.3.8: Biodiversity Research

2.3.8.1: WMPA Collaborative Research Programs

It is extremely likely that international organisations and individuals with biodiversity expertise and their own funds will seek long term collaborative programs with the WMPA. With or without this scenario, the WMPA will undertake relatively modest biodiversity research, by the conduct of the following tasks;

- Task 1: Establish a biodiversity database - starting with collation and organisation of all previously collected data.
- Task 2: In the 1st year of implementation conduct a biodiversity baseline survey.
- Task 3: Ensure that a basic understanding of wildlife species and the survey of the same is included in joint monitoring and patrolling training and implementation.
- Task 4: Ensure all the data gathered by JMP teams – the VCMUs, the MCMUs and Police Posts - are continually added to the database.
- Task 5: WMPA staff and Wildlife ecology TA plan a simple wildlife biodiversity research program, probably focussing on key species.
- Task 6: Joint monitoring teams undertake tasks required by the wildlife ecology research program.

Invitations will be offered to regional and international organisations (and individuals) with expertise in biodiversity and ecological research, and the funds to support such research apply to establish long term cooperative programs under the umbrella of the WMPA, closely integrated with WMPA activities. The WMPA will actively solicit such participation from interested and appropriate organisations, and will offer such organisations the following services and facilities, for which they will be charged:

- Trained and knowledgeable villagers and military staff to act as guides and forest assistants.
- A biodiversity database, which the collaborating organization or project would be expected to contribute to.
- Use of transport and other facilities of the WMPA.
- Use of offices, and in the field, use of field posts and forest huts etc.

Procedures for Lao and foreign scientists wishing to work or study in Nakai Nam Theun National Protected Area and its corridors (NT2 Watershed Area) have now been developed, reviewed by the BoD and are currently being finalized. These include guidelines on the format for submitting proposals, procedures and codes of conduct for Lao and international scientists, the responsibilities of both parties, and the rules governing the collection and export of biological materials.

Organizations with faunal biodiversity expertise will be expected to assist in two major areas:

- a) research into the occurrence and ecology of endangered species, into the dynamics and resolution of species and human contact and conflict, and into management strategies; and
- b) research into those species commonly consumed by villagers, and the development of sustainable off take levels and other management parameters

Most of this work would be conducted with the already established monitoring and patrolling units, and WMPA staff. It would be preferable if some of this work was initiated in the first year of SEMFOP, that is pre Financial Close, so as to provide some background to the reservoir fauna research and development of mitigation measures, for elephants for example.

Organizations or individuals with floral biodiversity expertise will be expected to assist in;

- a) research and surveys to catalogue all the plant species occurring in the NPA;
- b) research into the ecology of key species, and to identify if any species are endangered;

- c) research to fully catalogue and describe the use of flora by villagers, and to contribute to the development of sustainable off take levels and other management parameters;
- d) research to identify any species whose genetic properties have commercial value, and thus should be copyrighted for commercial gain.

2.3.8.2: Student Thesis Field Work

The WMPA will provide funding from the PPAM budget to support up to 6 students per year, usually from NUOL's Faculty of Forestry, to undertake their field studies in the NT2 Watershed/NPA area. The results of such studies would either contribute to the NT2 WMPA database or provide guidance for the implementation of activities. Such a program would also contribute to the national development of human resources in the field of NRM and NPA management.

2.3.8.3: Reservoir Biodiversity Monitoring and Research

In cooperation with the Nakai Reservoir Coordination Authority (see Section 1.4.3.1), biodiversity research and mitigation activities may be conducted, prior to, during and after reservoir-filling. The WMPA will only conduct research and mitigation activities in the reservoir area for high priority, key species, possibly such as the White Winged Duck. Other activities in the reservoir area may be introduced if clear needs and priorities arise. Such programs, some of which will be jointly implemented with NTPC, might include:

- wildlife and biota inventories;
- study of the ecology of specific key species of flora and fauna;
- monitoring key species populations, and their habitats;
- programs to analyse the new ecosystem and the projected impact of the reservoir on key species;
- a program to manage elephant populations.

2.3.9: Wildlife Programs

Under the Concession Agreement, a wildlife program is to be undertaken as mitigation against the impacts of constructing and operating the NT2 Project. This will involve a number of species and a variety of different habitat changes. Responsibility for the management of the program also rests with a number of different agencies and will change over time. The program is to be coordinated through RMA and WMPA board meetings as these bodies involve all relevant agencies (WMPA, NTPC, RMA, and district authorities).

The program will be based on an adaptive management approach that encourages proactive testing of management options which are subsequently refined and reformulated based on monitoring results. This will be done by ensuring that management plans incorporate experimental approaches and robust monitoring systems. The program will also be provided a discretionary budget that can be used for incremental analytical and advisory support in developing experimental approaches for adaptive management. This could for example provide ecological modeling support or expert advice from wildlife managers worldwide. The budget would be provided by NTPC to specific programs based on a predetermined set of criteria.

Reservoir and upstream fisheries

NTPC will be responsible for assessing the project impacts on fish in the reservoir and upstream rivers pre and post impoundment. This includes species and habitat inventories, migrations and fish productivity. The WMPA will take over responsibility for undertaking species and habitat monitoring in the NPA and Corridors from NTPC one year after COD. In addition, WMPA will also be responsible for incorporation of patrolling, fishing restrictions and other related measures as part of their planned activities under the SEMFOP.

Displacement of terrestrial animals in the inundation area

NTPC will be responsible for assessing project impacts on terrestrial animals pre and post impoundment. This includes species and habitat inventories, population monitoring, observing movements, and implementing a strategy for mitigation of impacts on terrestrial animals during impoundment. NTPC will provide training to the WMPA in the operation and implementation of the program to develop adequate capacity for when they take over responsibility one year after COD.

NTPC along with local authorities will establish an emergency response team (including animal rescue, human-animal conflict and enforcement of hunting rules) and undertake a public awareness program in conjunction with district and provincial authorities. NTPC will work with and train district and provincial authorities, allowing them take over this role after COD.

Impacts due to reservoir formation including wetland conversion and formation

NTPC will be responsible for assessing project impacts on terrestrial animals and birds, including the White winged duck, pre and post impoundment. This includes species and habitat inventory, monitoring of populations and distribution. NTPC will also cooperate with the WMPA to develop plans for post impoundment management of wetland species and fish spawning grounds in the Special Conservation Areas described in Section 1.4.3.1. The WMPA will be responsible for patrolling these Special Conservation Areas of the Reservoir pre and post impoundment. WMPA will also implement a species management program for wetland species and fish spawning in the Special Conservation Areas starting one year after COD.

2.4: VILLAGE AND LIVELIHOOD DEVELOPMENT

The Livelihood Development for Conservation (LDC) program will follow a balanced approach that uses livelihood development activities to enhance conservation in the management of the NT2 Watershed/NPA. It strives to seek an appropriate equilibrium between conservation and development, treats both aspects proactively, and ensures that they are not only compatible but also complimentary. The aim of integrating conservation and development is to ensure that: (a) development has positive outcomes for conservation, and (b) conservation has positive outcomes for development.

The objective is not just support to development per se, but to improve village livelihoods in order to promote conservation and NPA management. Rather than providing development assistance and hoping it will benefit conservation, the approach emphasizes the careful provision of development assistance for:

- i) villages (or other stakeholders) participating in NPA management
- ii) poor villagers or groups who depend on or extract significant NPA resources;
- iii) providing alternatives to traditional activities which are detrimental to the NPA;
- iv) providing new livelihood activities identified by villagers, which have positive impacts on biodiversity conservation or NPA management.

Why integrate conservation with development ?

- Because stakeholder villages are living closely with and dependant on the natural environment, sustainable development in and around an NPA requires a balance with, and the management of natural resources and the environment. For example, water for irrigation and drinking depends on good Watershed/NPA management and NTFP production from natural forests depends on effective forest management.

Why integrate development with conservation ?

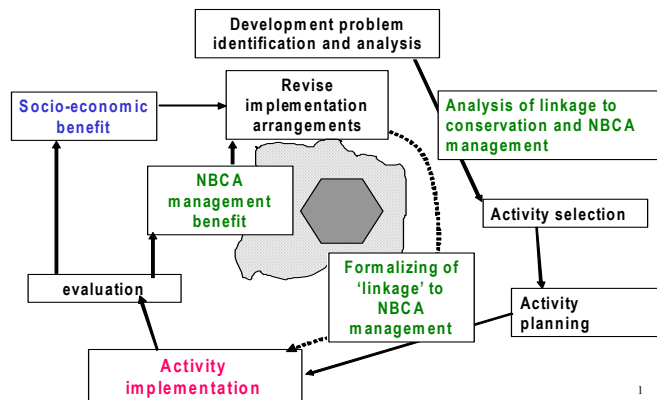
- Villagers rely on natural resources for food and income. By developing village livelihoods we hope to either (i) reduce reliance on natural resources, or (ii) ensure that natural resource use is sustainable. Indeed, the NT2 Watershed/NPA will have legally defined “controlled use zones” where sustainable development is encouraged, and linked to (integrated with) conservation and

NT2 Watershed/NPA management objectives. In addition, village development will require and foster improved village organization and capacity. Such local level organisations are absolutely vital if villagers are to effectively participate in the co-management of the NT2 Watershed/NPA and thus ensure the long terms success of the NPA as a Protected Area.

2.4.1: Planning and Implementing Livelihood Development Activities

The LDC approach comprises a number of steps followed, in sequence, in a participatory manner with villages, to identify appropriate development activities (Figure 6.2). The process runs in parallel with FLUPAM and PPAM process (See previous Table 2.2) starts with village orientation to explain the purpose of LDC and villages role and benefits, within the context of conservation and sustainable development. It then moves to identify and prioritize the major problems facing the community, followed by an analysis of their root causes and how they impact on the natural environment (if any).

Figure 6.2: simplified illustration of the process of planning, implementing and evaluating development activities



Next, development options are reviewed and potential activities selected. Activity linkage to NPA management objectives should be clarified. Once implemented, both the activities benefit to the community and there impact on NPA management should be jointly evaluated with villages. The evaluation may lead to modifications of the activities or identification of new activities which are then implemented in further cycles of the process.

Thus, two important LDC planning tasks include;

- (i) The identification and selection of development options, and then development activities; and
- (ii) Identifying key linkages of each activity with conservation and then planning how to integrate these development activities with conservation and NPA management

The aim of (ii) above is to ensure that development has positive outcomes for conservation, and conservation has positive outcomes for development. In many cases, development activities that enhance current practices will benefit biodiversity conservation. For example improved fallow management that allows faster regeneration will provide valuable habitats more quickly. There are various direct and indirect ways in which any development activity can be linked to conservation, and thus have the potential to be integrated with NPA management.

- 1) Direct linkage by production of direct substitutes: Activities can produce direct substitutes for resources otherwise extracted from the NT2 Watershed/NPA, such as:
 - domesticated animals as a substitute for wildlife;
 - planted NTFPs and timber as a substitute for NTFPs and timber extraction.

The goal here is not complete replacement of the resource, but a level of substitution sufficient to take pressure off the resource so that it can continue to be used and managed in a more sustainable manner.

- II) Indirect linkages – production of alternatives: Some activities can provide produce or livelihood alternatives to dependence on NPA resources. The aim is to resolve the reason for excessive resource extraction or dependency – often a lack of rice, food or income. Thus, if the development activity is successful, it has the potential to take the pressure off NPA resources. Examples of such ‘alternative’ activities include:
- paddy rice (and food) production, as an alternative to natural resource extraction for food or more usually for bartering for rice or sale as cash, to buy rice;
 - income generating activities, to provide cash for rice purchase.
- III) Indirect linkages – employment alternatives: Extractive activities that degrade biodiversity values such as hunting and logging tend to be quite seasonal, occurring when villagers have time on their hands. By providing alternative, productive employment opportunities at these times destructive activities in the NPA can be reduced. Examples of such ‘alternative’ employment include;
- handicraft production and marketing
 - income generating activities, such as eco- tour guides, etc.
- IV) Bio-ecological linkages: PICAD linkages can be found in activities whose success depends on an intact and productive ecosystem, and where the maintenance of such productivity depends on good NPA management by local stakeholders. Examples include;
- irrigation, whose watershed is the NPA, and intact forest cover is important;
 - community fisheries programs where fish catches are sustained at high levels through appropriate village management regulations and agreements.
- V) Bio-economic linkages: Strong linkages can also be found in activities which promote a villager-perception of the value of forests and natural habitats, whereby villagers receive an economic return from intact and productive ecosystems. Examples include;
- eco-tourism, which depends on intact natural environments and high biodiversity values; and
 - NTFP types which depend on intact (or sustainably modified) natural ecosystems.
- VI) Contextual or ‘social’ linkages: The proactive support to development by NPA management demonstrates concern for villager livelihood and poverty alleviation. Stakeholders then, will be more willing to consider conservation issues. Similarly, activities which require community cooperation and organization can also increase community awareness of environmental and conservation issues.
- VII) ‘Carrot and stick’ linkages - provision of incentives: Whereby NPA management may propose to villagers “...we will help you (by providing material incentives) if you agree to assist in NPA management and conservation?”. However, such an approach may lead villagers to focus on the short term material benefits of co-management. It also depends on NPA management being able to provide incentives. If these incentives cease, so may the villagers support. This approach does not consider villagers as equal partners, and is the least preferred.

These LDC methods, tools and criteria will also be applied to the provision of infrastructure and services improvements in the health and education sectors.

2.4.1.1: Conservation and Social Impact Analysis (CIA)

Conservation and Social Impact Analysis (CIA) is a simple assessment technique that will be used with villagers during LDC participatory planning exercises to analyze conservation and development linkages and assess the impact of proposed livelihood development activities on conservation. By this means, CIA helps to ensure that development contributes positively to conservation goals.

A number of other criteria which are likely to determine the success or otherwise of livelihood development activities are also considered during the selection process. Thus, other factors being equal, priority will normally be given to activities which:

- 'build-on' rather than transform traditional livelihood systems,
- are attractive to and target those groups most reliant on hunting and unsustainable forest extraction,
- have inherent capacity building and educational components,
- encourage local cooperation and promote community organization.

These LDC methods, tools and criteria will also be applied to the provision of infrastructure and services improvements in the health and education sectors.

CIA assesses the potential positive and negative impacts of each proposed activity by posing, analyzing and answering a series of simple questions according to the following pro-forma:

1. List all the proposed activities
2. Discuss each activity in turn and identify the development problem(s) or opportunity(s) it addresses, the expected benefits, and the effect it will have on local livelihoods/way of life
3. Identify the potential positive consequences on conservation of the widespread adoption/use of the activity in place of the traditional practices in the community
4. Through discussion, explore how these positive impacts can be further enhanced
5. Identify the potential negative consequences on conservation of the widespread adoption/use of the activity in place of the traditional practices in the community
6. Discuss how can these negative impacts be eliminated or reduced

If desired, the results of the analysis, can be used to give a rating/score for each activity using an appropriate participatory tool such as scoring or ranking techniques.

The results of an illustrative Conservation Impact Analysis for the indicative LDC development activities presented elsewhere in this document are presented in Table 2.6.

The proposed CIA methodology will be combined with a similar social impact assessment tool (See Table 2.1) to assess possible social impacts on various community groups, in a particular, village (women, men, young, old) and the village as a whole from likely changes in livelihood systems. Indicative examples of this, using some of the interventions from Table 2.6, are presented Table 2.7.

Table 2.6: Outputs from an example CIA conducted for indicative LDC activities.

Intervention type	Potential negative impacts on conservation	Potential positive impacts on conservation	Linkage (rating)
Paddy land expansion	Habitat change	Reduction in swidden area Reduced soil erosion/siltation Improved food security Reduced reliance on forest extraction	II (++)
Paddy rice intensification	Potential for increased agro-chemical use	Reduction in swidden area Improved food security Reduced reliance on forest extraction Opportunity for crop diversification	II +
Swidden improvement	Habitat change	Reduced fallow period Reduced swidden area Reduced soil erosion/siltation Improved food security	I/II +
Improved rice varieties	Potential for increased agro-chemical use Exotic varieties	Reduced reliance on forest extraction	II (neutral)
Agroforestry systems	Introduction of exotic species Habitat change	Improved habitat in fallow fields Reduced reliance on forest extraction Provides year-round employment	I/II/III (+)
Home garden intensification	Introduction of alien species	Reduced reliance on forest extraction Improved food security	I/II (+)
NTFP development	May produce a market orientation for forest products Potential for increased forest extraction of NTFPs	NTFP production depends on effective forest management and habitat maintenance. Promotes sustainable harvesting principles Perceived value of forest to villagers	I/II/IV/V ++
Handicrafts development	Potential for increased forest extraction	Reduced time for hunting/extraction High value product easily transported to market without need for extensive road construction.	II/III (neutral)
Improved livestock breeds	Potential for interbreeding with wild species Spread of animal diseases to natural pops. Predation by predators	Reduced reliance on bushmeat Increased food security	I -
Livestock vaccination	Increased grazing requirement due to lower mortality rates.	Reduced disease transmission risk to wild pops.	I (neutral)
Buffalo banks	Increased grazing area requirements	Addresses the needs of vulnerable groups	II (neutral)
Livestock grazing management	Changed habitats	Reduced cattle migration to forest Encourages community organisation	I/II/VI (+)

Intervention type	Potential negative impacts on conservation	Potential positive impacts on conservation	Linkage (rating)
Cut-and-carry forage systems		Reduced cattle migration to forest	I (+)
Wild fish conservation and management.		Demonstrates rapid improvement from conservation measures Improved food security Encourages community organisation	I/II/IV/VI (++)
Aquaculture development	Introduction of alien species High potential for release to natural fish populations	Less reliance on natural populations Improved food security	II (-)
Apiculture development	Introduction of alien species	Provides labour opportunities High value product easily transported to market without need for extensive road construction.	I/II (neutral)
Ecotourism	Increased disturbance to wildlife Potential for over-commercialisation	Encourages community organisation Perceived value of the forest by villagers Provides equitable labour opportunities Develops management skills in villagers Promotes changed perceptions (hunter to tour-guide)	II/III/IV/V /VI (++)
Provision of roads	Facilitate access by poachers/others Habitat destruction	Potential to lead to community conservation agreements.	VI/VII (--)

Table 2.7: Indicative example of a social impact assessment conducted for a sub-set of potential LDC activities.

Intervention type	Potential negative impacts on the community	Potential positive impacts on the community	Linkage (rating)
Paddy land expansion	Labour required for paddy field development Inequalities produced by lack of sufficient land for all families Disruption of social organization and cultural practices from changes in resource use and work-life cycle	Increased rice self sufficiency Improved nutritional status of children	II (++)
Paddy rice intensification	Ill-health from agro-chemical use Reduced time available for family/community activities	Improved food security Reduced reliance on forest extraction Opportunity for crop diversification	II +
Swidden improvement	Indebtedness More labour for women and the old	Improved village water quality (less run-off)	I/II +
Improved rice varieties	Potential for increased agro-chemical use Reduced eating quality of rice	Increased rice self sufficiency	II (neutral)
Agroforestry systems	Reduced swidden area More labour for women and the old	More balanced diets Improved nutritional status of children	I/II/III (+)
Ecotourism	Disruption to social organization and cultural practices Health problems; introduction of new diseases, prostitution	Employment and economic benefits Potential to benefit local culture and traditions	
Provision of roads	Increased pressure on community resources from outsiders Disruption to social organization and cultural practices Health problems; introduction of new diseases, prostitution	Increased access to markets and social services	

The main objectives of village livelihood development will be to:

- support the primary objective of biodiversity conservation in the N2T Watershed/NPA;
- improve food security, especially rice sufficiency;
- improve tenure over and management of natural resources; and
- foster the improvement and diversification of sustainable livelihoods.

The emphasis will be on food self sufficiency, not on the promotion cash crops (as an alternative to shifting cultivation) as these require transport and marketing – both difficult in the NPA villages. As elsewhere, all opportunities to open up new paddy fields, or provide supplementary or dry season irrigation to current fields will be explored and developed where feasible and desired by the villagers.

In addition, any opportunities to improve and/or modify the current systems of swidden farming – the basis of NPA village rainfed cropping systems – will be identified, tested and/or developed. These may include improved fallows, development of permanent terraces with manure or fodder producing hedgerows, permanent agroforests, improved integration of grazing and cropping and the like. The emphasis will not be on shifting cultivation eradication, but the stabilisation of shifting cultivation by the gradual improvement and management of swidden system, with the ultimate goal of avoiding soil erosion (by either long cycles or improved fallows) and absolutely no swiddening of forests.

Development of improved practices will require training, study tours and establishment of participatory on-farm trials and, in most cases, a long timeframe, especially in the NPA villages where the option of cash crops is not realistic.

2.4.2: Extension and Development Approaches

The livelihood development extension aims to;

- i) identify improved and sustainable livelihood practices, mainly agriculture, farming systems, forest management and utilisation practices and other income generation activities which build on rather than replace traditional livelihood systems;
- ii) facilitate the adoption of these practices by villagers; and
- iii) build up the capital, assets or savings base of villagers so that they can adopt and maintain these improved practices (most of which requires improved capital and assets base) and become self sufficient.

Out of the various approaches and methods used by rural development programs in an attempt to achieve these aims, PICAD has been identified as the most appropriate approach for the SEMFOP.

2.4.2.1: Villager Based On-farm Trials and Action Research

While research institutions can play a crucial role identifying and improving production and natural resource management technologies, in situations of poor access and variable indigenous livelihood systems, the trailing of improved techniques, new inputs, modified management systems etc, is best undertaken with the villagers themselves as the primary planners and managers of such trials. In addition, it is usually more effective if investigations are based initially on the current skills and knowledge base of locals, including those practices or activities which they themselves consider have potential. Ownership of the trials and consequent motivation of the participants is the key. WMPA staff must facilitate such process's, provide suggestions to the villagers, seek required inputs and generally foster the step by step development of improved, and more sustainable land and forest use practices. In all production activities, integrated pest management approaches will be demonstrated and encouraged. This will maximise the use of biological control, cultural practices, and the use of crop varieties (especially local varieties) that are resistant or tolerant to the pest, and thereby reduce the use of pesticides.

2.4.2.2: Demonstrations and Field Days

The WMPA will foster the establishment of demonstrations, which may include on-farm trials, cross farm walks and field days in which villagers can review the new practices under development.

2.4.2.3: Training

Adoption of new practices also requires that knowledge, understanding and skills of potential participants – adopters – are improved, usually via training or study tours (in addition to the actual conduct of trials and field days as in 2.4.2.1 and 2.4.2.2 above). Thus, the WMPA will facilitate training at, generally, three levels:

- i) training in Nakai or nearby, conducted by WMPA staff or more likely engaged experienced trainers, often from NGOs. Participants will include WMPA and partner staff and leading villagers;
- ii) training undertaken in the NPA villages, conducted mainly by WMPA staff. Participants will include villagers, and actual site activities will be the focus of the training;
- iii) study tours for leading or innovative villagers (and villagers most likely to spread their experience to others on their return) to local or provincial areas, or to key national sites.

Training activities will be coordinated and facilitated by a training coordinator, an Executive Secretariat staff dedicated to training for both staff and villagers,

2.4.2.4: Assistance to Develop Villager Capital and Assets Base

A variety of methods can be used to capitalize community funds for a range of activities. The options in the following sections will be introduced for consideration by villagers as possible methods for the equitable introduction of alternative livelihood systems to the village. Their use/selection will be at the discretion of the villagers themselves, and will also depend on the type of technology to be introduced, as some alternative livelihood systems do not lend themselves to such schemes.

Village Development Funds

This is an approach often used by donor or development programs whereby the program channels its assistance by providing seed funds to a village development fund, the funds then to be used for the development of public facilities, or as loans to individuals or families. This method requires the training and development of planning and accounting skills, upgrading decision making capacity and establishment of appropriate village committees to effectively link the economic development of the village to its community development. Village development revolving funds can be capitalized by LDC activities through a program under which all inputs for seed, fertilizer, materials, etc. are provided ‘free’ to the community, but individual cooperators are required to pay these back, either in cash or kind, into the revolving fund.

Savings Groups

A similar approach is the establishment and operation of village savings groups (village banks) which may be one of the best, grassroots level approaches to steadily developing the assets base of poor rural villages. This method requires that villages first deposit a small amount of money into the village bank account which also may receive seed capital for the assisting organization. Villages start by taking small loans from the bank, at moderately low interest rates. These can be production loans of medium term or they can be personnel/family loans to cover social commitments or family occasions (weddings, dowry, deaths, accidents etc) or emergencies due to unexpected loss of productive assets, such as the death of a buffalo, etc. These bank thus have the dual functions of (a) providing production loans at the village level; and (b) providing a cushion against economic shock in times of emergencies or disaster (in the absence of the village savings bank, villagers usually quickly sell of assets, at a cheap price, thus taking them further backwards in terms of self sufficiency, further into poverty). Such savings groups can be linked to a village development fund.

Micro-Credit

Although the majority of livelihood development activities will focus on self-sufficiency for family subsistence needs, the SEMFOP does offer new opportunities for income generation which may require assistance with credit. The development of small village shops to supply basic materials such as rice, salt, medicines, etc. might be considered to reduce the current dependence on cross-border trade and the negative biodiversity impacts associated with it. As the reservoir transport system develops, there may be a need for small feeder-boat routes up rivers from the ferry landing points, which would present opportunities for commercial exploitation by villagers. Similarly, as access to the Nakai market is improved by the SEMFOP access strategy, opportunities for local handicrafts, etc. will be created. The proposed community based ecotourism program will not only provide a potential market for locally produced goods, but will also require basic tourism infrastructure in participating villages. These and other potential income-generating activities will all require some form of credit.

SEMFOP strategy in this respect will be to explore possible income-generating activities with villagers under the LDC program, and where appropriate, assist villagers to develop their own business plans. Credit for these plans could be considered from WMPA funds or approaches made to other formal lending institutions, and/or micro-credit oriented NGOs.

Subvention Funds

Due to difficulties in villager motivation and in enabling all villages equal access to development funds, the DUDCP project initiated what it terms a 'subvention fund' (managed family grants), whereby villagers are given the option of taking/receiving grants for specified or approved production-related activities.

The system provided, in 3 pilot villages, 10,000,000 kip per family over three years (year 1: 4,000,000, year 2: 3,000,000 and year 3: 3,000,000). If, in any particular year the family did not take funds for that year, they were not carried over to the next year, ie, they were not accumulated. The activities funded by this scheme must be those approved, and undertaken during the appropriate season and in the appropriate fashion. This scheme is attractive in that it gives equal opportunity to each family (although it is not 'means tested' against family size) and ensures that the participants are fully responsible for taking the decision to undertake the activity.

However, in assessing the applicability of this approach to the WMPA and SEMFOP-1, various issues must be considered, as follows:

- i) it is a sinking fund, with no concept of a loan, and consequent repayments which could then be used to provide funds to other families (This is probably due to the recognized poverty of the villages and lack of economic generation opportunities);
- ii) if US \$1,000 per family is applied to all the 750 families in the NPA villages, this equates to US \$750,000. or 7.5 % of the WMPA's budget over 10 years.

In terms of funds for family level development (ie. not including public facilities development and training) the WMPA could possibly commit a maximum of US \$35,000 per year. Thus, reaching all of the areas villages would require 20 years. The other alternative is to decrease the limit applicable to each family, to about US\$ 400 per family.

If such a scheme is adopted by the WMPA, other development methodologies must also be implemented, as pre-conditions to receiving the 'sub-vention fund' grant, including;

- (a) villager participation in a rice bank;
- (b) villager membership of a savings group; and
- (c) entering into a family level PICAD agreement with the WMPA.

Food for Work

The payment of rice as a daily wage - as an incentive - for providing labor for the construction and development of (generally) public facilities is another method, especially applicable in a chronically rice deficit area like the NT2 Watershed-NPA (unlike less poverty stricken areas where villagers are expected to freely contribute their labor to public activities such as school building and roads maintenance etc).

Food for development work is the more commonly used incentive method for providing rice in exchange for labor input into the development of both family production facilities - fish ponds, paddy fields et. - and for public infrastructure, such as roads, villager water supply etc. Rice payment is made on the basis of quantity of work completed (not a daily rate). It can be a particularly effective method of enabling villages to find free time (from food growing or gathering activities) which they then invest in developing their own base of production assets. Such a 'buffer' is extremely important for swidden cultures whose labour is their most important commodity. The only drawback of the scheme is the amount of time and paperwork required to plan, undertake quantity surveys and measurements and then disburse the rice, which may all be constraints in isolated NPA villages.

Rice Banks

Rice is the number one concern for many villagers, and a means whereby the lack of rice can be buffered is particularly useful. Facilitating the establishment of rice banks is a long tested and useful way to improve the management of family and village level rice stocks, and to provide a means to cushion against rice deficiencies in a way that villagers can control more effectively.

Animal Banks

Revolving animal banks - buffalo, cow, pig or chicken – can be another point of entry for the program, although often fraught with difficulties, generally caused by death of the livestock for reasons which are often disputed. Buffalo banks are probably the highest priority as a means to increase draft animal power, usually the major constraint to paddy field opening and utilization of the uplands of Lao PDR.

2.4.2.5: PICAD Contracts

In all instances where the program will provide assistance to villagers, be it for private productive facilities or for public infrastructure, a PICAD contract will be drafted and signed. Such contracts will lay out, in simple terms, the rights and responsibilities of each party i.e. the recipient (community or individual) and the WMPA (in providing support, input materials, follow-up, etc.). As a precondition, the recipient will agree to abide by the rules and regulations of the NT2 Watershed/NPA, as they relate to wildlife and NTFP utilisation and sale, and to forest and land use. This then provides the formal basis for integrating conservation and development.

2.4.2.6: Family Socio-Economic Monitoring Book

Participating families in would be required to maintain a family socio-economic monitoring book. This book, with entries on a monthly basis, would serve various functions including;

- i) establishment of an on-going database of family socio-economic development which can be used to measure the effect of the program in the medium and long term. If NPA village families are required to stop or limit their rice production from shifting cultivation fields, this book will be monitor each families rice production, needs and short fall. It will also monitor if cash or battered income can make up for the rice shortfall, and thus provide a basis on which to estimate food aid required by each family;
- ii) provides a basis for decision making in the case of sub-vention funds, village savings groups etc.;
- iii) stimulates improved adult literacy and numeracy; and
- iv) developing family level socio-economic planning, thus enhancing the role of women who are responsible for domestic economics and planning.

2.4.3: Indicative Extension and Development Activities

2.4.3.1: Scope of Activities and Choice of Target Villages

An important element of the development and extension approach is the scope of activities and the choice of which villages to work with in any particular year. For example, the two extremes possible are:

- (a) not specifying target villages, but working in all 31 NPA villages at once.; or

- (b) working in a certain number of target villages (6, for example) for a set number of years (usually about 3 years), then progressively moving to new target villages while continuing to foster activities and monitoring in prior target villages.

The option and choice of target villages also will depend on the activity and the extension approach used. For example, establishment of rice banks and use of the family socio-economic monitoring book may be undertaken in nearly all villages in the one year, while on-farm trials and irrigation development must be undertaken only in selected villages in any one year. However, the most likely approach will be to focus 'most' development effort on a set number of target villages per year, probably about 10-15.

Irrigated Rice Development

and the ability to develop irrigated paddy rice fields depends on the geographical and topographical potential for such development. The WMPA will help to identify such potential areas (with villagers) and then assist villagers to open paddy fields and develop irrigation systems, if they so desire.

Paddy field opening and development will be achieved by guarantees of food for work rice, assistance with simple tools, and some form of assistance to ensure draught power is available such as a buffalo bank. The village savings groups loans (or possibly sub-vention funds) can also be used.

Smaller scale irrigation systems, and villager systems already in place but requiring works to ensure their durability and water supply will be the first priority in terms of infrastructure. Development of completely new systems and fields is usually much more expensive and may be environmentally damaging – and thus will be approached with caution.

Besides infrastructure development, irrigated paddy development will also require (i) training, (ii) provision of or access to appropriate inputs (new cultivars, etc), (iii) on-farm trials, and (iv) the development of water user groups to operate, maintain and manage the larger systems. This last issue may require training and monitoring over a number of years.

Rainfed Cropping Development

Any opportunities to improve and/or modify the current systems of swidden farming – the basis of NPA village rainfed cropping systems – will be identified, tested and/or developed with villagers. These may include improved fallows, development of permanent terraces with manure or fodder producing hedgerows, permanent agro-forests, improved integration of grazing and cropping and the like (See Section 3, EMDP).

Development of these practices requires training, study tours and establishment of participatory on-farm trials - and a long timeframe, especially in the NPA villages where the option of cash crops is not realistic and rice production must continue to be the main objective .

Fruit Tree Orchards

Any opportunities for the development of fruit tree cultivations will be explored with villagers. However, the option to develop markets for fruit products is limited due to the cost of transport of such heavy commodities. For reasons of access, markets will likely be restricted to villages in Khamkerd District (for Nam Xot area) and the villages on the plateau during and after reservoir impoundment. Thus, the focus will probably be on small orchards for the internal (NPA) market and for improved family nutrition.

Industrial Crops and NTFPs

Export crops such as coffee may be feasible to grow in the NPA villages (and promotion of these has been tried in the last 10 years), but this area does not appear to have any comparative advantage in terms of soil and climate. Also, their marketing could be a major problem. Nonetheless, opportunities must continue to be explored as such crops may be able to provide a small but reliable contribution to supplementary income.

Forest-Based NTFPs

Opportunities for improving the extraction, processing and marketing of naturally occurring commercial NTFPs will be explored and developed as appropriate. Improving ownership of the NTFPs – either group

or individual – is a precursor to improved management and regulated extraction. Opportunities for value-added post harvest processing should be investigated and developed where possible. Finally, access to markets at prices providing optimal returns to the growers must be facilitated by the program.

Cultivated or Domesticated NTFPs

Some NTFPs lend themselves to semi-domestication, whether in the forest or in agroforestry gardens. The potential for this will be investigated with interested villagers and opportunities exploited, again by a combination and FLUPAM, on-farm trials, provision of key inputs, training and study tours.

Livestock

Program intervention in improved livestock production is inevitably fraught with difficulties, due to the fact that;

- (a) more livestock requires that more forage and feed is found, or produced;
- (b) livestock are susceptible to disease and death, resulting in swift loss of the assets; and
- (d) livestock predation by wildlife, ranging from civets, weasels, to small cats and larger cats is a major concern for NPA villagers.

Nonetheless, increasing livestock numbers and productivity could be valued by villagers for 3 reasons:

- (i) more draft power is required even for the current paddy area, and will also be required where villagers decide to open new paddy fields, and conduct double cropping;
- (ii) animal protein alternatives to declining wild meats may be desired by villagers;
- (iii) large livestock are an important capital assets of the rural villagers. They can be easily transported - walked - to market, a major concern for NPA village produce. Thus, they can be a vital component of village development and security.

Program intervention may include funds for a buffalo bank (or as an option for subvention funds), training in animal care and nutrition, and the establishment of a veterinary medicine network, if required.

Managed Wildlife Harvesting

Currently, protein intake from wild meats is more important than domesticated meats. The relative effect of this 'harvest for consumption' as compared to the 'harvest for sale and export' must be investigated. Harvest for export will definitely be banned (it already is) and enforced, but family consumption of managed species will be allowed. However, the sustainability level of wild meats harvest for consumption, the seasonality of such harvests and the zones in which such harvest are allowed, must all be developed with villagers. This may take many years, but a participatory process will be initiated early in SEMFOP-1 as the level of wild meat harvest allowable will affect the need or otherwise to foster improved domestic livestock production.

Community-Based Nature Tourism

An underlying principle of the SEMFOP is that local stewardship of resources plays an important role in sustainable resource use, and the participation of local communities in the management of biodiversity not only promotes conservation but also helps achieve rural economic development goals. Community-based nature tourism provides such an opportunity. Very simply, it can be defined as 'responsible travel to natural areas which helps to conserve the environment and also improves the well-being of local people' It has the potential to provide a number of benefits in line with SEMFOP objectives:

- It minimises negative impacts on the environment and local people.
- It respects local culture and traditions.
- It builds environmental awareness in local host communities.
- It provides villagers with additional income and other forms of employment as alternatives to forest extraction.

- It provides villagers with a strong and visible economic stake in conserving natural resources in the NPA.

Eco-tourism programs piloted in the Lao PDR have demonstrated a high potential, but because of the comparatively low level of tourism development in the country, Lao PDR receives mainly low-budget tourists, commonly referred to as 'back-packers'. These pioneer tourists are always the first to appear in any developing tourist market and are essential for tourism development generally. However, community-based nature tourism is particularly attractive to this type of low-budget tourist. A survey of foreign tourists in Lao PDR (Craig, 1998) reveals a broad interest across all features that the NT2 Watershed/NPA has to offer (See Section 5.4.9). Most respondents preferred trekking, camping and scenic type activities, but there was fairly broad interest across all categories of nature tourism. Suggestions for alternative eco-tourism activities included rafting, fishing, cycling and controlled hunting (culling).

Although there is considerable potential for nature tourism in the NT2 Watershed/NPA, certain precautions and safeguards will need to be put in place under the SEMFOP. These will include:

- Tourist carrying-capacity needs to be assessed to ensure that the level of tourism does not begin to adversely impact on habitats, the environment or traditional culture and customs.
- The development of tourist infrastructure needs to be carefully controlled to avoid unnecessary or inappropriate construction.
- Tourist can be an economic attraction for in-migration of traders and others and this will have to be carefully monitored and controlled.
- Careful consideration will have to be given to the equitable distribution of the economic benefits both within and between NPA communities.

The tasks required to initiate community-based nature tourism related activities will include:

Task 1: Survey and analysis of tourist numbers, type, demand and market requirements.

Task 2: Participatory planning with NPA villagers to identify appropriate opportunities for responsible tourism.

Task 3: As experience is gained, in year 5 of SEMFOP-1 develop a strategic approach, agreed to by all stakeholders for tourism development.

Task 4: Towards the end of SEMFOP-1, if funds are residual from other activities (i.e. funds disbursement is lower than expected or planned), then the Executive Secretariat will develop a small visitor centre at or near its HQs in Nakai.

Task 5: If further funds are residual or become available from another source, visitor accommodation will be built and operated on a commercial basis, to match privately developed accommodation, in an environmentally friendly manner. This could be aligned to the District Conservation forest near Nakai District centre.

Task 6: Develop cooperative projects with private enterprise for the development of tourism facilities around the reservoir and in selected areas in the NPA.

2.5: COMMUNITY AND SOCIAL DEVELOPMENT

While community development needs are moderately well known, further participatory review is required, especially as they relate to each ethnic group, and the modalities for sustainably addressing them. This will be achieved through the FLUPAM process (Section 2.2). Nonetheless, it is assumed that improved access to education and health facilities, improved villager literacy and skills and the training of locally born teachers and health workers will be required to raise local capacity and self reliance.

Strengthening of village institutions to enable them to manage the development and ‘change process’ will also be required, especially in the NT2 Watershed/NPA with its multiplicity of ethnic groups living, in many cases, in recently established and/or amalgamated villages. Such strengthening can be fostered by facilitating management groups such as rice bank, savings funds, irrigation water user groups, and NTFP management and marketing groups.

Another objective of social development must be to avoid population increase, which would exacerbate the current unsustainable and declining livelihoods of most of the NPA and some of the surrounding communities. The overall goal must be a self-motivated limitation to population increase via a sensitive suite of activities that have already been described under Section 2.1.7 on demographic management.

2.5.1: Cultural and Ethnic Development

Activities aimed at cultural and ethnic development will be based on the Ethnic Minorities Development Plan, (Section 3 of the SEMFOP-1), and tasks required will include;

- Task 1: A Deputy Manager of the Village Livelihood and Community Development Division is appointed, as responsible for community and cultural development. This officer becomes familiar with EMDP.
- Task 2: Review the current situation regarding community and cultural development, and experiences of recent projects.
- Task 3: The Ethnic Minorities advisors, relevant WMPA staff and relevant Government agencies will conduct investigations at village level, and develop a participatory plan for progressive and appropriate cultural development in NPA villages.
- Task 4: Contribute to the development and use of the family level socio-economic monitoring system.
- Task 5: Implement the plan, which may include components of;
 - a) recording of ethnic oral history, beliefs, social calendars etc,
 - b) activities to support the continuation of certain ethnic customs and beliefs
 - c) other activities, such as sports, child nurseries, etc.
- Task 6: the advisors and IMA review the implementation of the cultural and ethnic development plan, and advise on modifications.

2.5.2: Education

The Japan Social Development Fund has recently been granted to support the continuing development of education for NPA villages. Once the SEMFOP is initiated, the plan for, and the actual usage of these funds by the DUDCP project will be reviewed, and the conduct of future activities dependant on this review. Thus, the tasks for education development will include;

- Task 1: Consultations with villagers to solicit their views and priorities concerning education, including issues pertaining to language of instruction, curriculum, teachers’ quality, costs, school calendar and schedule etc. In addition, investigations and a review of the current status of :
 - education facilities (buildings);
 - availability and use of education materials: blackboards, textbooks, exercise books, pens etc;
 - school age demographic and school attendance;
 - teachers – level of education etc.; and

- literacy levels of children and adults.

Task 2: Devise the strategic approach to improving education, by using the progress and lessons learned from DUDCP and JSDF as a point of departure.

Task 3: Plan and budget for improving education, literacy and numeracy.

Task 4: Implement the plan, which is likely to include:

- 4.1: participatory construction of more permanent schools;
- 4.2: provision of better teaching equipment (blackboards, etc);
- 4.3: provision of textbooks, other materials, school books and pens;
- 4.4: provision of, or support to, on-going training of teachers (in Nakai and Thakhek), and activities that support ethnic minorities, such as hiring and training local teachers;
- 4.5: stipend payment to teachers and dsa payments to villager teacher assistants.
- 4.6: development of a locally relevant curriculum that might include awareness and appreciation of local languages a school agriculture program, NPA biodiversity issues, and training teachers in using local languages in education

2.5.3: Health

The JSDF grant also covered the development of health and public sanitation, again through the DUDCP. Thus, during FLUPAM, planning for health development activities will elicit the views of villagers on their strengths and weaknesses of the DUDCP program in order to make most effective use of the lessons learned. This will involve the following steps:

Task 1: Conduct consultations with villagers to solicit their views and priorities concerning health services. The investigation and consultations will also assess the role of traditional health practitioners, and ways to incorporate these into project health activities as traditional health practices will be altered with the introduction of modern health care—with both positive *and* negative impacts.

Task 2: Conduct investigations to gain a more detailed and subtle understanding of health problems (including sanitation, hygiene and family planning) and current coping mechanisms. This review will establish the current status of:

- health problems of watershed in holders;
- causes of these health problems;
- current parameters of sanitation and hygiene
- current family planning methods, if any;
- traditional knowledge in addressing health problems;
- extent, availability and use of medical facilities and drugs.

Task 3: Devise and get stakeholder agreement on a strategic approach to improving health, sanitation and family planning, including partner arrangements.

Task 4: Draft a plan and budget for health, sanitations and family planning improvements.

Task 5: Implement the Plan. Ensure equipment is supplied. Ensure stipends and per diems. Ensure village development fund components are available.

2.5.4: Electrification

Currently, the only electrification systems in any NPA villages are family level hydropower micro-generations sets (produced in China or Vietnam). They are cheap but inefficient, powering only one, maybe two weak lights. In addition, they cannot be used in the wet season due to quickly changing river flows and heights.

Opportunities to improve family level basic electricity will be explored with villagers as a development option, if they so desire. Such assistance could include support micro to small scale hydropower schemes

or family level solar power units or community systems for recharging car batteries that are then used in individual households. No decisions on electrification will be taken until the issue is explored with villagers during FLUPAM and their priority needs are agreed-to.

In any case, large hydropower schemes, involving inter-village electricity and power line networks will not be considered as an option. Electrification for public meeting places and video displays can use solar power. In addition, WMPA field teams will be equipped with mobile generators, as required, or hand tractor engines can be used as generators for special public meetings.

2.5.5: Access Infrastructure

2.5.5.1 Access Into and Out of the Watershed-NPA

Experience throughout the world has shown that improved access to protected areas can result in more poaching, increased extraction of natural resources, in-migration of shifting cultivators with inherent problems for PA management and biodiversity conservation.

However, improved access is required to -

- vi) market household supplies from Nakai District as an alternative to the current trans-boundary supply route (in this respect, this Plan does not support border markets as proposed in the 1998 ESMP) as the current transboundary traders either hunt wildlife or exchange goods for wildlife ;
- vii) facilitate the transport (export) of produce to the Nakai plateau and beyond;
- viii) facilitate easily and relatively quickly travel by NPA villagers to the District centre of Nakai;
- ix) facilitate the provision of rice from Nakai;
- x) improve access for development, management and patrolling personnel and goods.

In order to address this dilemma of conflicting needs and threats to biodiversity conservation related to the issue of access, an access strategy has been developed as the basis for detailed planning and design of communications infra-structure development under the SEMFOP. The NPA access strategy aims to reduce the porous nature of the NPA boundary by re-orienting the access for both people and commodities through Nakai. The strategy focuses on establishing a single, dominant entry and exit point linked to a well-controlled water borne transport system on the reservoir. By providing a cheap and efficient service, coupled with stringent control and regulation over passengers, their personal possessions and cargo, it is anticipated that current problems of poaching, illegal resource extraction and transborder trade (with the inherent problems associated with it) will be reduced, and at the same time market access, public service availability and the general quality of life of NPA communities will be improved.

The planned, reservoir-based transportation system offers a number of opportunities for improved control and regulation, including:

- A single access point (boat dock) into and out of the NT2 Watershed/NPA which is easy to monitor and regulate.
- Through close cooperation with the RMU from the outset, the WMPA will be able to ensure that the system is designed and implemented in line with SEMFOP's primary goal of biodiversity conservation.
- The highly visible nature of water-transport on the reservoir facilitates the identification and detection of illegal activities.
- The public nature of the transport system makes illegal activities more difficult to conceal.
- Trained boat operators and personnel will be able to assist in control and enforcement.

Under this strategy, it will be possible to improve ground-based access routes within the NPA to the benefit of both NPA communities and NPA management, without the concomitant increase in risks from external threats that this normally creates. Improved communications within the NPA, all linking with a single access point via the boat transport system will provide a number of benefits to NPA management and biodiversity conservation:

- Reduced reliance on the currently dominant transborder supply route for household supplies with its inherent opportunities for the extraction of NPA resources by the cross border traders.
- Improved access for rangers and enforcement teams for the rapid response to reported impacts, poaching, wildlife trade and other incidents.
- The potential to move larger items of conservation and protection equipment (for fire-fighting, survey, research, development, etc.) within the NPA.
- Easier access for the Village Conservation Monitoring Units and better cooperation and coordination within the Watershed Conservation and Development Networks due to improved inter-village communications.
- Improved market access to Nakai for NPA communities, thus providing alternative economic opportunities in place of their current reliance on forest resources.
- Enhanced access for ecotourism, thereby providing alternative sustainable livelihoods for NPA communities (guides, sale of handicrafts, cultural tourism, etc.).

The major factor in the long term planning for improving and managing access into and out of the watershed is NT2 reservoir impoundment. Thus, access management needs to be planned for in phases. Phase 1 will be prior to any impoundment, a period of 4 to 5 years in which the current geographical influence on access will remain. Then there will be a second phase during impoundment of up to 1 year (3 to 8 months depending on which month impoundment begins), up until COD. While the reservoir is filling during phase 2, there may be too little water for boat access but enough to impede vehicle and possibly even access by foot from Nakai, across the plateau. During this period the deep water channel supplying water to the hydropower turbines will be open and have sufficient water for boat passage. It is intended to use this method for interim access to the NPA during the reservoir impoundment period.

Phase 3 is the long term and permanent scenario, after COD, when the reservoir is in full operation, and access from Nakai into the Watershed-NPA will be reliant on the reservoir. All access will have to start from the outer southern reservoir edge, and be by boat. As to whether access (by passengers or goods) continue by boat into the mid watershed, or transfers to land access on the northern reservoir edge, remains an issue.

Needs assessment and planning in regard to access development will be conducted as part of FLUPAM in order to ensure the necessary participation to meet the needs of villagers, and also to promote the necessary harmonization of conservation considerations (PPAM) with development needs (LDC). Funding for and implementation of access infrastructure will be the responsibility of the LDC Division

A number of planning tasks will need to be conducted, as follows:

Task 1: Consultations with villagers to solicit their views and priorities concerning access infrastructure, which would feed into Task 3 (development of a plan).

Task 2: Conduct investigations (at village and family level) to assess the current usage of the 2 main Water borne access routes: The Nam Theun route (Sop On to Keng Meo to Keng Luang to Makfeuung, and the Nam Sot route (Ban Talang to Ban Thameuang) in terms of:

- a) the season in which the routes are used;
- b) the types of boats used;
- c) the owners of the boats;
- d) the persons using the boats/routes (type of person, village of origin, no. per year etc);
- e) how much they pay, how they organise the timing etc;
- f) the maintenance undertaken on the routes; and
- g) stakeholder ideas for improving the routes, the boat service etc,

Task 3: Conduct investigations (at village, family level and track level) to assess the current usage of the land access routes, including the following routes;

- i) vehicle and walking track from Khamkerd into Ban Thameuang and Ban Navang;

- ii) walking route from Nakai to Ban Sopphen and on to Ban Navang;
- iii) walking route from Ban Sop Ma up Phu Laem to Ban Phung/Makfeuung;
- iv) walking route along the Nam Theun (Keng Meo to Ban Makfeuung):
- v) walking route along the Nam Noy:
- vi) walking route from Ban Khonkaen to Ban Huay Sarn (Nam Pheo) in terms of:
 - a) the season in which the routes are used;
 - b) people using the routes (type, reasons, village of origin, no. per year etc.);
 - c) the maintenance undertaken on the routes; and
 - d) the stakeholder ideas for improving the routes,

Task 4: Develop an integrated access development and management plan to improve and regularise river access along the two routes, the plan being based on:

- i) an understanding of the current situation;
- ii) an understanding of probable post-COD situation and demand for transport.

The Nam Theun route would originally (up until COD) start from Ban SopOn, but post COD it would start at the Nakai jetty (or a jetty location to be identified that would give year round access to the reservoir and navigation channel). Thus, pre-CoD, land transport from Nakai to SopOn will be regularised and supported by the WMPA who will lease or purchase of a truck to establish a regular public bus.

The Nam Xot route would begin at Ban Talang - both pre and post COD. Transport from Nakai to Ban Talang would be linked to the resettlement activities which should see upgraded roads and sufficient private or RMU/RO public transport.

This access development and management plan may include support from the WMPA to:

- a) Improve the water based access routes. Improvement of the water-based access routes does not envisage any physical improvements in the difficult (rapid) sections of the river stretches. Large river height fluctuations in these areas precludes consideration of this. In addition, the effect of the reservoir on these rapids sections must first be observed before physical improvements (such as blasting of rapids, building of winches or other methods) can be considered. Thus any such developments would not be contemplated until SEMFOP-2.
- b) Establish and manage a river based public transportation system for passengers and light cargo, to ensure regular, i.e., daily service from Nakai up the two valleys.
- c) Ensure a heavy cargo river transportation system is established – mainly for rice, cattle etc, which could be linked to the passenger and light cargo system.
- d) Ensure land portage is available for difficult sections of the water based route.
- e) Improve and upgrade to selected land routes which link with the boat transport system.
- f) Provide seed funds to annually maintain selected land routes.
- g) Ensure checkpoints (stationary and mobile) are established and operational to manage entry of persons and export of goods on these routes, especially at the boat jetty and other strategic points.

Task 5: In year 5 and 6 of SEMFOP-1, review the success of this plan, and develop an improved, or new plan for incorporation into SEMFOP-2, post COD.

Task 6: Close the two ex-logging roads north of Nam Theun (the upper plateau), the road starting between Ban Talang and Ban Nam Nian, and the north, north west road from Ban SopOn (unless required for essential vegetation clearance of the reservoir?).

Task 7: Assist investigations into an alternate route from Nakai to the Nathon-Nabon area (NNT-PHN corridor), as the current road thru the Nam Malou will be flooded by the reservoir.

2.5.5.2: Access within the Watershed-NPA

Access routes between villages and between sub-catchments (between Nam Theun, Nam Noy and Nam Pheo, and between Nam Xot and Nam Mon) will be improved to the standard of approximately 2.5 m to facilitate both walking and hand tractor passage. Tasks required will include;

Task 1: Survey (alignment, quantity, culverts and bridges) all currently upgraded tracks, and tracks or alignments proposed (by local stakeholders) to be upgraded.

Task 2: Develop a plan for internal access improvement and maintenance, to include - tracks, basic design, types of culverts and bridges etc,

Task 3: Stakeholder workshop to accept or modify the plan

Task 4: Implement internal access track development:
4.1. final design and quantities;
4.2. develop plan for and ensure access to “food for work” rice;
4.3. procurement of basic construction equipment;
4.4. supervision and monitoring of the track construction;
4.5. payment of food for rice.

Task 5: Implement the track maintenance program

2.5.6: Community Outreach and Conservation Awareness

Community outreach and conservation awareness (COCA) raising aims, by the use of language, visual tools, plays and other participatory methods to;

- i) facilitate villagers expressing their own views and understanding of natural resources conservation and sustainable development; and
- ii) inform villagers of the objectives of watershed management, biodiversity conservation and sustainable development.

It seeks to provide a platform on which villagers can really ‘participate’ in biodiversity, forest and land use management planning. It seeks to enable villagers (and other stakeholders) to better understand the background to the role which they will be expected to play in the planning and then implementation of PICAD based Protected Area management. The task required to implement this program will include;

Task 1: Enquire and review COCA methods used previously and currently in other parts of the Lao PDR

Task 2: The COCA team purchase and produce posters, pamphlets, videos and other materials for general distribution to villages and agencies in and around the NT2 watershed,

Task 3: The COCA team produce simple COCA messages and captions for use by local radio, [local radio dissemination may be the best means of communication with the scattered and isolated villages in the NT2 watershed]

Task 4: Conduct COCA events in villages, on the average 2 days and 3 nights per villages, and 4 to 6 village per months, where possible coordinated with the PVA and FLUPAM events.

Task 5: Assist the (external) public relations

Task 6: Assist the development of information for tourism, including visitor centre development and operation, developing guide notes.

The effective development of a COCA team will be fostered by the complimentary input from specialist partner organisations with experience in this field, in the Lao PDR or elsewhere.

2.6: PUBLIC CONSULTATION STRATEGY

2.6.1: Background and Objectives

The objective of the Public Consultation and Participation Process (PCPP) is to develop and maintain avenues of communication between the Project and stakeholders in order to ensure that their views and concerns are incorporated into project design and implementation with the objectives of reducing or offsetting negative impacts and enhancing benefits from the SEMFOP. The feedback from consultations will be important in formulating the mitigation measures for all stakeholders, and in particular, the 31 villages in the NT2 Watershed/NPA.

Consultations and preparatory activities throughout the preparation period of SEMFOP have emphasized a participatory and consultative approach for surveys, information gathering, data collection, planning and program design. Indeed, the only source of most of the information collected and used in program design is from Project Affected People and other stakeholders.

Public outreach and awareness raising in regard to the NPA and the NT2 project has and continues to be conducted at the local level by the WMPA. This has been through public meetings involving over 70 stakeholder villages from all 4 SEMFOP districts, local TV and radio broadcasts and the erection of signboards in and around the NPA. This preparatory phase of public consultation will continue until SEMFOP implementation begins and will then be continued as a fully participatory process for planning, implementing and evaluating all project activities throughout the life of SEMFOP.

2.6.1.1: Stakeholder Workshop

In March, 2003 a stakeholder workshop was held involving over 70 participants from government, mass organizations, and affected individuals from the national, provincial, district and village levels. The workshop provided key background information on the SEMFOP and addressed a number of topics, covering most of the issues raised by the WB on the first draft of SEMFOP. Consensus on 4 key issues was reached:

- (i) conservation is SEMFOP's primary objective, but appropriate capacity and livelihood development in the 31 NPA villages will be necessary to achieve this;
- (ii) development will be linked to and provide concrete benefits to conservation;
- (iii) GoL swidden stabilization goals will be followed, but changes will be phased and dependant on villager's aspirations and traditional land-use systems;
- (iv) WMPA will hold discussions with NTEC to resolve reservoir management issues and, if it is agreed that the WMPA is responsible, conservation budgets will not be used and additional funding will be sought.

These and all other outputs from the workshop provided excellent feed-back and have been analyzed and fully incorporated in the appropriate sections of this SEMFOP draft.

2.6.1.2: Local Public Consultations

In June and July 2004 a series of public consultations were conducted in NPA and PIZ villages. This preparatory process of public consultation was conceived to initiate an on-going self-correcting 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.

Villages where consultations were carried out in the NNT-NPA were selected purposefully to include all major river valleys (sub-watersheds) and all ethnic groups. These were as follows:

Geographical and ethnic distribution of NNT-NPA public consultations

Subwatershed	Vietic	Katuic	Lao-Tai	Villages
Nam-Noy/Pheo	Kri, Phong	Brou	Sek	Maka, Tong, Teung, Meuy, Koune, Vang Khouay
Theun	Thémarou	Brou		Vang Chang, Mak Feuang, Thaphayban, Peung
Sot-Mone	Malang, Arao, Atel, Maleng	Brou	Xin et. al.	Na Vang, Kaching, Na Hao, Songkhone, Tha Meuang

Feedback from NPA villagers varied according to their ethnic background and sub-watershed in which they reside. The major concerns expressed are summarized here by sub-watershed.

Nam Noy-Nam Pheo

On the Nam Noy and Nam Pheo, all ethnic groups expressed a fear of confronting Vietnamese poachers in the implementation of their role of patrolling the NPA. The Vietic groups, the Kri and the Phong, related their concern at not understanding modern agricultural methods that were being discussed by the resource teams during consultations. The Brou at Koune voiced concerns similar to the Vietics, adding that they were likewise afraid to confront the Sek, whom they perceive as their more powerful neighbors. The Sek fear that they will lose land during the land use planning process.

Nam Theun

On the Nam Theun, the predominantly Brou population are concerned primarily with food production and the threat posed by the NPA to reduce swidden agriculture. The promise of returns from cash crops raised concerns related to marketing, and protecting some wildlife species that are considered pests of swidden crops, increased villager concerns in regard to adequate food supply.

The Thémárou, a Type I (hunter-gatherer) Vietic group pose special consideration. The Thémárou reside officially in the village of Vang Chang, the last village on the upper Nam Theun river. The village is predominantly ethnic Brou. In addition to their houses in the village, the Thémárou also maintain a residence at Keng Parang, where they say they are carrying out swidden cultivation.

The Thémárou are traditionally hunter-gatherers who traveled cyclically around the region of the upper Nam Theun. In about 1969-70, the group was struck by an epidemic in which most of them died (out of more than 100 only 30 or so remained). They were left without the old leaders, and began to live at Keng Parang, practicing rudimentary swiddening in imitation of the Brou whom they say they were consciously trying to emulate. In 1996, the government began to move them into the village of Vang Chang where 10 families now remain with a population of 47 (19 are children under age 10).

The Thémárou consider they are too few to return to their former way of life, and prefer to stay where they are, with one foot in both worlds as it were, continuing their swiddening at Keng Parang, and maintaining their relationship with the Brou at Vang Chang, even though they acknowledge the relationship as one of dependency. They voiced a great fear at the consultations of losing their swidden fields. At the present time their children are not attending the school, although the children appear to be speaking more and more Brou language among themselves.

Nam Sot-Nam Mone

The major issues on the Nam Sot-Nam Mone are more ethnic specific. As in the Nam Noy basin, a village of more lowland-oriented Tai speakers who practice paddy cultivation tend to dominate the area and were able to express their ideas more readily to the lowlander resources team. They fear the loss of the road which connects them economically to the Khamkeut District seat at Lak Xao, and are concerned with the irrigation of paddies which they would like to expand.

The Brou at Vang Chang, who are beginning to modernize (as opposed to developing), likewise fear the loss of the road. But they are also concerned with the proposed reduction of swidden cultivation and transition to paddy-based agriculture.

The Vietics at Tha Meuang and Song Khone fear that assistance will not be equal and that black magic will be used in inter-ethnic disputes. They generally feel inferior to both the Tais and the Brou. They are also concerned that they will not be able to adjust to paddy cultivation, which in some cases has been tried and abandoned in the past.

In summary, the main concerns along the Nam Sot-Nam Mone concern access to the outside and equity of benefits. All groups fear confrontations with Hmong poachers as well as Vietnamese.

Overview

A number of important issues emerged from the consultations as key problems and concerns that the SEMFOP must take into account. The following describes these issues and explains how the SEMFOP will incorporate measures to address these concerns or intends to make changes

1. It was recommended to separate the river sub-watersheds into manageable units for implementation purposes:
 - a. Nam Noy
 - b. Nam Theun
 - c. Nam Sot

SEMFOP measures that address the concern:

- This is addressed in the SEMFOP's plan to develop Watershed Conservation and Development Networks (WCDNs) involving all villages in each sub-watershed who will receive WMPA support to cooperate in both livelihood development and conservation activities (4.3.1.4).
 - It is also intended to organize and link individual VCMUs around these sub-watershed lines to ensure full coverage and improved integration of effort.
2. Within each sub-watershed, the importance of ethnicity should be fully recognized.
 - a. language and communication
 - b. inter-ethnic relations and hierarchies
 - c. different sets of concerns
 - d. the Vietic Type I peoples in the NPA and the PIZ need special attention and consideration
 - e. need for ethnic advisor to begin ASAP

SEMFOP measures that address the concern:

- This is addressed by a number of elements of the SEMFOP as follows:
 1. WMPA recruitment policy emphasizing local and ethnic peoples (Section 6.2.7)
 2. The inclusion of long term international and national EM advisors in the technical assistance team (Section 6.3).
 3. A special program for Vietic groups in both the NPA and the PIZ in collaboration with a specially qualified NGO in this field (Section 3.4.1.3).
 4. Cultural sensitivity awareness raising and training for all WMPA staff (Section 3.8.1).
3. The need to integrate the findings from consultations into SEMFOP as an on-going dynamic process, not just a one-off event

SEMFOP measures that address the concern:

- This is embodied in the PICAD process which follows a community driven development approach and the use of participatory methods as described in Sections 2.1.1, 2.1.2 and 2.13.

4. How to deal with the livelihood development transition process

- a. livelihood (adaptive) changes
 - i. swidden concerns
 - ii. livestock concerns
- b. social structure concerns

SEMFOP measures that address the concern:

- This concern is addressed by LDC's approach of ongoing incremental development to existing livelihood practices rather than a transformational approach of introducing entirely new (and often inappropriate) systems as described in Section 2.4.
- In addition, it is intended to offer revolving funds to villages, both as a means of technology transfer and as a source of loan funds for individual households during the transition period and beyond for family emergencies (See Section 2.4.2.4).
- Social structure concerns are dealt with in the cultural development plans described in Section 3.6.5.

5. How to impose regulations while maintaining ownership – the essence of community involvement.

SEMFOP measures that address the concern:

- This issue lies at the very heart of the FLUPAM/PICAD approach which through a truly participatory process, seeks to reach mutually beneficial agreements in the form of VFLMAs which are initially trialed, tested, evaluated and jointly refined with villagers as described in Section 2.2.

The specific concerns of villagers, villager proposals and the WMPA responses to these concerns and proposals are presented in Appendix 5 of this Volume of SEMFOP.

2.6.1.3: International Public Consultations

A series of Public Consultations on the NT2 Project were held at international venues across the world during August and September 2004. These one-day workshops, complementing the local consultations described in Section 2.6.1.2, were held in Bangkok, Tokyo, Paris and Washington and focused around 4 themes:

- The GoL development framework and the IFT's decision framework
- The NT2 Project's technical, environmental and social safeguards
- The local public consultation outcomes
- Economic analysis and revenue management

The broad spectrum of issues raised and responses to them are now summarized on the World Bank's website (www.worldbank.org/laont2). The majority of the comments and questions raised during these consultations related to issues of power-demand, economic analysis, revenue management, resettlement, the Xe Bang Fai, information disclosure, and governance in the Lao PDR, and very few directly addressed the SEMFOP. The issues more directly relating to SEMFOP and the NNT Watershed/NPA are listed in the following, along with an explanation of how they are being addressed within the SEMFOP.

The key comments and questions of relevance to the SEMFOP are described in the remainder of this section.

1. Why have only 16 key species been studied in regard to mitigation measures and protection?

SEMFOP measures that address the concern:

- Although this question addressed the EAMP rather than SEMFOP, the biodiversity baseline study to be conducted by WCS at the start of SEMFOP (see Section 4.3.4) is expected to provide

information on the occurrence, abundance and movement of a broad range of key species as the basis for further study.

2. What are the plans for elephants and other plateau species?

SEMFOP measures that address the concern:

- This question also addresses the EAMP and will be dealt with under NTPC's wildlife management program. However, this will be conducted in coordination with the WMPA who will be trained in the procedures and take over management of the program one year after COD (see Section 2.3.9).

3. Issues of logging on the plateau and in and around the NPA.

SEMFOP measures that address the concern:

- The salvage logging planned to take place on the plateau prior to reservoir inundation will pose a very real threat to the NPA. The WMPA has already conducted boundary demarcation along 298 km. of the boundary (59% of total) and plans to do the same on the plateau to address this threat prior to the initiation of salvage logging activities (see Section 4.3.1.10).

4. The issue of impacts on aquatic ecosystems.

SEMFOP measures that address the concern:

- Although these comments mainly addressed the downstream XBF, there is the potential for impacts on aquatic resources in the watershed. A fisheries baseline will be conducted in the NPA by NTPC as part of the EAMP's wildlife management program. This will be conducted in coordination with the WMPA who will be trained in the procedures and take over management of the program one year after COD (see Section 2.3.9).

5. The issue of the potential mis-use of funds by the WMPA..

SEMFOP measures that address the concern:

- A number of mechanisms are in place to ensure that funds allocated for protection of the watershed are used in accordance with SEMFOP objectives. These include the establishment of the WMPA Board of Directors (Section 6.1.3), the Independent Monitoring Agency (Section 6.5.4), and a variety of procedures and safeguards in the budgetary and financial framework (Section 7.1).

2.6.2: International Guidelines on Stakeholder Participation

The World Bank's Safeguard Policies on Environmental Assessment (OP 4.01), Involuntary Resettlement (OP 4.12) and Indigenous Peoples (OD 4.20) all require that affected groups (especially villages), government agencies, local NGOs and all other stakeholders be consulted in a meaningful way during the preparation and implementation of the SEMFOP.

The consultation strategy described here is based on the specific needs and nature of the SEMFOP but also follows the recommendations made in the World Commission on Dams Report, which include:

- participation in consultation of indigenous and tribal people is a process of communication and negotiation, spanning the planning and Project cycles;
- effective participation requires an appropriate choice of community representatives;
- consent of affected indigenous and tribal people should be sought prior to key points in the decision-making process;
- the manner of expressing consent will be guided by customary laws and customs, and by national laws;

- at the beginning of the process the affected people will state how they will express their consent to key decisions;
- the integrity of community processes should be guaranteed, they shall not be divided or coerced, and be free of manipulation; and
- independent dispute resolution mechanism should be agreed with the other stakeholders at the beginning of any process.

2.6.3: Framework for a Comprehensive Participation Process

Public Consultation can be defined as the process through which the views and opinions of all interested parties or stakeholders are integrated into project planning, implementation and monitoring. Participatory consultation is a type of communication that specifically establishes an ongoing 'feedback loop', integrating stakeholder views and opinions into various project activities. Communication also consists of information dissemination to stakeholders on options and potential project impacts, often the first step in establishing the feedback loop.

Dialogue has already been established with all stakeholders in the NT2 Watershed/NPA via consultations at the local, regional, national and international levels. This is ongoing and will continue throughout the duration of SEMFOP. In order to ensure that this process is community-driven and participatory, several components will be put in place from the initial phase. Because none of the villages, with the exception of the 3 NPA villages involved in the DUDCP project and some PIZ villages who have received NGO support, have previously been involved with projects of this type, full-time leadership and support to create a framework for mainstreaming participation at all stages of the project is necessary.

For this reason, the SEMFOP-1 will include the involvement of a long term PICAD advisor with responsibility to mainstream participation across the FLUPAM, Livelihood Development and Biodiversity Conservation programs. In addition, 2 Community Development advisors (international and national) will be engaged to assist with mainstreaming ethnic issues and to ensure that the project better understands indigenous knowledge and local livelihood strategies in ethnic communities and integrates these into the participatory planning process. This will be further strengthened and supported by an Ethnic and Cultural Development Professional, WMPA staff member who will work with the EM advisors (See Table 6.1, Section 6.2.7). A gender strategy, built around the use of gender empowering tools (See Section 2.1.2) will help to ensure the active involvement of women and other vulnerable groups in the decision making process. The gender strategy will be supported by the engagement of a Gender Specialist Professional as a WMPA staff member attached to the LDC Division, but also working closely with the FLUPAM and PPAM Divisions See Table 6.1, Section 6.2.7. These initiatives, in coordination with other strategies for participation introduced by the SEMFOP, should create a foundation upon which the project fully embraces local participation rather than merely paying lip service to this fundamental principle of community-driven development.

Other themes to ensure a participatory and effective process will include:

- A focus on capacity-building in participatory methods for stakeholders, with particular emphasis on members of Village Development Committees, District Department staff, WMPA technical assistance personnel, and village women's groups. A number of skills trainings, to be defined by the TA and WMPA, are critical in this regard
- A proper process to ensure that stakeholders take ownership of the project at the earliest possible date, rather than participate as willing or unwilling parties in a government-led initiative;
- All aspects of SEMFOP must be transparent to villagers and other stakeholders, including analysis, planning, implementation, evaluation and funding
- A holistic, systems approach is required that encapsulates the technical, institutional, social and political dimensions of the project;
- Team building initiatives involving the WMPA, Technical Advisors and Village Development Committees and special interest groups;

- Coordination between different sections of the WMPA and government agencies to avoid confusion in stakeholder communities caused by duplication and mixed messages;
- Balanced software and hardware inputs;
- Flexibility in project planning, implementation according to changed circumstances and local conditions.

Incorporating these themes will make the SEMFOP more responsive to local circumstances and needs leading to an improved likelihood of project sustainability.

The following framework is an attempt to standardize the process to ensure full participation of all stakeholders throughout the project. This participation strategy is relevant in regard to the Ethnic Minority Development Plan (Part 3), the Biodiversity Management and Conservation Framework (Part 4), and Resource Access Restriction Process Framework (this Part 5). Table 2.8 identifies participation methods by key stakeholders, and Table 2.9 identifies key participation activities by project component. An indicative summary of the tools to carry out these participation strategies have previously been presented (See Table 2.1 in Section 2.1.2) and these will be further refined and developed by the WMPA and the TA.

Table 2.8: SEMFOP-1 Participatory Framework and Stakeholder Consultation Process

Stakeholders	Key Resource Use/Stake	Minimum Consultation/Participation Methods
31 Watershed Villages (resident users)	Swidden and paddy farmers, foragers, hunters, wildlife traders	<ul style="list-style-type: none"> • General Socialization³; • Meetings with village leadership (official); • Meetings with village elders and traditional leadership; • Large village meetings; • Small focus group meetings; • Meetings with women ; • Participatory Mapping of Village Boundaries and Management, Use Zones; • Ongoing consultations with WMPA staff; • Village Planning Teams and sub-committees established, with inclusion of women; • Systematic HRD and capacity building trainings; • Information disseminated through innovative and appropriate methods (i.e. meetings, information boards, video and broadcast messages); • Feedback and Grievance Systems and Conflict Resolution Strategy established; • Participation in monitoring and enforcement of resources within village boundaries.
Peripheral impact zone Villages (non-resident and secondary users)	Swidden farmers, hunters, wildlife traders, foragers	<ul style="list-style-type: none"> • WMPA/district officials and Watershed enforcement officials meet with village officials; • Use and access restriction regulations developed with villagers during FLUPAM; • Information disseminated by innovative & appropriate methods (meetings, information boards, video, broadcast, etc.); • Establish ongoing consultations with WMPA and district officials; • Develop alternative livelihood strategies for PIZ villages (in cooperation with NGOs and local authorities) to take pressure from external encroachment.
Local Authorities: -district -sub-district -mass organizations	Normal service providers for healthcare, education, agriculture, etc.	<ul style="list-style-type: none"> • Workshop meetings for appropriate officials; • Skills trainings; • Integration into WMPA technical assistance(?).
Resource User Groups (hunters, foragers,	Wildlife, edible and non-food forest products	<ul style="list-style-type: none"> • Facilitating formation and involvement of village forest associations; • Village meetings with WMPA TAs; • Production of village boundaries, maps &

³ Socialization is the promotion of the project and its principles, processes and procedures to villagers, government officials, facilitators, consultants, NGOs and other stakeholders. This is done in order to promote broad-based participation, transparency and monitoring throughout the project. The socialization process will take the form of meetings at the national, provincial, district, and village levels, visits to watershed villages, and with the support of information and education materials such as brochures, posters, maps, radio spots and other communications materials.

Stakeholders	Key Resource Use/Stake	Minimum Consultation/Participation Methods
women, etc.)		resource management plans <ul style="list-style-type: none"> • Training, education and information materials.
Traders, Middlemen	Forest products, wildlife	<ul style="list-style-type: none"> • Meetings with WMPA and district officials, including law enforcement, immigration.
WMPA: -overall management -technical assistance -law enforcement	Management, support and enforcement responsibility for the watershed	<ul style="list-style-type: none"> • Meetings and workshops with all stakeholders; • Ongoing meetings and interaction with all watershed villages.
NGOs in Lao PDR	Interest in biodiversity conservation and community development; Potential to provide support services to village people, government officials and WMPA	<ul style="list-style-type: none"> • Small group meetings for consultations; • Visits to watershed villages; • Possibly recruited to assist with village consultations, facilitation trainings, etc.
NGOs International	Interest in biodiversity conservation and community development	<ul style="list-style-type: none"> • Formal meetings, workshops; • Written material or WB/NTEC website.
Donors and Financial Institutions	Interest in biodiversity conservation and community development; financially invested in watershed protection	<ul style="list-style-type: none"> • Meetings with WMPA and the GoL; • Meetings with NTEC; • Visits to watershed villages; • Written materials and reports.

Table 2.9: Participatory Framework Activities by Project Component

Project Component	Key Activities	Stakeholder /Responsible Party	Time Period
1. General Consultation “start-up” Phase			
	Further mapping of stakeholders and analysis of roles, interests and situation;	WMPA	Within 1st year of Operation Phase
	Assessment of institutional capacity to manage ongoing disclosure of information and consultation	WMPA	Within 1st year of Operation Phase
	Hire and train team responsible for consultations – including WMPA and TA - for information dissemination and participatory strategies throughout project period	WMPA	Within 1st year of Operation Phase
	Review lessons learned from the DUDCP (LiL) project	WMPA	Within 1st year of Operation Phase
	Identify and/or create tools to disseminate information and translate if necessary	WMPA	Within 1st year of Operation Phase
	Create strategy for Village Consultations in local dialects (either hire local translators or – even better – put local speakers on consultation teams)	WMPA	Within 1st year of Operation Phase
	Finalise strategy to simplify key messages	WMPA	Within 1st year of Operation Phase
	Determine to whom, when, and how key information is to be disseminated, taking account of their seasonal livelihoods and social calendar.	WMPA	Within 1st year of Operation Phase
	Adapt Feedback and Grievance Framework and Conflict Resolution strategy	WMPA	Within 1st year of Operation Phase
2. Ongoing Consultation in “Implementation” Phase			
a. Collaborative Management Approach	Socialization	WMPA with assistance of TAs representing of the core technical disciplines	Initiated within 1st year of Operation Phase and ongoing throughout
	Informed agreement on roles, responsibilities of Village Planning Teams, Sub Committees, Patrol Units, etc.	Village Leaders with WMPA representatives and NGOs if appropriate	Initiated within 1st year of Operation Phase

Project Component	Key Activities	Stakeholder /Responsible Party	Time Period
	Participatory design of Village-appropriate Grievance Mechanism and Decision-making procedures	Village Leaders with WMPA representatives and NGOs if appropriate	Initiated within 1st year of Operation Phase
	Open consultation about Grievance Mechanism and Decision-making procedures	Village People with Village Leaders, WMPA, NGOs	Initiated within 1st year of Operation Phase and ongoing throughout
	Revise Procedures and mechanisms	Village People with Village Leaders, WMPA, NGOs	Initiated within 1st year of Operation Phase
b. Conservation Management ⁴	Socialization	Local authorities	Initiated within 1st year of Operation Phase
	Participatory collection of information on Natural Resources as related to socio-economic conditions	WMPA (PPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	Land Use Planning and Zonation (VFLMA development)	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase
	Village and forest field surveys (rapid assessments)	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing until complete
	Land/Forest Allocation Support: Finalize boundary agreements/maps and develop village regulations, rights and duties, including the creation of Monitoring and Enforcement Units	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase
	PICAD – forestry, agricultural and village development planning ⁵	WMPA (LDC), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	The creation of Incentives and Benchmarks linking conservation to development	WMPA (PPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	Review of Land Use mapping exercise within and between all villages	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing until complete

⁴ Each step in the process includes multiple tools

⁵ This is closely tied to c. below and should be done in coordination with the PICAD team.

Project Component	Key Activities	Stakeholder / Responsible Party	Time Period
c. Alternative Sustainable Livelihoods ⁶ or PICAD ⁷	Socialization, including a discussion of the direct link between development activities and the accomplishment of conservation benchmarks	WMPA (PPAM/LDC), partner organisations and villagers	Initiated within 1st year of Operation Phase
	Introduction/Entry into the village to build trust and relationships	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase
	Creation of Village Development Committee & Sub-Committees (livelihood, health, education, credit/business schemes, etc.), including in-village monthly meetings with WMPA	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	Participatory information gathering about village society and economy	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	Participatory Land Use Mapping and Monitoring	WMPA (FLUPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	Participatory workshop on Understanding Forest and Natural Resource Use and Management	WMPA (PPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
	Village/household contract agreements for good conservation practice	WMPA (PPAM), partner organisations and villagers	Initiated within 1st year of Operation Phase and ongoing throughout
d. Macro level zoning of watershed ⁸	Watershed/NPA Level Forest and Land Use Assessment and Mapping	WMPA (FLUPAM), partner organisations and villagers	2 to 3 years
	Village Socio-economic Data Collection and Boundary Mapping with all Villages	WMPA (FLUPAM), partner organisations and villagers	2 years
	Floral Biodiversity data – Collection and Mapping	PPAM; NUOL; botanical specialist; Districts; villagers	3 years
	Fauna Biodiversity data – Collation and Baseline Surveys	PPAM; Village CMUs; Army CMUs; villagers	2 to 3 years
	Preliminary Macro-level Zonation	FLUPAM; Districts (including	Within 3 years

⁶ Shelter & Energy (housing + fuel); Clothing + Bedding; Health needs; Educational needs; Recreational / Ceremonial needs; Obligations to Nation (Tax & Laws), etc.

⁷ Closely related to activities done in Conservation Management above.

⁸ See Section 2.2 for details of FLUPAM.

Project Component	Key Activities	Stakeholder / Responsible Party	Time Period
		consultation with all stakeholders	
	Regulations Development for Macro Zones	WMPA; Districts (inc. preliminary consultation with all stakeholders)	Within 3 years
	Drafting of Proposed NPA Forest and Land Use Management Plan	WMPA; Districts (inc. preliminary consultation with all stakeholders)	Within 3 years
	Stakeholder Consultations on Preliminary Zonation, Regulations and Proposed Management Plan	All stakeholders	Within 3 years
e. Micro level zoning in villages during FLUPAM process ⁹	Village Classification	Villagers, WMPA, Districts	Within 3 years
	Selection of Priority Villages	WMPA, Districts	Within 3 years
	Forest and Land Management Planning	Villagers, WMPA, Districts	Within 3 years
	Community Orientation	Villagers, WMPA, Districts	Within 3 years
	Village Data Collection	Villagers, WMPA, Districts	Within 3 years

⁹ See Section 2.2 for details of FLUPAM

2.6.4: Phases of the PCPP Strategy

The SEMFOP Public Consultation and Participation Strategy comprises 3 distinct phases, but because it is ongoing and iterative, these will tend to overlap and be repeated.

Phase 1: Information collection and dissemination:

This initial phase aims to promote awareness using a two-way flow of information. Awareness is attained through collection of data relating to both human and physical characteristics that facilitate evaluation and planning for project implementation. Additionally, information is disseminated to stakeholders detailing project features, project impacts and implications for altered social and physical environments.

Phase 2: Eliciting Stakeholder Concerns:

Comments from stakeholders in response to information gained during Phase 1 are actively sought and discussion of alternatives and suggestions for mitigation activities encouraged. In this way, issues that may have been previously overlooked or outstanding concerns of stakeholders are given a forum for review. This represents a needs-assessment, and provides a base from which decisions can be made.

Phase 3: Active involvement in Project Design and Implementation:

Based on the decisions made in Phase 2, requirements for education, training, financial and institutional strengthening are identified and integrated into SEMFOP program design. The process will continue throughout implementation, ensuring that stakeholders are fully involved throughout this first and future SEMFOPs.

Transparency and openness during the PCPP will be a priority, and in this respect, it will be important to take into account the following:

- communication techniques will need to be simple, as visual as possible and also culturally sensitive and appropriate;
- the language used during consultations will need to recognise the different ethnic dialects used in the NT2 Watershed/NPA;
- any media used should be appropriate, and recognize the high rates of illiteracy among key stakeholders at the local level;
- participation in consultation activities should not be dominated by local authorities or appointed leaders;
- special attention will be required to promote the participation of women and vulnerable groups and ensure adequate consideration of their special needs and circumstances.

2.6.5: Intended Target Groups of the PCPP Strategy

The PCPP strategy will involve consultation at the local, regional, national and international levels. Key stakeholders at these various levels will include:

- People directly affected by the Project.
- Government officials at the district, provincial and national levels.
- The broader interested community.
- NGOs operating in the Lao PDR and particularly those in the Project area.
- Lao PDR mass organizations
- National research institutions
- International NGOs, international organizations and other interest groups, including the local, regional and international media.

More specifically, stakeholders will include the following groups:

Local

- All households and villages within the NT2 Watershed/NPA.
- Communities in the Peripheral Impact Zone around the NPA.
- Communities and individuals remote from the NPA, but whose livelihoods are to some extent dependent on NPA resources.

Regional

- Community leaders.
- GoL Agencies at the district level.
- GoL Agencies at the Provincial level.
- Businesses and contractors.

National

- GOL Ministries.
- The People of the Lao PDR.
- National NGOs.
- National media.

International

- International NGOs.
- The international conservation community.
- International media.
- Other international power utilities, in particular EGAT.
- World Bank.
- NTEC investors and Financial Institutions.
- Other hydroelectric dam developers.

2.6.6: Tools and Methods for Consultation and Disclosure

The specific techniques, methods and tools to be used for public consultation will be selected to suit the individual needs of each target audience. Selection will be made from a wide range of available methods (Table 2.10) and will often involve a number of different methods being used concurrently or in a variety of combinations.

Table 2.10: Methods and tools to be used under the PCPP.

Method or Tool	Explanation/Description
Visual representations	<ul style="list-style-type: none"> • Use of visual representations including pictures, diagrams and posters, models, especially at the local and regional levels. • Particular valuable in instances where local dialects are used
Village meetings	<ul style="list-style-type: none"> • First round of public consultations in 31 NPA villages. • Orientations prior to major events or the initiation of PICAD, etc.
Focus group meetings	<ul style="list-style-type: none"> • For use with key informants such as hunters, fishermen, paddy farmers, etc.
Direct consultations	<ul style="list-style-type: none"> • For conflict resolution and specific issues in regard to LUP, LDC, VCMU patrolling, etc.
PRA and RRA	<ul style="list-style-type: none"> • For all aspects of participatory analysis and planning. • Particularly valuable for information collection and planning during PICAD.
Surveys and questionnaires	<ul style="list-style-type: none"> • Can be used for environment, socio-economic, health , land use, etc.
Special studies	<ul style="list-style-type: none"> • For follow-up on important issues identified for a broad range of ecological, agricultural, economic, social, etc. issues
Seminars and workshops	<ul style="list-style-type: none"> • Local or regional Seminars and workshops and forums on specific issues. • National and international workshops and seminars
Translated project documents &/or summaries	<ul style="list-style-type: none"> • These are used in particular for local leaders, regional officials and national stakeholders
NPA Visitors Centre	<ul style="list-style-type: none"> • To promote awareness and understanding on the NPA, biodiversity and wildlife issues for both local residents and visitors.
Exhibits, models and demonstrations	<ul style="list-style-type: none"> • E.g. 3-D terrain models for use in LUP. • On farm demonstrations for improved farming technologies
Mass media	<ul style="list-style-type: none"> • Information to the general public radio and television interviews
Field trips and study tours	<ul style="list-style-type: none"> • To the Project area for international stakeholders • Out of the project area for local residents to inform them of of new techniques or opportunities.
Public Meetings	<ul style="list-style-type: none"> • Particularly useful at the district, provincial and national levels
Newspapers	<ul style="list-style-type: none"> • Useful for issues of provincial, national or international significance.
Videos	<ul style="list-style-type: none"> • Extremely popular with NPA villagers and thus very useful for orientation, awareness and improving understanding
Radio Programmes	<ul style="list-style-type: none"> • Useful in reaching a large audience, often even in areas without electricity.
Website	<ul style="list-style-type: none"> • Particularly useful for international stakeholders and of growing significance for national audiences.
Posters	<ul style="list-style-type: none"> • Public awareness raising. • Can be useful for data collection e.g NTFPs, wildlife and flora.

2.7: PERIPHERAL IMPACT ZONE STRATEGY AND OBJECTIVES

For the purposes of SEMFOP the Peripheral Impact Zone (PIZ) is defined as those areas and villages (in the Lao PDR) adjacent to but outside the NPA which harbour humans who enter, or would like to enter, the NPA for the purposes of resource extraction, land cultivation or similar potentially destructive activities. PIZ status is delineated and restricted to those villages who would benefit directly from the long term protection of the NPA through sustainable harvest of NTFPs, the maintenance of watershed values, employment opportunities, and general quality of life issues. The PIZ is thus delineated and limited to those villages that would benefit in this way through active engagement in conservation.

The foregoing definition excludes trans-border encroachers, illegal logging concerns, poaching gangs, would-be concession holders or other individuals/entities who operate from more distant locations but enter and destructively use NPA resources. The difference here is that these groups are entirely exploitive and have no vested interest in maintaining biodiversity values and watershed functions to sustain their livelihoods over the long term, and are thus not likely to be influenced by active engagement.

SEMFOP strategy in regard to this latter exploitative group focuses on improved control and enforcement to keep them out of the NPA and to stop their illegal activities. On the other hand, a partnership approach will be adopted with PIZ villagers through active engagement on awareness raising and alternative livelihood support to reduce their reliance on the NPA and to promote them as protected area ‘gatekeepers’. The ultimate aim is to instil a sense of ownership and establish a network of stakeholder communities forming a buffer around the NPA. As such, PIZ communities are seen as a valuable asset to the NPA and important WMPA partners in the task of biodiversity protection. Indeed the greatest problem of incursion into the NPA by outsiders is likely to occur in those areas where there are no villages adjacent to the boundary. In these areas, protection will be the sole responsibility of the protected area authorities.

Section 1.4.2. describes how potential PIZ villages have been identified. These are located not, only in Nakai, but also in Khamkeut, Gnomalart and Boulapha Districts (Table 1.6).

2.7.1: Prioritisation of Support to PIZ Villages

Given the need for rapid but effective action and the limited resources available to the WMPA, some means of prioritising and setting the type and level of activities in each is required. A two-pronged approach has been adopted in this respect based on (i) geographical location in relation to the NPA and (ii) the level and type of threat posed by each village.

2.7.1.1 Geographical Location of PIZ Villages

The initial criterion to be used to determine a village’s role in NPA management and the level and type of support it will receive is its location (and its boundaries) in relation to the NPA. Four general types of villages can be defined, one within the NPA and three in the PIZ, as shown in Table 2.11.

Table 2.11: Stakeholder village types in the NPA and PIZ.

Category	Village type	Description
NPA Villages	Type 1	Villages located totally within the NPA. Often termed ‘enclave’ villages, their location suggests that they will have a major impact upon, and role in the NPA management.
PIZ Villages	Type 2	Villages whose ‘boundaries’ overlap those of the NPA. In this village type, the actual dwellings are usually located outside the NPA, but some village forests and even agricultural lands are located partly within the NPA boundaries.
	Type 3	Villages adjacent to the NPA. In this case the village and the NPA share a common boundary, often because a significant geographical feature such as a mountain ridge or a river defines both boundaries.
	Type 4	Villages distant from, but ‘using’ the NPA. Although these village types do not overlap or share a common border with the NPA and may be some distance from it, villagers regularly enter the NPA and have impacts on its natural resource base. They thus have a stake in NPA management.

Analysis of village type enables a process of prioritisation and level of support. In general, type 1 villages will rate as highest priority by the WMPA and be supported with the full FLUPAM package (See Section

2.2). Type 2 and 3 villages will receive support for land use planning in areas within and abutting on to the NPA, while type 4 villages will not normally conduct land use planning. All village types will be eligible for LDC and PPAM activities, consistent with the level and type of threat that their current practices pose to the NPA.

2.7.1.2 Level and Type of Threat Posed by PIZ Villages

The WMPA has undertaken a broad survey and inventory in PIZ villages to assess their social and economic status and the level and type of threat posed to the NPA by each community. The survey is described in Section 1.4.2, and its findings are summarised in Sections 3.4.4 (ethnicity) and 3.5.5 (socio-economic status). SEMFOP intervention priorities will be established according to the level of threat posed by each village and resources allocated and programs initiated accordingly. The precise nature of the programs in each village will vary depending on local conditions and the type of threat posed to the NPA, but the overall program will be essentially the same although usually less intensive than that for NPA villages.

2.7.2: PIZ Village Support Strategy

Although the SEMFOP strategy in regard to PIZ villages is similar in all respects to that for enclave villages (Sections 2.1 - 2.6), the level and nature of WMPA support will be dependant on the specific threats posed to the NPA by each individual PIZ village (Table 2.12). The WMPA will undertake support in the PIZ to ensure that PIZ development is compatible with and conducive to the effective management of the NT2 Watershed/NPA, with sustainable protection as the principle objective. The strategy here is two-fold:

1. To raise awareness in PIZ communities of the importance of the NPA, create incentives for their cooperation, and provide them with support to reduce their reliance on the unsustainable extraction of NPA resources. This will be achieved through public awareness and education programs, and also by the provision of assistance for alternative livelihood systems to replace currently destructive activities. Village Conservation Monitoring Units will also be established, where appropriate.
2. Through a participatory partnership approach, promote PIZ communities as 'gatekeepers' to create a surrounding buffer against the external and usually more pervasive elements who enter the NPA from further afield.

A partnership with relevant district authorities is being developed through ongoing discussions on appropriate mechanisms for cost sharing and capacity development to enable districts to begin to play a lead role in the PIZ. Budget has been allocated under SEMFOP for livelihood development activities specifically targeting alternatives to any current villager practices which negatively impact on the NPA. These will be planned and implemented as part of the FLUPAM process in the PIZ, and WMPA's pledge that development support will be at least equal in value to resource uses forgone under the VFLMA (see Section 2.2.7) also applies to all PIZ villages. In addition to these funding pledges, the WMPA will actively seek additional funding and assistance for PIZ development from other donors, as appropriate.

This partnership approach with district authorities in the PIZ was adopted for two major reasons. Firstly, through partnering, the WMPA will be able to ensure the improved targeting of district development budgets and ensure that activities are in line with SEMFOP's conservation objectives. Secondly, if the WMPA proposed to manage and lead the entire PIZ program, it is likely that district authorities would divert their own resources to other non-PIZ villages in the district, thus effectively withdrawing district support for PIZ communities.

Table 2.12: Indicative activities in NPA and PIZ by village category.

Nature of support	Type 1 Village	Type 2 Village	Type 3 Village	Type 4 Village
Forest and land use planning, allocation and management	Full LUP package with TPZ/CUZ zonation after a period of testing	Full LUP package with TPZ/CUZ zonation in NPA areas	LUP package based on level of threat posed to NPA	In most cases, LUP will be the responsibility of district authorities
Participatory protected area management	Conservation agreements CUZ/TPZ zonation VCMU establishment Conservation networks	Conservation agreements in NPA Zonation in NPA VCMU if desirable Checkpoints at NPA boundary	Conservation agreements for NPA resource extraction Checkpoints at NPA boundary	Conservation agreements for NPA resource extraction
Livelihood development for conservation	High intensity Alternatives for all destructive livelihood activities	High-med intensity Alternatives for destructive livelihood activities in NPA	Medium intensity Selective alternatives based on threat to NPA	Lower intensity Selective alternatives based on threat to NPA
Community and social development	Health Demographic mgt. Education Infrastructure Appropriate access	Community strengthening Public awareness Education (as app.) Demographic mgt.	Community strengthening Public awareness Education (as app.) Demographic mgt.	Community strengthening Public awareness
Public consultation	Full public consultation	Full public consultation	Full public consultation	Full public consultation
Partnership with district authorities	Partnership led by WMPA	Equal partnership with WMPA and district authorities	Partnership led by district authorities	Partnership led by district authorities