

# 3. Protected areas and development: Lessons from the Lao People's Democratic Republic

## 3.1 Overview

The biogeographical coverage of the Lao PDR protected area system is amongst the most comprehensive in the world. This, coupled with the government's progressive policy of participatory management, is a notable achievement for one of the world's 'Least Developed Countries' and a foundation of great promise for biodiversity conservation and national development in the country. The challenge now is to move from promise to practice.

The system of National Protected Areas (NPAs<sup>16</sup>) is new, having been decreed only in 1993, with two other areas added later for a total of 20 (Map 2). The NPA system covers around 14 percent of land area, which together with protected areas established at provincial and local level, covers more than 20 percent of the country. The NPA system was created on two foundations:

1. The government's commitment to forest conservation, especially as expressed in the Tropical Forestry Action Plan of 1990; and,
2. Sound biogeographical analysis as the scientific basis for the overall system design and site selection criteria.

Specifically, the system's design goal was to "provide effective protection to 5-20 percent of the original area of each habitat type within each biogeographical sub-unit" in the country. While the area under nominal protection is large, in reality all NPAs are multiple use areas (IUCN Category VI).

Lao PDR's biodiversity significance has become increasingly important since systematic field investigation began in the early 1990's, with the discovery of several new mammal species of major international interest, but also with the detailed compilation of faunal lists and a comprehensive status document

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<sup>16</sup> Formerly termed NBCA – National Biodiversity Conservation Area

(Duckworth et al. 1999). However, much still needs to be learned about the biodiversity especially the flora, invertebrates and small mammals. Most of the recent work has been undertaken in NPAs.

The Lao NPA system has developed within one of Asia's poorest and least populated nations. The current population is about 5.2 million at a density of 22 people per km<sup>2</sup>, but growing at about 2.8 percent annually. In 1999, Lao PDR ranked 140th of 174 countries on the UN Human Development Index that combines *per capita* income, literacy and life expectancy. In this situation, the government's domestic resources for NPA management, both technical and financial, remain critically low.

With low economic diversification, Lao PDR has to rely on its natural capital (especially timber, hydropower and NTFPs) to support national development and the livelihood of its people. This reliance is accentuated by the demands of the nation's natural resource-hungry neighbours, and together they are creating significant and insidious pressure on the NPAs, pressure which the current management framework of NPAs combined with an evolving policy and regulatory environment, is struggling to manage effectively.

This chapter describes a series of lessons – in terms of **Achievements** and **Challenges** – of PAs, their management and their role in national and community development in the Lao PDR.

## 3.2 The national development context

### 3.2.1 Background

With an estimated per capita income of US\$320 in 1998, Lao PDR is one of the poorest and least developed countries in the South East Asia region. Landlocked Lao PDR covers 236,800 square kilometres with a population of 5.2 million growing at 2.8 percent per annum. Social indicators in the Lao PDR are among the lowest in the region, and closer to the average for sub-Saharan Africa. Despite very limited arable land (3.3 percent of land area), agriculture remains the major sector of the economy, contributing 53 percent of GDP and employing over 80 percent of the labour force. Although half of Lao PDR's forests are extremely degraded, the country retains approximately 80 percent forest cover and this sustains a remarkable availability of renewable water resources – 60,400 m<sup>3</sup>/yr/capita (compare to Thailand and Vietnam with 2,000 and 5,400 m<sup>3</sup>/yr/capita, respectively).

Since the introduction of reforms under the New Economic Mechanism (NEM) in 1986, the Government has been transforming the economy from a centrally planned to a market-oriented system. GDP growth averaged 7 percent between 1992 and 1997, giving the Government hope that it would reach the goal of graduating from the ranks of the Least Developed Countries by the year 2020. Since 1997, however, the reform effort has slowed significantly and the macroeconomic environment worsened considerably, with inflation climbing to triple-digits and exchange rate depreciation reaching alarming levels. The regional financial crisis provided the initial trigger for the macroeconomic crisis in the Lao PDR, however, weak macroeconomic management was compounded by lengthy consensus building in the decision-making process, rendering it difficult to react quickly to the macroeconomic realities (World Bank 2002).

## 3.3 Protected area institutional development and management

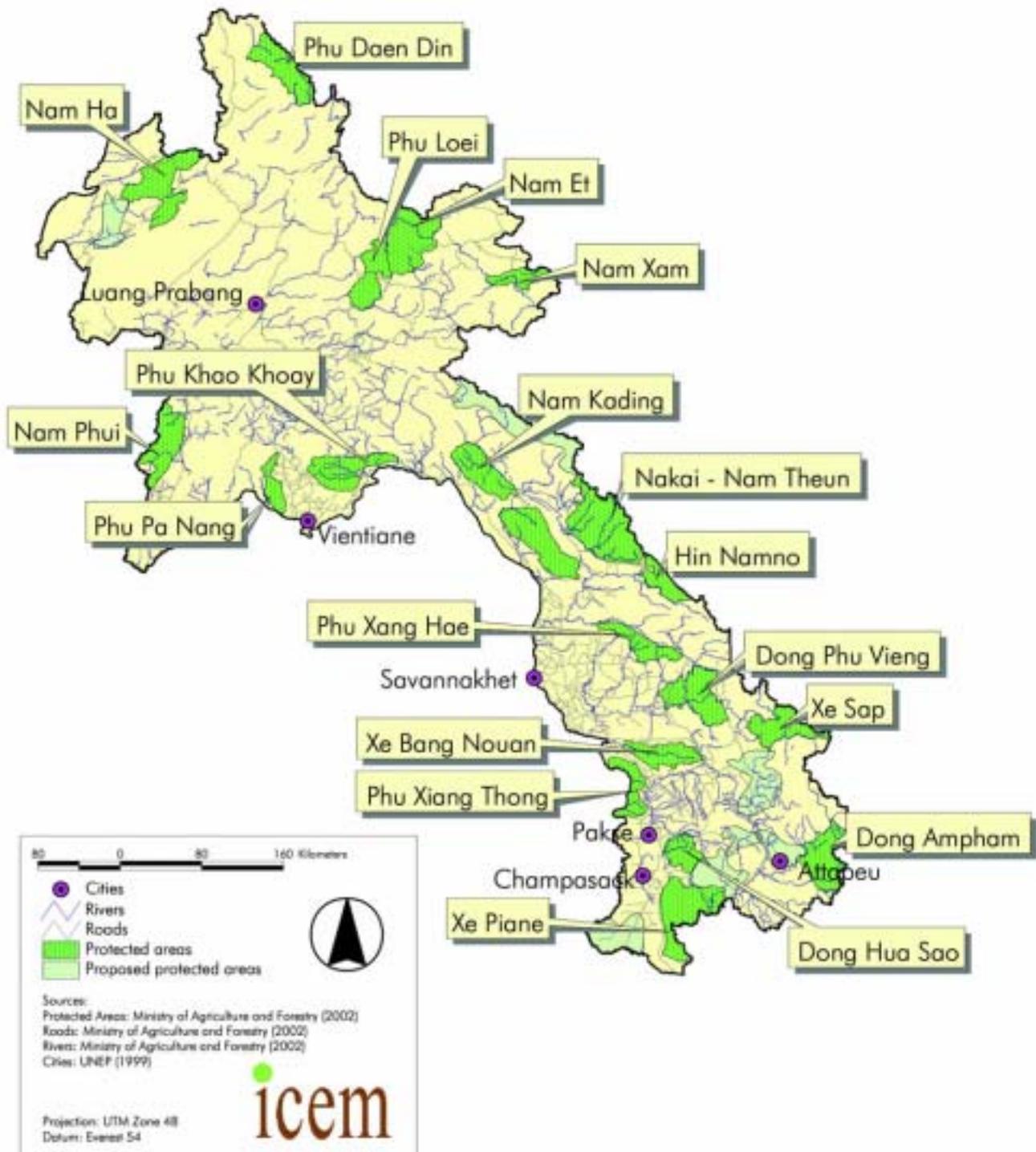
### 3.3.1 Institutional development

The founding of Lao PDR's NPAs is recent with its origin less than 15 years ago and legal establishment only in 1993. Even more recent has been the establishment of PAs at provincial and district level.

#### **Achievement:**

**Lao PDR has established an extensive set of National Protected Areas designed as an integrated system on sound scientific principles.** The establishment of the NPA system has been cited as an exemplary international model (Box 1).

Map 2. Lao PDR's protected area system



### Box 1. Highly regarded components of the Lao PDR National Protected Areas system

#### ***A scientifically designed protected area system.***

A commonly cited weakness of protected areas around the world is the ad hoc manner in which they were established, with little attention to principles of conservation biology. In this, Lao PDR's NPA system is unrivalled in the region and, indeed, by few countries in the world. Only wetlands and lowland forest might be considered under-represented in the current system.

#### ***An appropriate commitment of area***

IUCN has recommended that nations designate 10 percent of their land as biodiversity conservation areas (McNeely and Miller 1983). Lao PDR has achieved and exceeded that target. What remains to be decided is the proportion designated<sup>17</sup> as 'fully protected' (i.e. core areas) as opposed to 'managed' (i.e. multiple use zones)

#### ***A sound information base***

Starting from a virtual absence of information about the NPAs, in the 1990s, GoL has guided an impressive collection of information on biodiversity. Most of it was compiled under the auspices of DoF into the landmark publication *Wildlife in Lao PDR: Status Report 1999* (Duckworth et al. 1999). The work documents the status and conservation recommendations for every vertebrate, excluding fish, ever known to have occurred in Lao PDR. No summary of similar comprehensiveness exists for any other Mekong country. While information gaps remain (especially in botanical and invertebrate knowledge), in a very short time Lao PDR has built an excellent information base for management planning and management

#### ***Legislation***

Establishment of NPAs has been through Decree, while the Forestry Law 1996 and recently instituted regulations (2001) provide management direction.

#### ***Management implementation***

Management projects have been undertaken in most NPAs

### 3.3.2 *Issues constraining the contribution of protected areas to national development*

In spite of the impressive achievements in the institutional establishment of the NPA system and other PAs, there remain a variety of pressing challenges and issues in realising the conservation potential of Lao PDR's PAs for both national development and the benefit of local communities. Box 2 provides an overview of the principal management issues.

Despite significant management and administrative constraints and a very difficult macroeconomic setting, in the short period since the NPA system was established, Lao PDR has managed to increase its PA system through the addition of two NPAs and a significant number of provincial and district protected areas.

#### **Achievement:**

**Despite being one of the world's least developed countries, and despite highly complex and adverse economic and administrative conditions at both the national and provincial level, Lao PDR has managed to increase the number of NPAs, and continues to establish provincial and district PAs.**

Realising both the conservation and development potential of PAs will require the establishment of an appropriate policy and regulatory framework which is applicable at the national, provincial and district levels.

<sup>17</sup> As defined in MAF regulations 0524 of June 2001

## Box 2. NPA management issues

**Management pressures:** NPAs are under diverse and in some cases critical pressure, there is a pervasive feeling that Lao forests are becoming increasingly “empty” and simplified systems.

Important issues are:

- Habitat degradation:
  - o Infrastructure development (hydropower, roads);
  - o Community growth and aspirations for economic improvement;
  - o Unsustainable agricultural activities (pioneering swidden; cash crops);
  - o Livestock grazing;
- Resource Exploitation:
  - o NTFP collection
  - o Hunting and Fishing,
  - o Timber extraction.

For an example of methods, ranking and detail on threats see Johnson 2000.

**Management effectiveness:** Management is absent or ineffective. A recent analysis based on an established methodology revealed a low level of management progress (Robichaud et al. 2001).

**Capacity and resources:** Lao PDR has major problems mobilising resources both technical and financial for NPA management. In certain cases it has been difficult for GoL even to match national requirements of donor assisted projects, let alone establish new management initiatives. Not surprisingly this is generally related to the resources available to one of the poorest countries in the world. A fundamental lack of trained personnel in Lao PDR is not confined to PA management but is reflected in all sectors of middle and upper levels of technical management. Donors have generally focused on the provision of capacity raising and training, but the results have been mixed. On the completion of many projects, trained personnel have been transferred elsewhere and assigned different duties.

**Participatory management and benefit sharing:** Enabling communities to participate in and benefit from natural resource management in and around NPAs is an objective in line with GoL's natural resource and NPA management. This policy has been incorporated into many of the current or recently completed biodiversity conservation and NPA management projects. However, none have shown real signs of creating a viable and sustainable participatory management situation in the absence of the project, and GoL's commitment to participatory natural resource management and benefit sharing remains somewhat unclear in practice (FOMACOP 2000).

### 3.4 Policy

#### Achievement:

**At the outset, the Government of Lao PDR founded NPAs on a progressive vision to involve rather than exclude or marginalise local stakeholders.** The vision remains a major strength of the NPA system, however, implementing the vision is proving difficult in practice. A weak and apparently changing policy commitment to NPA management has hindered implementation, with the current policy on NPA management, specifically internationally funded projects, appearing to emphasise rural development in the conventional sense, to the detriment of biodiversity conservation interests. Currently, NPAs are in danger of losing their envisaged role for conservation of biodiversity and ecosystem values and the long term economic benefits they bring. For example while there are a plethora of ‘community development’

interventions documented and implemented, there is not a single national recovery plan for species determined to be under serious threat of local and global extinction.

**Challenge:**

**There is a need to formulate a policy environment for PA management which combines enhancement of conservation values with improved community livelihoods.**

3.4.1 *Legislation*

**Achievement:**

**Lao PDR enacted the Forestry Law in 1996 and a set of NPA regulations (2001).** However, there remains considerable confusion relating to practical PA management requirements, and especially in the interpretation of the roles and rights of local communities.

**Challenge:**

**To rectify remaining legislative and regulatory uncertainties which hinder NPA management at the field and community level.**

3.4.2 *Enforcement*

Enforcement of laws and regulations, whether at the national or local community level, will always be a feature of PA management. A variety of enforcement agents for PA management exist or have been trialled either singly or in combination (more widespread), including those of the military (Phou Khao Khouay, Nam Phoui); state-owned enterprises (Nakai Nam Theun); village militia and guardian villages (Nakai Nam Theun, Dong Hua Sao, Phou Xiang Thong) provincial administration and district administration. None of these models have proved overwhelmingly successful probably due more to lack of a clear legislative framework and resources than to the agencies involved.

**Achievement:**

**A variety of enforcement measures exist or have been piloted in NPAs in a process of identifying the most appropriate methods or combination of methods.** Currently the lack of a practical policy and regulatory framework, the small staff numbers with inadequate training and uncertain authority amongst their provincial peers, result in a very weak framework for preventing abuses of NPA natural resources.

These factors together with the difficult macroeconomic situation in Lao PDR since the South East Asian economic crisis and administrative changes with decentralisation have worked against GoL commitment for NPA management, especially the enforcement of laws and regulations.

**Challenge:**

**There is a need to provide the necessary commitment, resources and empowerment for the enforcement of NPA legislation and regulations.**

3.4.3 *National protected areas, hunting and cross border issues*

Twelve of Lao PDR's twenty NPAs have an international border, and cross border issues are a major management concern. Three of Lao's international neighbours have populations over 10 times that of Lao PDR and a comparatively impoverished natural resource base. The pressure on Lao PDR's remaining natural resources from cross border exploitation, both legal and illegal is very severe.

Hunting and NTFP collection has a long cultural history, but the recent economic reforms and conditions have stimulated widespread trade in wildlife products and much of this is destined for cross border markets.

**Achievement:**

**Lao PDR has been proactive in cross border conservation initiatives.** In the past decade there has been much international promotion of trans border conservation initiatives, recognising that biodiversity “carries no passport” and international borders often split important ecosystems. The cross border pressures on Lao wildlife has led to several initiatives to address the issue including the WWF LINC project (Box 3) and Lao Swedish Forestry Program supported conservation authority exchange visits.

**NTFP and wildlife trade:** Hunting and NTFP collection are very well-developed traditional activities for most Lao rural communities and are important for food security and subsistence needs. Given Lao PDR's low population density, it is unlikely that traditional uses have had significant impact on all but a few species and then in relatively small areas. However, hunting and NTFP collection for trade has vastly different implications and is responsible for a very serious escalation in the pressure on wildlife and degradation of natural systems. This degradation of terrestrial and aquatic systems has a long term retarding impact on economic development in the areas concerned.

There seem to be very few vertebrates that do not have some value for trade, be it for food or medicine. Increased economic activity in rural Lao PDR since the introduction of the New Economic Mechanism in 1985 has stimulated the trade, and improved access has enabled more remote communities to participate in the trade. Of concern too is the increasing demand for “wild meat” by well-off urban residents. The demand may actually increase as income-levels rise.

**Cross-border demand:** The overwhelming majority of wildlife trade in Lao PDR is driven by the demand of wildlife products from outside the country, from destinations such as China, Thailand, Vietnam, Japan and Korea (Nooren and Claridge 2001). Consequently, the problem tends to be most severe in NPAs near Lao's international borders. Most of the twelve NPAs with an international border have no border demarcation or protection.

Proximity to a border facilitates moving the animals out of the country and it also allows direct poaching by foreigners who cross the border on forest trails. Field surveys in the Nakai Nam Theun NPA close to the border show that very large numbers of foreigners habitually hunt, trap and collect inside Lao territory. Control of this threat is currently the greatest challenge in the area. Of great concern is that many border villages obtain most of their purchased or bartered essentials from itinerant traders from across the border and so are in a position of dependence. The special relationship between Lao PDR and some of its neighbours makes it very difficult to vigorously enforce wildlife protection laws. However, for border NPAs, this is a serious and neglected issue that is undermining conservation and subsistence livelihoods and beginning to have wider negative economic effects.

**Cross-border conservation initiatives:** WWF has made significant contributions to fostering transborder conservation cooperation between Lao PDR and Vietnam. However, this has not proved to be as successful as had been anticipated (Box 3).

**Challenge:**

**Wildlife-NTFP trade from NPAs is mainly destined for cross-border markets.** This is a serious and under-appreciated issue with potential to acutely degrade NPA biodiversity values and integrity and the contributions they make to the economy.

### Box 3. The WWF Transboundary LINC Project

Transboundary conservation encourages land management at scales that follow ecological boundaries rather than political ones.

“Linking Hin Namno National Protected Areas, Lao PDR and Phong Nha Nature Reserve, Vietnam through Parallel Conservation” (LINC), was a transboundary conservation project with the goals to conserve biodiversity and to improve the livelihood of forest dependent communities through sustainable use of natural resources.

The idea of transborder cooperation is commendable, but reality can prove more difficult. We caution that until Lao PDR can organize effective protected area management on its own side of the border, adding the complexity and burden of transborder cooperation may only slow conservation progress in its NPAs.

*Source: Sharon London. WWF Project Officer, in Robichaud 2001*

## 3.5 Protected areas and the planning framework

### 3.5.1 Decentralisation

Lao PDR's export earnings are highly dependent upon the natural resource base of the country (especially forestry and hydropower). The pressure to exploit those resources has increased particularly with the conditions of increased economic hardship that have affected Lao PDR since 1998. The provinces have been particularly hard hit and have necessarily focused more attention on their forest reserves as a source of revenue. A large proportion of Lao PDR's quality forest is in NPAs. In recent years there have been some well-publicised instances of logging in NPAs which is illegal, and of greater concern, an apparent increasing interest in enabling such logging legally. Such issues have arisen during a period of administrative adjustments accompanying decentralisation.

In line with moves to reform a centralised economy, Lao PDR has pursued a policy of increasing autonomy of decision-making, especially in land use planning and natural resource management including NPA management. The attempts at decentralisation in the late 1980s caused major problems for the economy and were reversed in the early 1990s. In 1998 decentralisation policies were again introduced and accompanied by significant changes in Forestry and NPA administration with the provinces assuming much greater responsibility. The process of decentralisation is on-going and combined with the adverse economic situation and widespread deficiencies in provincial technical expertise has created a very challenging environment for NPA management.

#### **Achievement:**

**GoLs decentralisation of natural resource management responsibilities from the centre to the provinces has enabled far greater local input into NPA administration.** Decentralisation has moved the planning and management focus from the central level closer to NPAs themselves which can have very positive implications provided there is adequate institutional structure at the local level, as well as commitment and technical and financial resources. Yet, decentralisation and local empowerment is not a guarantee for environmental stewardship. In fact natural resource degradation can increase.<sup>18</sup> In practice, it has meant that the lowest level of government - the village, may become responsible for implementation of

<sup>18</sup> “Devolution of power to the local level has increased pressure on forests in view of the income, employment and revenue needs of local government and their constituents” (World Bank 2000 – Assessment of the World Bank's 1991 Forest Strategy).

NPA plans – this is not a practical proposition in many respects. Enforcement is one challenge. Villagers cannot arrest anyone from outside their own village and so cannot curtail poaching or NTFP collection by outsiders or cross border groups.

**Challenge:**

**There is a need to ensure that decentralised responsibility for NPA management is accompanied by sufficient resources and commitment to local implementation.**

3.5.2 *Protected areas and national and provincial planning*

Currently only two values – biodiversity conservation and watershed protection are widely attributed to NPAs. The many other PA local and national development values are not recognised. Consequently, macro-economic policies and development regularly impact on NPAs, with hydropower and road construction being two of the most significant economic sectors affecting protected areas (Box 4). Lack of resources, both technical and economic, have prevented the development of an effective national environmental management capacity, although both hydropower and road sectors have relatively advanced environmental assessment procedures.

**Achievement:**

**GoL has developed specific environmental management initiatives for hydropower (Environmental Standards<sup>19</sup>) and road construction (Environmental Management Unit in the Department of Roads).** Coordinated cross-sectoral development planning remains poorly established at the national, and especially at the provincial level. New development activity is usually considered on an *ad hoc* basis with biodiversity and protected area values often ignored or undervalued. Given the broad values of both PA resources and the ecological processes that occur within them for national, regional and local development (water, energy, genetic resources, NTFPs, timber, tourism, etc.), conservation areas could be the catalyst for generating cross-sectoral planning processes. For example, in Khammouane Province almost 40 percent of the land area has been declared NPA (in addition there are provincial conservation areas), which means that conservation and natural resource management should be a critical factor in provincial development planning.

Decentralisation of government responsibilities will require considerable institutional development at the provincial level to enable NPA management to be integrated into wider regional planning. Currently cross-sectoral planning is dominated by political and food security issues which override issues of sustainable resource use. Achieving integrated cross-sectoral planning is a process requiring time, capacity and resources and a significant change in attitude concerning what are 'productive' and 'non-productive' sectors.

**Challenge:**

**There is a need to develop a provincial planning capability which fully appreciates NPA development values, and which integrates these with the 'productive' economic sectors, such as road infrastructure, agriculture and logging.**

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<sup>19</sup> The Hydropower Office, Ministry of Industry & Handicraft recently produced three significant documents: Environmental Policy; Environmental Impact Assessment Standard and Environmental Management Plan Standard.

#### Box 4. Some macro-planning Issues of major significance for NPAs

**Hydropower:** Four large hydropower projects operating or in advanced stages of planning impact directly on NPAs. At least eight other hydropower projects are planned with the potential to directly affect NPAs. Dams can cause major habitat and ecosystem losses through inundation as well as damage from land clearing for transmission lines. While the direct impacts to NPAs from dams can be considerable, it is often the indirect impacts causing the greatest damage, including altered water flows, roads, logging, migration of people, increased hunting and NTFP collection and an increased requirement for settlements and agricultural land.

**Road Construction:** Lao PDR has a rudimentary road infrastructure and has major plans to upgrade the overall road network. In spite of overwhelming experience of the problems of new roads within or adjacent to PAs worldwide and in Lao PDR too<sup>20</sup>, road construction remains a favoured symbol of development for government, especially local authorities. However, roads in PAs:

- encourage clearings and habitation along the road;
- enable and promote exploitation of natural resources especially timber, wildlife and minor forest products;
- promote the cash economy, usually at the expense of natural resources;
- promote exploitation of local residents by outsiders;
- are usually poorly constructed and maintained which increases sediment-laden runoff and favours use by outsiders with heavy equipment; and,
- are expensive to maintain.

#### 3.5.3 Capacity

Lao PDR is faced with a lack of skilled manpower but also the ability to utilise the skills of trained personnel efficiently.

#### Achievement:

**Lao PDR has a small but increasing well-trained cadre of conservation professionals for conservation and PA management.** With donor support the Government has put considerable effort into raising the capacity of individuals and institutions for NPA management. This is demonstrated by the production of a detailed training needs analysis (DoF 1998) and comprehensive manual for PA management tailored to Lao conditions (DoF 2000).

A profound lack of trained personnel in Lao PDR is not confined to PA management but is present in all sectors of middle and upper levels of technical management. It reflects Lao PDR's recent history and socio-economic status. However, the process of capacity raising has had to contend with larger GoL decentralisation policies. In 1999, the original organisation with PA management expertise, the Centre for Protected Areas and Watershed Management was "upgraded" to become the Division of Forest Resource Conservation as part of a ministerial reorganisation and decentralisation.

#### Challenge:

**Government needs to retain and most effectively utilise its trained conservation professionals.**

During this process of reorganisation and decentralisation, the number of staff within the new division was

<sup>20</sup> "In the Namtha district, 25 villages and settlements are within the area indicated as (Nam Ha) NPA. Most of the villages are new and have followed the roads made by logging companies or the roads between the districts. Some of the villages are old and have big areas. They are able to have a sustainable way of shifting cultivation. New villages are more destructive to the environment." (Dobbelsteijn 2000).

drastically cut with their transfer to the provinces – not all to take on NPA or biodiversity management roles. This has compromised core NPA management ability at the central level, with doubtful gains at the provincial level because of the dispersion of technical skills.

### 3.6 Development benefits from protected areas

As noted earlier currently only two values – biodiversity conservation and watershed protection are widely attributed to NPAs, while their many other values are either little-appreciated or ignored.

#### 3.6.1 *Protected areas - hydropower development benefits*

With a water resource of 60,400 m<sup>3</sup>/yr/capita and a highly dissected topography, hydropower potential is one of a few natural advantages that Lao PDR possesses. GoL has recognised the potential for some hydropower schemes and PAs to be mutually supportive through the use of a small part of the PA for hydropower storage in exchange for some of the dam revenues going to conservation management. Given Lao PDR's lack of resources, hydropower levies provide an attractive source of funds for PA management and GoL has pioneered this approach in the region. Hydropower revenues can provide major benefits for overall management of the NPA system while ensuring direct benefits to local communities.

#### **Achievement:**

**GoL has pioneered the use of a hydropower levy for PA management.** One hydropower plant is already providing funds and another is committed to doing so:

- The Nam Leuk scheme in Phou Khao Khouay NPA currently provides 1 percent of income from power sales to Thailand to assist PA management.
- The proposed NT2 hydropower project will provide US\$1million each year for management and associated community development activities of the Nakai – Nam Theun NPA.

However, both examples have been criticised for different reasons. The Nam Leuk levy is reported to be retained by the power company and spent at its discretion, and is not passed to the Phou Khao Khouay NPA authority for use according to an official NPA management plan. In respect to NT2, a levy of US \$1 million per year seems quite large, but it represents less than 0.5 percent of the projected annual power sales. Because of the significant needs for management of the NNT NPA (which includes a very porous 175 km international border) and communities of the water catchment, a higher hydropower levy, such as the 2-5 percent of sales which exist in other countries, would be more appropriate. An important issue in this respect is how the levy will be spent – purely for NPA management requirements, to support community development, a combination of both or on other local government needs.

#### **Challenge:**

**PA hydropower levies need to be sufficient for the PA management requirements and their use clearly defined.**

#### 3.6.2 *Protected areas - ecotourism development benefits*

Lao PDR's PA system encompasses spectacular scenery, important biodiversity and a remarkable ethnic diversity of local communities, all with major potential for ecotourism. Tourism revenue can assist local community development as well as provide for PA management and GoL is strongly promoting nature based tourism development.

**Achievement:**

**GoL is actively promoting the potential of the NPA system for ecotourism development and its benefits for rural communities and as a source of funds for PA management.** There are several ecotourism developments planned or in operation:

- Nam Ha PA – a successful ecotourism project sponsored by UNESCO is now in its 3rd year. Last year revenue was over \$20,000 and the venture won a prestigious international ecotourism award;
- Other smaller ecotourism ventures are operating or about to commence in Phou Khao Khouay, Phu Xang He, Xe Pian and Phou Hin Poun NPAs.

One issue requiring constant vigilance with ecotourism operations in PAs or wherever unsophisticated rural communities are involved is to ensure that benefits to participating communities and the PA authorities are maximised. Tourism has a deservedly poor reputation for transferring benefits away from the local communities affected.

**Challenge:**

**There is a need to ensure that the expansion of PA ecotourism development maximises benefits to local communities and PA authorities, and minimises negative impacts on the conservation values of PAs.**

### 3.6.3 *Protected areas - NTFP development benefits*

For rural communities NTFPs are the most important products from the forest. A rural Lao PDR community family consumes the equivalent of US\$ 280/yr in NTFPs including fuelwood. Extrapolated to the country's 800,000 rural families depending on NTFPs, this amounts to US\$ 224 million or 40 percent of total rural income (Foopes, J. and S. Ketphanh 2001; World Bank 2001).

The value of NTFPs to the 81 village communities of the Nam Et-Phou Loey PA in Vienthong District, is US\$1.88 million/yr of which about 30 percent is cash income and the remainder used for subsistence (ICEM 2003). The sale of NTFPs is crucial to the family economy, especially the poorer community members and in 2003, accounted for between 41-76 percent of average family income in Nakai.

Recent work on NTFPs in PAs in several parts of Lao PDR have demonstrated quite clearly the significance of these PA products to rural communities and the contribution they make to subsistence and cash income needs. In certain situations they have a major role to play in poverty alleviation. However, what is crucial and has not been investigated is whether the levels of NTFP harvesting reported here are sustainable, or whether the levels measured to date are transitory levels of intensive, unsustainable harvesting.

PAs have potential to significantly assist the subsistence and development needs of PA-adjacent communities, but only if they are harvested at sustainable levels. Ensuring sustainable harvesting of any NTFP is a relatively sophisticated management undertaking that usually cannot be left to rural communities to undertake in isolation. Normally, assistance from the relevant authorities will be required

**Challenge:**

**There is a critical need to ensure that NTFP harvesting in specific PA zones is managed at sustainable levels.**

### 3.6.4 *Protected areas - fisheries development benefits*

Village level protected areas for fish and frogs have been very successful in improving yields and so assisting village livelihoods and development. Such PAs are well appreciated at the district and provincial level but receive minimal encouragement and assistance at the national level which gives greater priority to promoting aquaculture, than sustaining wild fisheries.

Fish and frogs are the major, sometimes the dominant component of wild-gathered foods for rural communities – over 60 percent by weight in three villages in Salavan (IUCN 2000) and similar proportion in Phou Loei - Nam Et PA communities (ICEM 2003).

In the most successful initiative of its kind, 63 villages in one district of Champassak province have introduced their own “Fish & Frog Conservation Zones” (Baird 2000). Improved yields were quickly recognised by the communities and led to the Zones being maintained and spreading to neighbouring villages. Now, Fish & Frog Conservation PAs are found in many parts of Lao PDR. They have proved to be the most immediately understandable examples of the benefits of PAs and sustainable harvesting for rural communities.

### **Challenge:**

**National programs should afford appropriate recognition and resources to local level conservation of wild fisheries through locally-adapted PA methods.**

#### *3.6.5 Integrated conservation and development, and participatory management*

PAs in many developing countries have been established and managed to the detriment of local communities. In Lao PDR the clear intent has always been for NPAs to contribute positively to the livelihoods of local communities and stakeholders with an emphasis on cooperation, rather than marginalisation, confrontation or resettlement.

### **Achievements:**

**The management direction for the NPAs has been founded on a progressive vision of benefit-sharing and cooperation and involvement of local stakeholders.** While the vision has been clear, achieving the vision through implementing policies and management has proved difficult. Without clear precedents worldwide and with acute resource constraints there has been only minor progress in establishing effective management.

Traditionally governments considered conservation and development as separate entities, to be planned and managed exclusively. It is now widely accepted that development projects need to consider their environmental consequences and conservation projects are most likely to be effective if considering the needs of local people, and/or empowering them with some management responsibility (Sutherland 2000). The first NPA projects in Lao PDR (with GEF and bilateral donor support) were amongst the first in the world to completely embrace these concepts, now generally termed Integrated Conservation and Development Projects (ICDP). Important amongst these were the:

- Forest Management and Conservation Program (funded by the World Bank – GEF) which operated in four NPAs in south and central Lao PDR – Phou Hin Boun, Dong Phou Vieng, Xe Sap, Xe Pian;
- IUCN Biodiversity Conservation Project (funded by the Netherlands) which operated in two NPAs in southern Lao PDR – Dong Hua Sao, Phou Xian Thong;
- Nam Ha Ecotourism Project (funded by UNDP) which operated in the northern NPA of Nam Ha;
- Lao Swedish Forestry and ADB project in Phou Khao Khoay; and,
- Nam Et/Phou Loey NPA Project (funded by DANIDA and IUCN).

**GoL has recognised the potential of ICDP projects to meet both conservation and development goals by assisting local communities benefit from NPA establishment in return for their support and involvement in the sustainable use and protection of natural resources.** There are great expectations in the conservation community for the development of replicable ICDP models. However, these are proving elusive worldwide, and the first generation of ICDP projects in NPAs have not been successful in developing such models. The reasons for failure are diverse but there remains a widespread misconception within the Lao Government that the provision of development benefits and income substitution to

affected communities is the sole purpose of an ICDP project. The crucial linkage between development benefits and conservation improvements has been much more difficult to promote. Establishing those linkages involves a process of building understanding and confidence between the conservation authorities and the communities. Supplying economic benefits alone has done little more than raise expectations and has not engendered a sustainable ICDP process. Box 5 summarises lessons learned from one of the most intensively reviewed projects.

### **Box 5. Lessons Learned – the Forest Management and Conservation Program**

Preparation of a World Bank-funded forest management project began in 1991, following the development of GOL's Tropical Forestry Action Plan. At that time, a "Wildlife and Protected Areas Conservation Project," to be funded by the Global Environment Facility (GEF), was appraised. Subsequently, a decision was made to combine the two projects into the Forest Management and Conservation Program (FOMACOP). The project commenced in June 1995, worked in four NPAs and was concluded in September 2000. The Project Review provided the following "Lessons Learned" (FOMACOP 2000).

1. Combining two significantly different components, i) Biodiversity Conservation, and ii) Forest Management proved a mistake;
2. Great attention in project design needs to be given to clear and unambiguous objectives;
3. Where a flexible process-oriented approach is required, as in ICDPs, project design must make structured allowance for reformulation of sub-objectives and outcomes;
4. Projects should not be designed with direct reference and apparent linkage to unconfirmed future funding;
5. If a project involves the drawing up and adoption of Government policy and legal framework, project formulation needs to include resources to assist this process and milestones which will reflect on-going government commitment;
6. National execution of an NPA ICDP project may be very inflexible and inefficient. Independently executed projects are likely to be more suitable for the complexities of ICDP processes.
7. In piloting ICDP processes, less attention should be paid to the academic and philosophic intricacies of ICDP conceptual models and more attention be paid to winning the confidence of community and local government through a limited number of short-term ICDP initiatives;
8. Much greater awareness of the needs of, and need for, biodiversity conservation is required at both the government and community level.

Following the regional financial crisis when Lao PDR was experiencing severe macroeconomic problems, GoL's policy appears to have hardened on the need for NPA projects, especially those with IDA assistance, to focus more on the development of affected communities than on the conservation objectives of protected areas.

There has proven to be significant difficulties inherent in Lao's current administrative system in establishing district and provincial level institutions which can foster the direct linkage between conservation and development required for successful ICDPs.

There have been some successes in co-management, such as those in the Netherlands-funded Biodiversity Conservation Project in Dong Hua Sao and Phou Xiang Thong, and the DOF-IUCN NTFP Project. But the main innovations have tended to fade with the end of the projects and to have no influence on the national system.

**Challenge:**

**There is a need to develop a sustainable ICDP process, which makes direct linkages between conservation benefits and community development.** The search for a successful and replicable ICDP model is a favoured donor approach not only in Lao but internationally. Yet, much more attention needs to be focused on developing site-specific processes and strengthening some of the conventional PA management tools, in particular legislation and enforcement.

### 3.7 Conclusions

The Government of Lao PDR has made significant progress in the formulation and implementation of conservation policies. Those policy innovations have been undertaken at a time when the country has been making major adjustments to its economy and devolving autonomy to the provinces in a bid to rise above 'Least Developed Nation' status. Lao PDR's twenty NPAs were established less than a decade ago. Some management implementation has been undertaken in fifteen NPAs even though government at all levels (central, provincial and district) faces an acute shortage of trained professionals, technicians and field staff to undertake 'on the ground' implementation. The achievement is all the more remarkable given the serious impacts the regional economic crisis had on Lao PDR for much of the latter part of this period.

NPAs face intense management pressures relating primarily to resource extraction and habitat degradation, a major component of which is cross border exploitation of wildlife and NTFPs by Lao PDR's resource-hungry neighbours.

Devolving autonomy has brought the NPA management focus from the centre to the provincial and local level. This can have very positive implications but in practice it appears to have slowed and in some cases, hindered NPA development.

At the resource-poor provincial level administration, the benefits of biodiversity and watershed protection are undervalued in relation to the traditional "productive" sectors such as agriculture, infrastructure, logging. In these circumstances integrated cross-sectoral planning is weakly developed to the detriment of PA management.

From the outset, GoL has emphasised the need for NPAs to benefit local communities and is working continuously to ensure that this policy is implemented. It has pioneered hydropower levies in the region for this purpose and pilot-level PA projects or developments have shown the major local benefits which can be obtained from sustainable NTFP harvesting, ecotourism and fisheries-frog conservation measures.

However, the practical application of the central policy tenets of Lao's NPAs - 'a net benefit for NPA affected communities and participatory management at the local level', remains the most critical and immediate NPA issue. The intent of these policies underpin the conceptual basis of integrated conservation and development projects and it is a disappointment to all concerned that the first generation of ICDPs in Lao PDR has not provided strong replicable management models for NPAs. The lack of success of these projects cannot be attributed to a single or even a few specific factors, which include a combination of internal (e.g. administrative, policy, socio-political and cultural) and external problems (e.g. project design, donor agendas and technical assistance quality).

The speed at which conservation related decrees and policies were introduced in Lao PDR may have raised unrealistic expectations in some quarters of the conservation community with regard to the speed of their application in the field. Intensive management of PAs in developed countries usually took many decades to establish with far greater resources than will be available to Lao PDR for the foreseeable future.

Despite considerable constraints, Lao PDR is steadfastly attempting to achieve its conservation objectives as a component of socio-economic development. The international community has a major responsibility to assist Lao PDR in realising these objectives and ensuring that the nation's PA system continues to bring both conservation and development benefits.

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