

# LAO PDR: USING STRATEGIC ENVIRONMENTAL VULNERABILITIES ASSESSMENT (SEVA) FOR EVALUATING THREATS TO FORESTS

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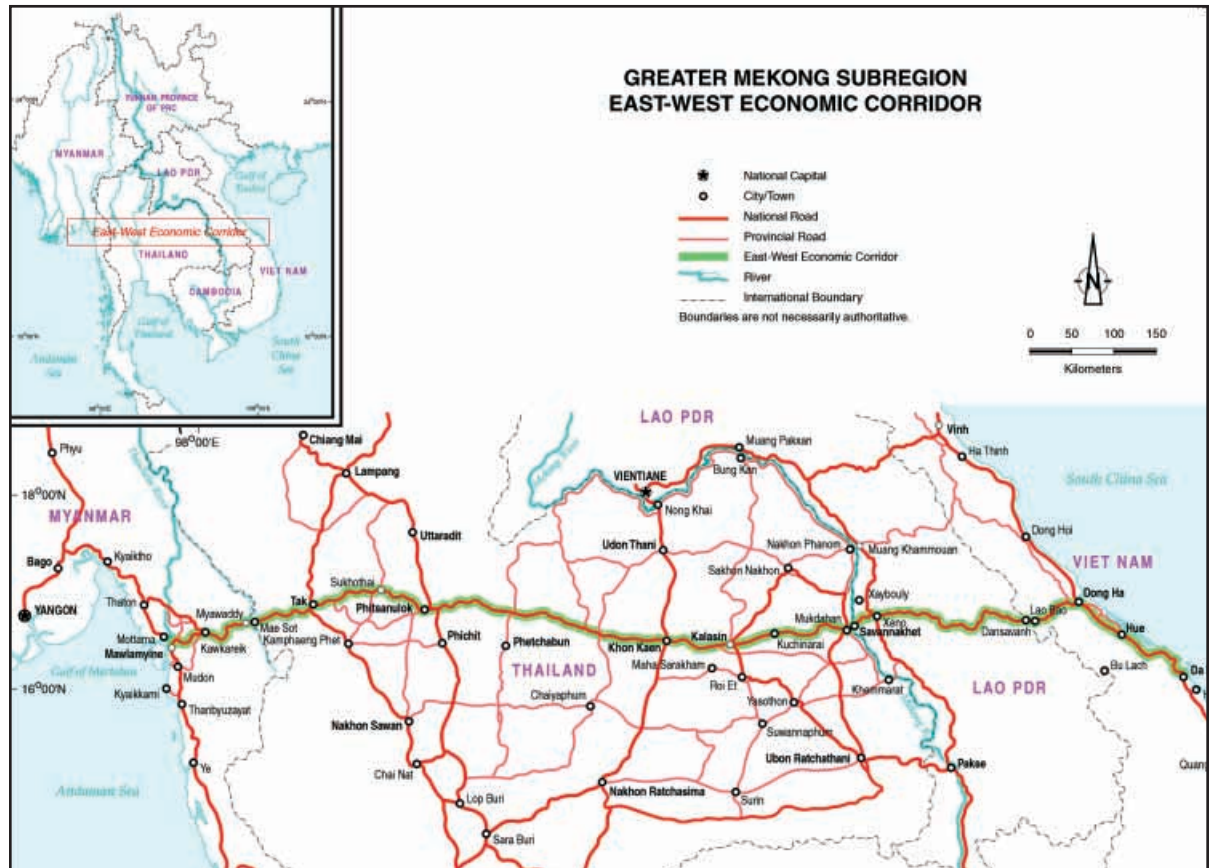
Laos PDR is a mountainous, comparatively well-forested country located in Southeast Asia. Due to its remote and land-locked geography, it has been spared the disastrous deforestation that has been the fate of other Asian countries like Thailand and the Philippines. Four ecosystems of the WWF’s Global 200 priority list lie in Laos — the Annamite Range Moist Forests, the Indochina Dry Forests, the Northern Indochina Sub-tropical Moist Forests, and the Mekong River and its catchment<sup>1</sup>. The Government of Laos (GoL) has adopted an ambitious development agenda in recent years; however, the results have not always been positive for the country’s forests and indigenous people.

The focus of this report is the impact of the Greater Mekong Sub-region (GMS) development plan on

forests and people in Laos. The GMS program consists of several large infrastructure development projects, including large hydroelectric dams, a regional power grid and regional highway infrastructure, meant to spur economic growth and trade in Southeast Asia. This assessment will examine the impacts of two GMS highway projects that traverse Laos:

- The Northern Economic Corridor (NEC) which links Chang Rai in Thailand to Kunming in China via northern Laos through Louang Namtha province
- The East-West Economic Corridor (EWEC) which traverses Myanmar, Thailand, south-central Laos (Savannakhet province) and continues on to the port city of Da Nang in Vietnam.

Figure 1: Map of the East-West Economic Corridor Project



1 Olson et al, 2000. The Global 200: A Representation Approach to Conserving the Earth’s Distinctive Ecoregions. Conservation Science Program, WWF-US. Washington, DC.

The report is intended to illustrate how a Strategic Environmental Vulnerabilities assessment (SEVA) framework<sup>2</sup> can be used to anticipate the adverse impacts of such development policies on vulnerable people and places in Louang Namtha and Savannakhet provinces, and how mitigation options can be considered prior to project implementation. The first few sections provide a detailed context for the research in Lao PDR, giving a sense of its socioeconomic situation, forest resources, national development policies and institutions. Then we present a review of the projects under consideration, and describe human and environmental vulnerabilities in the project site areas. The final sections give an assessment of project impacts and discuss recommendations.

### Socioeconomic Profile

Laos is a developing country that has recently experienced economic growth rates ranging from 5.8% in 2003 to 6.8% in 1999. The first half of 2004 saw GDP growth at about 6.5%<sup>3</sup>. A communist country, it has undergone considerable economic reform since the New Economic Mechanism (NEM) or Chin-Thanakaan-Mai was adopted in 1986 and even more since it joined the Association of Southeast Asian Nations (ASEAN) in 1997. The per capita GDP in 2002 was \$1,720 (PPP adjusted, 2002, UNDP). Subsistence agriculture accounts for half of the total GDP and provides 80% of total employment. The breakdown of GDP by sector is as follows: Agriculture 53%; Industry 23%; and Services 24% (ADB 2003<sup>4</sup>). Rice is the primary agricultural crop. Livestock, forestry and fisheries are other important sources of income.

The total population of the country is about 5.5 million, which translates to a population density of about 22 people/km<sup>2</sup>, the lowest in Asia. Laos has about 48 different ethnic groups. In 2003, about 32% of the population was living below the poverty line. About 83% of the population lives in rural areas, primarily relying on subsistence agriculture. There is a significant difference between rural and urban poverty, as well as between the upland and lowland populations, and these disparities are growing.

### The Forests of Laos

Laos possesses large forest reserves but they are increasingly under stress. In the mid-1960s forest cover was estimated at 70%; it has now declined to 41.5%<sup>5, 6</sup>. The country's forests are considered extremely valuable, both for their biological uniqueness and variety. Some of the forest types found here are: Tropical lowland evergreen rain forests; Semi-evergreen or seasonal evergreen forests; Forests on limestone; Northern dry evergreen forests; Dry Dipterocarp forests; Mixed deciduous forests; Pine forests; Lower Montane forests; Everwet Lower Montane forests; Upper Montane forests and Secondary forests, including scrublands and bamboo<sup>7</sup>.

The causes of deforestation are controversial. Without a doubt, illegal logging is the main driver. But swidden cultivation has also been held responsible for forest loss (this is the position of the Lao government and is also supported by the ADB). Other causes of deforestation include forest fires and urban growth.

The Lao government has made a commitment, on paper, to expand forested area. In fact, the MAF Forestry Strategy states that the GoL plans to restore forest cover to the level of the 1960s, i.e. back to 70% of the total land area of Laos. Most experts think this is infeasible, given the current development pressures<sup>8</sup>. Laos has made an impressive commitment to forest preservation by demarcating large swathes of conservation lands. The country has a system of National Protected Areas (NPAs) designated in 1993. There are 20 NPAs scattered throughout the country, occupying more than 3 million ha or about 12.5% of the total land area of the country. The four NPAs relevant to this case study can be seen on the map in Figure 1. These are Nam Ha in Louang Namtha province in the north and Dong Phou Vieng, Phou Xang He and Xe Bang Nouan in Savannakhet province in south-central Laos.

Several donors are involved in the forest sector in Laos, including the World Bank, the ADB, the Swedish International Development Cooperation (SIDA) and the Japanese International Cooperation Agency (JICA). Most of the donor assistance is in the form of technical expertise. Plantation forests are not yet a big issue in Laos, although they are growing in importance. Currently most of the plantation forests are small scale and tend to be eucalyptus or acacia grown for sawn wood.

2 Stedman-Edwards, 2005. Strategic Environmental Vulnerabilities Assessment: Framework Paper. WWF-MPO: Washington, D.C.

3 ADB. 2004. Asian Development Outlook 2004. New York: Oxford University Press.

4 ADB. 2003 Key Indicators of Developing Asian and Pacific Countries, 2003. Manila, Philippines.

5 The definition of forest land is land with a tree canopy cover of more than 20% and an area of more than 0.5 hectares (MAF, 2004).

6 MAF, Lao PDR. 2004. Forestry Strategy to the Year 2020 of the Lao PDR (Draft, June 3, 2004). Vientiane, Lao PDR.

7 Robichaud, William et al. 2001. Review of the National Protected Area System of Lao PDR. Lao-Swedish Forestry Programme, Department of Forestry and IUCN. Vientiane, Laos.

8 Tsechalicha, Xiong and Don A. Gilmour. 2000. Forest Rehabilitation in Lao PDR: Issues and Constraints. Vientiane: IUCN, Lao PDR.

## Institutions and Policies

The Lao People's Revolutionary Party (LPRP) has maintained all political power in the country since it came to power in 1975. It has an essentially socialist ideology and maintains strict control over private enterprise. Nevertheless the country has been moving toward a relatively free market economy in recent years.

## Socioeconomic Policies

Economic growth and poverty reduction are at the center of the GoL's policy priorities. Its poverty reduction policies are defined in the National Growth and Poverty Eradication Strategy (NGPES) of September 2003. The NGPES lays down the goal of reducing poverty to below 25% by 2010, eliminating mass poverty and sustaining an economic growth rate of 6-7%.

## Land Tenure Policies

The Land Law of 1997<sup>9</sup> established the principles of land ownership and use rights in Laos. Broadly, all land is owned by the State which can then turn it over to individuals or companies for use and management. This Law has been the basis of a land allocation program that seeks to prevent illegal logging and put ownership of forest resources in the hands of local villages. An ambitious exercise in mapping and delineation of land use, called the National Land and Forest Allocation Program (LFAP), is still ongoing. An attempt has been made to involve local village committees in the final process of allocating land to different uses but it has been less than successful in many instances, particularly among the marginalized upland communities. While well-

intentioned, the practical effects of this policy have been complicated by the emphasis on reducing shifting cultivation and promoting 'stabilization'.

## Forest and Environmental Policies

Forest policy issues fall under the purview of the Ministry of Agriculture and Forestry (MAF), which is charged with managing forests, and the Science, Technology and Environment Agency (STEA), which is charged with environmental management. The government recognizes and has on paper adopted several policy initiatives to address the issue of forest loss and degradation, including controlling logging, curbing shifting cultivation, encouraging community-based forestry management and promoting plantation forests both in the public and private sectors.

The government controls timber harvests by decreeing an annual timber allowance. In practice there is widespread illegal logging even within protected areas, often with the collusion of corrupt government officials. Resources for monitoring and enforcement are extremely scarce so the scale of the problem is hard to determine.

## The Impacts of the GMS Program in Laos

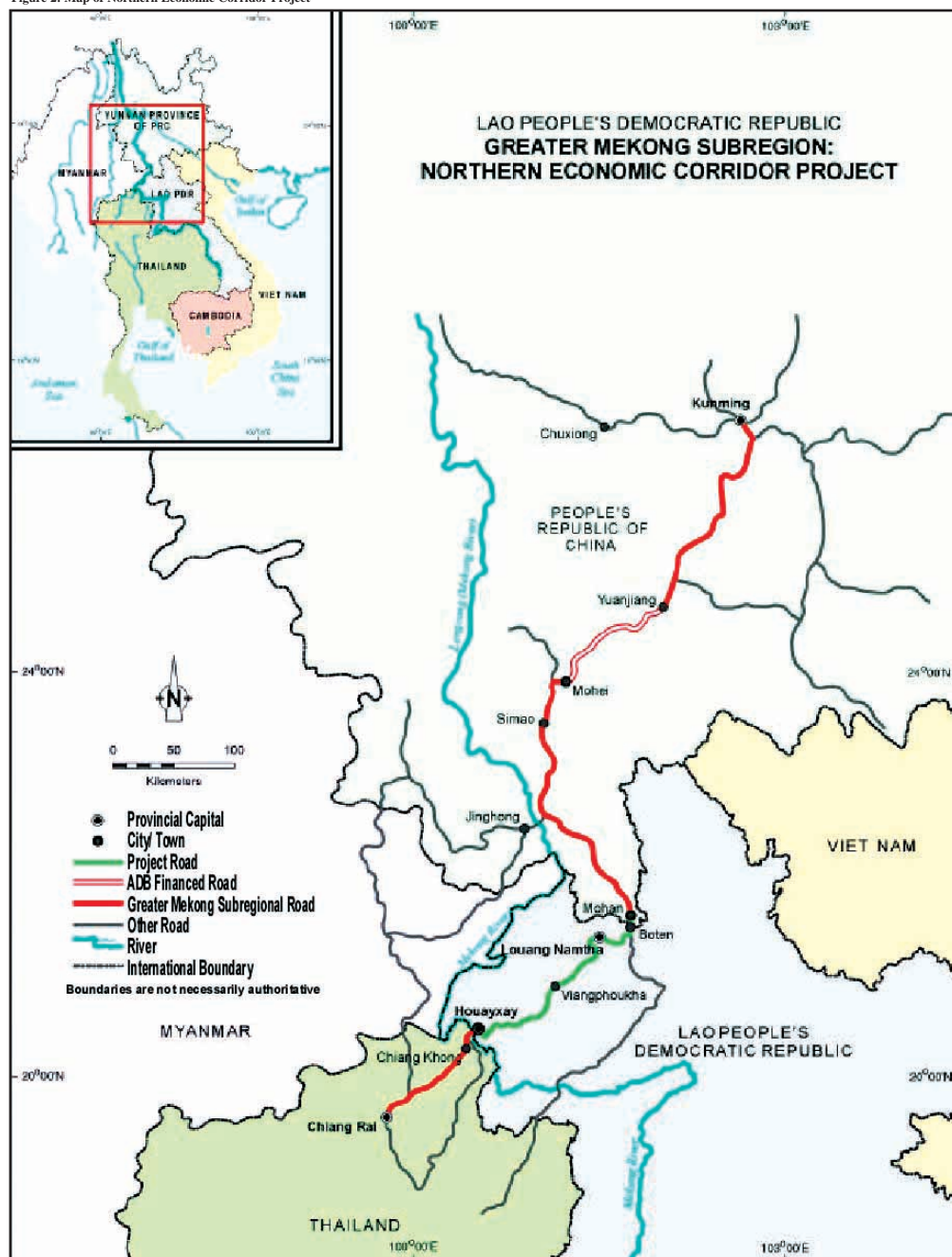
The ADB has backed a large regional development program called the Greater Mekong Subregion (GMS) Program that purports to support poverty alleviation through large-scale infrastructure development. The two major highway projects – the NEC and the EWEC – have already, and will continue to, affect forests and wildlife in Laos. Both highways encroach on protected areas in Laos and will make it easier and cheaper to

Laws and Regulations	Year	Key Provisions
New Economic Mechanism	1986	Begins restructuring toward a more market-oriented economy
Tropical Forest Action Plan	1991	Forest management plans for the country, emphasizing community involvement and alternatives to shifting cultivation
Forestry Law 1996	1996	Classification of land, management and planning, biodiversity conservation
Land Law 1997	1997	Allocation of land to individuals and companies
Environmental Protection Law	1999	Advocates public participation and the use of EIAs in project planning
NPA Regulations	2001	Clarifies the concept of National Protected Areas
National Poverty Eradication Program	2001	Five-year strategic plans for poverty reduction
National Biodiversity Strategy and Action Plan	2004	Plan for biodiversity conservation

Table 1: Key Environmental and Socioeconomic Laws and Regulations, Lao PDR

<sup>9</sup> A complete English translation of the 1997 Land Law can be found at the APCEL website: <http://sunsite.nus.edu.sg/apcel/dbase/laos/primary/laalnd.html>.

Figure 2: Map of Northern Economic Corridor Project



transport logs out of the country. They have also caused the displacement of ethnic minorities and have affected their traditional way of life, not always in positive ways.

### Poverty, Vulnerability and Forests in Lao PDR

About 82% percent of domestic energy consumption in Laos is wood-based (UNDP 2003). Non-timber forest products (NTFPs) are a very important source of livelihood for the rural population, particularly in the upland

areas. According to the MAF, proceeds from the sale of NTFPs may account for one-third to one-half of village cash income, depending on the richness of local forests. The contribution of NTFPs is particularly high for rural households, where they contribute over 50% of household income, adding up to 20-30% of GNP<sup>10</sup>. Recognition of this key role of NTFPs in the life of the poor is crucial in making decisions on how best to allocate forest land. Community-based forestry management can play an integral role in rural poverty alleviation in Laos, as examples elsewhere in Asia show.

<sup>10</sup> Foppes, J., and S. Ketphanh, 2000. "Forest extraction or cultivation? Local solutions from Lao PDR". Paper for the workshop on the evolution and sustainability of "intermediate systems" of forest management, FOREASIA, 28 June-1 July 2000, Lofoten, Norway with local capacity building as well

## Human and Environmental Vulnerability in Savannakhet and Louang Namtha Provinces

Maps, data and analysis that link particular development policies to their effect on vulnerable people and places comprise an important step of the SEVA analysis. The two GMS highway projects go through the provinces of Louang Namtha in the north and Savannakhet in the south-central part of Laos. Within these provinces, are the NPAs of Nam Tha, Phou Xang He, Dong Phou Vieng and Xe Bang Noun. Data from the 1997-98 Lao Expenditure and Consumption Survey (LECS) show that both NPAs overlap districts with a high rate of poverty. In 2000, the World Food Program began a Vulnerability and Mapping (VAM)<sup>11</sup> exercise at the district level in Laos. From these maps, it is clear that the areas overlapping and in proximity to the NPAs of this case study are also areas of human vulnerability. A WWF map of biodiversity priority areas in Laos demonstrates the overlap of conservation concerns with poverty concerns when compared to these vulnerability maps.

According to a recent report by the World Bank, ‘...the north (of Laos) is clearly a region in which a large poverty population is co-located with a high-priority deforestation problem’<sup>12</sup>. Using 5 different measures – deforestation, soil erosion potential, indoor air pollution, contaminated water and outdoor air pollution – they conclude that ‘the poverty-environment nexus is very strongly defined for Lao PDR, and that the potential synergy between poverty alleviation and environmental policies is high.’

The Northern Economic Corridor Project passes through Louang Namtha province, where 97.7% of the population consists of ethnic minorities and Bokeo province where 87% of the population consists of ethnic minorities. Ninety villages are being resettled to accommodate the construction of the highway<sup>13</sup>. Although promised, the government has not yet passed legislation on a National Policy on Involuntary Resettlement and Compensation for Major Projects, or Ministerial Regulations and Guidelines on Involuntary Resettlement and Compensation for Major Projects in the Energy and Road sectors. Another problematic issue is ensuring monitoring and enforcement of

## Consequences of Roads in Protected Areas

- Loss of habitat from construction and subsequent erosion
- Hunting, snaring and NTFP collection by road construction crew
- Improved access for hunting by outsiders
- Increased extraction of forest products by outsiders
- Increased export of forest products by protected area residents
- Barriers to the movements of some animals
- Increased likelihood of illegal logging and agricultural plantations
- Increased conversion of forest to cash-crop agriculture by protected area residents, in response to market access
- Increased settlement in the protected area, along the road
- Effect on local peoples’ perception of government commitment to conservation of the area
- Increased burden on the protected area staff to control the above consequences

*(Robichaud et al, 2001)*

policies that exist on paper. Pressure from NGOs has convinced the ADB to put in a condition requiring a Third Party Monitoring System for its projects in the energy and transport sectors. This has had very limited success since it has only been applied to two road projects<sup>14</sup> thus far and, moreover, it is not clear that the recommendations of the third party monitors<sup>15</sup> will be implemented.

11 For more details on the VAM methodology refer to [http://www.proventionconsortium.org/files/wfp\\_vulnerability.pdf](http://www.proventionconsortium.org/files/wfp_vulnerability.pdf)

12 Dasgupta, Susmita, U. Deichmann, C. Meisner and D. Wheeler. 2003. “The Poverty/Environment Nexus in Cambodia and Lao People’s Democratic Republic.” World Bank Policy Research Working Paper 2960, January 2003.

13 Asian Development Bank. 2002. Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Lao PDR for the Greater Mekong Subregion: Northern Economic Corridor Project. RRP: LAO 34321.

14 The GMS Northern Economic Corridor Project (Loan 1989-LAO(SF)) and the Rural Access Roads Project (Loan 1795-LAO(SF)).

15 IUCN is one of the NGOs contracted for third party monitoring work. The Environmental Research Institute (ERI) has also been contracted and this is expected to help with local capacity building as well

## Impacts of Highway Construction on Vulnerable People and Protected Areas

Highway construction in Laos has many impacts on the environs, some positive and some negative. These include:

- Resettlement of villages to accommodate projects – This generally will have a negative impact on the villages leading to greater poverty, unless very careful policies are followed to adequately compensate villagers by giving them equivalent land and sources of livelihood.
- Better access to markets and social services – This can be positive in that it allows isolated villages to earn livelihoods associated with markets as well as allowing them access to services such as health and education. Again, this access can also have negative impacts on traditional ways of life and destroy the cohesion of villages and ethnic groups. In the age of HIV/AIDS, research has shown highways are frequently closely related to spread of the disease.

- Roads almost always have a negative impact on protected areas because of the accelerated loss of forests and biodiversity that is enabled by transportation and easy access (See Box 1).
- Creation of new economic opportunities – These new opportunities, related to market access, almost always disproportionately benefit the rich and do little for poverty alleviation.
- The GoL, under the advice of the ADB, World Bank, IMF and other donors, has sunk a lot of money into infrastructure projects that have a somewhat uncertain impact on poverty alleviation.

## Conclusions and Recommendations

Recommendations for national policy makers and donors that emerge from the case study research include:

### Changes in National Policies

- The land allocation and use policies in Laos have some inherent problems that need to be resolved before sustainable land management practices can hope to succeed.

Table 1: Characterization of NPAs in Louang Namtha and Savannakhet

NPA	Terrain	Ecosystem Type	Wildlife	Local Population
<b>Nam Ha</b>	Ranges from the Lowlands of the Louang Namtha plain to the 2000 meter peaks of the Northern Highlands. Also includes the Namtha River.	Evergreen and semi-evergreen forest, Dry temperature-like upland broadleaf woodlands, Mature sub-montane and montane evergreen forest, secondary habitats, several rivers and streams.	37 large mammals including clouded leopard, tiger, gaur, muntjac, elephants, 288 species of birds, including silver pheasant, Blyth's kingfisher, Crimson-breasted woodpecker.	Ethnic minorities living in the NPA include Akha, Hmong, Khmou and Lantaen. 25 villages located in the NPA.
<b>Phou Xang He</b>	Plateau, with steep sandstone escarpments, bounded by the Phou Xang He and Phou HinoKatong Mountain Ranges.	Dry Evergreen (41%) Dry Dipterocarp (7%) Mixed Deciduous (44%) Agriculture (6%) Other (2%) High watershed value. Overlaps partially with the Northern Annamites Rainforest ecoregion.	Species include elephants, giant muntjac, gaur, lesser slow loris, douc langur, tiger and several rare birds.	Ethnic minorities of Lao Theung, Lao Lum. 10 villages inside NPA, 49 villages overlap it and 21 are adjacent.
<b>Xe Bang Nouan</b>	Two Lowland parts divided by a central range of hills.	Dry dipterocarp forest in lowlands, Mixed deciduous/Semi-evergreen in highlands, Wetlands formed by watershed of the Xe Bang Nouan River.	13 species of threatened wildlife including Siamese crocodile, douc langur monkey, concolor gibbon, green peafowl, several species of wildcats.	Ethnic minorities include Katang. 65 villages located within 3 kms of NPA.
<b>Dong Phou Vieng</b>	Plateau with large watershed area.	Evergreen/mixed deciduous, Dry dipterocarp, Five main rivers and their watersheds.	Highest diversity of fish species of NPAs surveyed in Laos.	57 villages located inside NAPA.

- The centralized approach to development planning that has dominated in the past has not been sensitive enough to the needs of local populations. The current trend toward decentralization is encouraging and should be pursued further, with caveats regarding strong centralized fiscal responsibility.
- CBFM is a relatively new concept in Laos and it has yet to be adopted on a wide scale. The opportunities for this are great and it can certainly contribute to the poverty reduction goals of the government. WWF is supporting village-based forest management in Savannakhet with the expectation of achieving FSC certification for the wood from the forest.
- The importance of NTFPs in rural livelihoods in Laos cannot be exaggerated. These must be taken into account in any land-use planning decisions so that the value of NTFPs is not ignored or given second preference to the timber value of forests. There is also scope for domestication of NTFPs (such as cardamom and Eaglewood, cultivated on steep slopes in an intensive sustainable fashion) as an alternative to destructive shifting cultivation (IUCN-NTFP Project).
- Road construction in Laos is set to expand considerably in coming years. In many ways this will be beneficial to rural populations who have remained isolated from healthcare and educational facilities, and it will also bring new sources of livelihood through access to markets. However, markets are no panacea for poverty alleviation and the GoL must carefully consider its development plans in this light. Without adequate environmental safeguards, roads can have many negative impacts, including increased illegal logging and destruction of habitats.

### Changes in Donor Policies

- The GMS Program will likely have many consequences for the environment in Laos, not the least of which is accelerating the rate of deforestation. The ADB has not adequately addressed these concerns and yet continues to aggressively promote the program.
- Illegal logging and wildlife trade are tremendous problems in Laos and threaten the future of its forests and biodiversity. Monitoring and enforcement activities to date have been far from sufficient (see next point). Foreign countries such as Japan, China, Taiwan, Thailand and Vietnam, which are responsible for much of the demand in the region, must also play a role in ensuring that all purchases are legal and in accordance with environmental treaties and principles.
- The MAF (and the Lao Government in general) suffers from severe under-funding and lack of adequate

trained staff. In the short term, this is a gap that can only be filled through funding and cooperation from external sources.

- Ecotourism could be very beneficial to Laos in terms of providing a way for rural populations to earn livelihoods without degrading forest resources. This is another area where donors have an important role to play since ecotourism is a relatively new concept in Laos.

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