



## Development Comes at a Cost

*Conserving the Xe Kong River Basin in Lao PDR  
in the Face of Rapid Modernisation*

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Lao PDR still boasts one of the least disturbed ecosystems in Asia, but internal pressures of economic growth and external pressures from the country's more populated and affluent neighbours constitute major challenges to the environment. As part of its efforts to build a sustainable future for the Mekong river basin, WWF is cooperating with the Lao PDR government in conservation and development activities in two of the country's poorest and least developed provinces. Co-management of rivers, swamps and forests should help local stakeholders to take control of their own future.



# Introduction

## Winds of change

*'For the last thousand years, as kingdoms and countries have fought for sovereignty over Lao PDR, the people there have learned the lessons of the grasses - to bend before the wind. Life has been relatively predictable, marked by continuity from one generation to the next. But the winds of change are blowing again, and this time the strategy of the grasses may not work.'*

So wrote *World Watch* magazine in May/June 2005, after the World Bank's heavily contested decision to co-finance the construction of the US\$ 1.3 billion Nam Theun 2 dam in the People's Democratic Republic of Laos (Lao PDR). The words which refer to the tens of thousands desperately poor residents whose livelihoods will be disrupted by the construction of the dam, are also true in a broader sense for large parts of the rest of the country's 5.8 million people. Political upheavals in the Indochina region have, ironically, protected the Mekong river and its tributaries (like the Nam Theun river) from the dramatic changes in landscape and flood patterns that have damaged the ecology of many of the world's rivers. That period of protection has, however, now come to an end.

Lao PDR's self-chosen isolation of the last decennia is rapidly fading away. Although still a communist state, it abandoned central planning a decade ago and has aggressively turned to free market economics in an effort to boost development. However, mountainous and landlocked, Lao PDR is still one of the least developed countries in Southeast Asia. Like its more dynamic neighbours China, Thailand, and Vietnam, Lao PDR is pinning its hopes on the economic prospects of the Mekong. By opening the river to increased trade, it hopes to benefit indirectly from China's economic boom and to free its population from an economy based largely on subsistence farming. The government also sees the river's large hydropower potential as a key element in boosting the country's economic growth.

In 1995, the four countries of the Lower Mekong Basin - Cambodia, Lao PDR, Thailand and Vietnam -

signed a cooperative agreement for the sustainable development of the Mekong River Basin. The intergovernmental Mekong River Commission (MRC) was established to facilitate collaboration and regional river development issues. WWF's Living Mekong Programme has developed a strong working relationship with the MRC. The Programme aims to marry successful biodiversity conservation with sustainable development, making use of the tools and approaches of integrated river basin management.

As part of its activities in the Mekong river area, WWF has chosen to initiate some projects in two of the poorest and least developed provinces in Lao PDR. The populations of Xekong and Attapeu Provinces have limited access to roads, markets, health care and educational services within the basin of the Xe Kong river, one of the main tributaries of the Mekong. Consequently, for most of them, the resources gathered from forests, rivers and wetlands are vital to their food security and income. These resources however are coming under growing pressure. The Xe Kong watershed is currently undergoing rapid development, with agricultural development, commercial logging and large infrastructure projects like roads and dams having an impact on the ecological health of the watershed and the livelihoods of the rural poor who depend on these natural resources.

With the current rapid change, the 'lesson of the grass' is useless. Bending before the winds of change - including the often unregulated or even illegal activities exploiting the area's natural resources - will inevitably lead to ecological disaster and the loss of human livelihood. Local communities should no longer be excluded from development planning initiatives; their ecological knowledge and concerns should no longer be ignored. Community management of critical habitats should be combined with efforts to steer development in the Xe Kong river basin in a more sustainable direction. The new WWF-supported projects in the area - one of which is described in this brochure - are aiming to contribute to all of this. ▲



*‘Respect for traditional fishing rules is rapidly disappearing.’*

## Messing with the Mekong

*In Lao PDR, where fish are still the leading source of food, the river Mekong and its tributaries are nothing less than a lifeline. Few rural people will describe themselves as full-time fishermen, but almost all members of their communities are engaged in the harvesting of aquatic plants and animals. Local knowledge of critical riverine habitat and seasonal fish migration patterns holds a wealth of information useful for fish management. WWF Lao PDR and the Lao Ministry of Agriculture and Forestry are aiming to tap this potential.*

**T**he ecological knowledge of our rural communities is quite impressive. They understand the seasonal rhythms of the river system. Each month they use different techniques, catch other species. You have to use that ecological knowledge to develop

community-based watershed management and monitoring plans. They have to be owned and adopted by the communities themselves. In the long run, that will be the only way to manage the biological diversity of our rivers and secure their watershed functions.’

Mr. Somphanh Chanphengxay is a believer. Sure, it will take time to do the job, but involvement of the local population in the management of Lao PDR’s natural resources is the only way forward. However, external help is needed. This places him at a strategic position. Somphanh works at the Lao Ministry of Agriculture and Forestry, department of Livestock and Fisheries. This department will be WWF’s main counterpart in the Xekong/Attapeu Provinces project. Somphanh is head of the department’s Planning and Cooperation Division, and as such, one of WWF’s main contacts within the Lao government.



So what about this need for external assistance? Well, frankly speaking, Somphanh explains, at this point the Lao government does not understand much about the need to manage river biodiversity. ‘They do not see the dangers; they do not see the potential. So no budget has been allocated. That’s why we need foreign support.’

And the dangers are real, Somphanh points out. ‘People are doing things that they have never done before. They have started fishing in the breeding seasons. They are using illegal methods such as electricity or even dynamite. They use the very destructive method of damming a section of a river and catching everything in between the dams. Respect for traditional fishing rules is rapidly disappearing.’

Then there is the rising demand in wealthier neighbouring countries like China and Thailand for high-value fish. Somphanh: ‘Traders from these countries come here to buy the giant catfish for instance, which is a protected species. Demand is growing, prices are skyrocketing. So everybody gets greedy, and forgets the law. It’s a real challenge to control this.’

Improvements in the infrastructure, such as new roads, make it much easier for those traders to come to Lao PDR. ‘That’s the challenge of development’, Somphanh sighs, ‘it comes with costs’.

Another challenge is the preservation of the country’s swamps or wetlands. Many of these have been, or will be, converted into roads or houses, especially near cities. However, wetlands act as a ‘delivery room’ for many fish species; their disappearance is a real threat to fish stocks. Somphanh: ‘As a result of the conversion of the swamps, poor urban people are no longer able to catch their own daily meal. They were used to this, now they have to pay for fish. These people have no land; the swamps are their safety net.’

An institutional problem is that Somphanh’s ministry is often ignored by other government sectors when planning for large infrastructure projects. This leads to serious abuses. Somphanh: ‘On many occasions we have noticed that rich people have suddenly started buying land in a specific area. Farmland, but also swamp. When we ask questions, we find out that a new road will be constructed over there. We didn’t know about it, the farmers or the provincial authorities from whom they bought the land didn’t know about it, but these rich guys knew all the details. They convert the swamps into land, and make big profits. That is extremely hard for central government to control.’

### Fishery management

There is also a lack of knowledge about fishery management at the ministry that is supposed to take care of it: the Ministry of Agriculture and Forestry. Somphanh: ‘We also have to train our own staff. Most of them have studied agriculture or forestry. Hardly anybody has any knowledge of fisheries management.’

This is a truly remarkable situation in a country where most people depend so heavily on their daily fish consumption. ‘No one doubts the fact that, to get agricultural harvests, you have to work hard and study the subject. But with fisheries everybody seems to think that these resources will last forever’, the ministry official explains. Because of this misconception (and also because capture fisheries is not recognised as a vital component of the national economy), there are hardly any university courses or other training courses in Lao PDR where one can learn about the conservation of natural resources. First this situation has to be changed, Somphanh knows, before there will be a chance to get more attention at the government level. ‘We try to organise better awareness of natural resources through the Mekong River Commission. They hold annual meetings, which attract a lot of attention. We

*Children  
catching  
snails in the  
Xekong River*



organise training courses too, also in fish management. But we are just starting to learn about the subject. My department recently published a book on wetlands. This was the first book on this subject ever published in this country. Nobody knows anything about this, while wetland complexes in Lao PDR are hugely significant, from a biological point of view but also for the livelihood of the population!’

The lack of financial and human resources effectively blocks the possibilities for managing natural resources from the top-down. This makes it all the more logical to turn directly to the local population who at least have the knowledge. Somphanh’s department has started several pilot projects to stimulate aquatic resource management, including activities such as setting up fish conservation zones. In the planning and the implementation, local communities cooperate with local government authorities.

‘In general these activities turn out to be very successful. People contribute themselves to the management of their river, and they soon see the results. When certain rules are obeyed, they will catch more fish.’

The main condition for success, Somphanh emphasises, is to understand the objectives of the villagers. ‘You have to listen carefully to them. Co-management plans rely on their knowledge and solutions to biodiversity conservation. That is why

each plan is unique to the specific community that helped to design it.’

To spread the concept, external assistance is needed. ‘We need funding for training, for our own people and for the communities. To promote the idea you need to organise a series of meetings.’

When, in the future, more and more of these co-management arrangements come to be realised, they can be connected within a watershed committee which will be responsible for the whole river area. Somphanh: ‘We start working at the district level, set up specific committees and then combine these. Committees on fisheries, on drinking water, on pollution, etc. The government sets up guidelines, and lets people manage themselves. Connecting all this into one watershed committee, e.g. on the Xekong river, is the ideal situation. But it will take another 10 to 15 years to achieve that.’

There is, however, a specific problem with the chosen project area, says the government official. ‘In those two provinces in the South, Xekong and Attapeu, people are very individualistic. They talk a lot but they do not act very much. That’s different in the North. There, people tend to work together. They have experience with working in communes, maybe that’s why. So while starting the project activities, we have to bring people from the South to the North to study the situation there. Show them how it works, by visiting successful watershed management activities.’





### ***One of the most productive inland fisheries in the world***

From its headwaters in the mountains of Tibet, the Mekong travels for some 4,500 km through China, Myanmar, Lao PDR, Thailand, Cambodia and Vietnam before reaching the South China Sea. The World Conservation Union estimates that the Mekong is third only to the Amazon and Congo rivers in biological diversity, supporting one of the most productive inland fisheries in the world. The rocks and rapids near Thailand's Chiang Khong for instance, are the only known spawning grounds of the endangered giant catfish, which can weigh more than 300 kilogram's and reach three metres in length. And kai, a high-protein weed that grows on the riverbed, is an important food source for both fish and humans. Scientists estimate that the diversity of habitat provided by the Mekong River and associated tributaries supports 1,200-1,700 species of fish. This aquatic biodiversity is an invaluable resource to the 55 million people living in the Lower Mekong Basin who rely on capture fisheries to support household food security and livelihoods. The Mekong supplies 80 percent of their dietary protein consumption. Management of this biodiversity will be necessary to mitigate impacts on rural food security in a rapidly developing region.

As one of the least developed countries in Southeast Asia and the only landlocked nation, the aquatic resources of the Mekong River are of vital importance to rural communities in Lao PDR. Ninety-one percent of its land area drains into the Mekong river, accounting for 35 percent of the annual discharge from the Mekong, more than any other country in the basin. The aquatic resources of the Mekong and associated tributaries are an essential component of the culture, environment and economy of the country. The importance of capture fisheries has been documented for centuries by explorers to the region, who saw the fishery as the livelihood upon which the old kingdoms were based. Capture fisheries today serve an equally important role in the cultures and economy of the Mekong Basin, providing an affordable and reliable source of food and income to rural communities.



Attapeu Province

# ‘A fisherman has to adapt to the river’

*‘Once upon a time, when my husband announced he was going fishing I would immediately start making the fire because I could be sure that he would be back shortly with a good catch of fish. That is the past. Many times the men of this village are away at the river for the whole day, and when they come back they have no more than a handful of fish.’*

Sixty-one-year-old Meahoune is well-qualified to comment on the situation in the fishery village of Ban Mai. She has lived here all her life. The same goes for her husband, 67-year old Pochoum. Although *ban mai* means ‘new village’, both of them were born here and married here. They had eleven children, of which three have passed away. Only two of the remaining children have chosen to stay in Ban

Mai, the rest have gone to live in town and support their parents by sending money now and then.

We meet the couple when taking a stroll through this village, where some hundred families live. Ban Mai is situated at a bend in the Xe Kong river. First, we take a look at the bustling activity at the riverside. Fishermen arrive here to sell their catch. The low level of the water makes it possible to cross the river at this point, even with the motorised vehicles known as ‘iron buffaloes’ (they perform most of the tasks that were traditionally done by buffaloes, especially the ploughing of paddy fields). One of the vehicles is being used as a mobile petrol station; two barrels are fixed to the cargo compartment. Children are playing in the river water, but are also busy catching snails with plastic bags.

Meahoune and Pochoum live some 500 metres away from this spot, quietly spending their days in and around their house. At least, that's what Pochoum wants us to believe. He says that he is a retired fisherman, who only occasionally goes to the river to have a look. This is not borne out by the nets hanging out, the piles of bamboo sticks, the lines with hooks and the straw baskets that can be seen all around the house. Just one question about the use of the baskets is enough for the old fisherman to start demonstrating the use of all the fishing gear he possesses. The nets, with different-sized meshes, for trapping different types of fish; the lines with hooks that are used for fishing in the evening; the baskets, looking like straw hats, which are used in June and are lifted when the (small) fish swim in. For almost every month different methods of fishing are used. 'As a fisherman, you have to adapt to the river', Pochoum explains, hugging his shoulders. Not only the fishing gear varies with the time of the year, also the bait, from frogs to fingerling. While Pochoum is busy demonstrating the way things works, his wife quietly informs us that, although her husband says he is retired, in practice he cannot miss fishing for a day.

Pochoum has always sold his fish to middlemen, who come to the village to buy the catch for the market in the provincial capital Attapeu. During the rainy seasons, especially, fishing was a lucrative business. But last year's rainy season was far too brief, resulting in a shortage of fish. The old fisherman also blames the use of new fishing methods for the present bad catches. 'The last three

years the situation has changed drastically. At that time, many people started fishing with diving gear and bows. I'm sure that, because of these new methods, the big fish have gone. Including the giant catfish, which we haven't seen here for a long time.'

Pochoum would be very much in favour of establishing the co-management arrangements, that are the project's objective. 'We have already tried to make some regulations, to forbid the use of dynamite and poison, but there was no enforcement of this. Some people just laugh about it; they do not like to listen to what the government tells them. Also it will be difficult to cooperate with other villages, because there is a lot of competition between them. But I fully support the idea of working together; otherwise fishing will die out here in Ban Mai.'

### Rampant deforestation

Back in the provincial capital Attapeu - a nice small town with shady lanes and lush flora, located at the confluence of the Xe Kong and Xe Kaman rivers - local authorities also express their worries. At the Provincial Agricultural and Forestry office, Mr. Siya, who is in charge of the Fisheries Department, complains about his staff of only three people. 'There's not much we can do. It isn't possible to give training courses in the field. Control of destructive methods is also difficult. Last year we had a case against some fishermen who had used chemicals, as a result of which some people had become sick when they ate their catch. But we were unable to arrest those responsible.'



## Corruption

Environmental protection in Lao PDR faces many obstacles. One of the biggest, according to several observers, is corruption amongst those in charge of enforcing conservation regulations. Illegal timber felling, poaching and the smuggling of exotic wildlife species would decrease sharply if corruption among officials was properly tackled; e.g., Lao military personnel are known to use explosives to catch fish in lakes and rivers. There have been some attempts to deal with such problems, many feel however these practices are still going on.

At the district level, the situation is not much better. Mr. Khachanh Phommathan is deputy head of the Department of Agriculture and Forestry in the district Sanamxay, to which the village Ban Mai also belongs. He has a staff of 27 people in total, but most of the time they are sitting idle in their office, due to a lack of vehicles and petrol. Khachanh confirms that, compared to one or two decades ago, the water level of the Xe Kong River in the dry season is much lower. The rampant deforestation as well as the ongoing clearance of riverside land for agriculture are the main reasons for this, he believes. 'People realise that all this logging is bad for the water and the fish, however, we are unable to stop this. We also have a lot of new people moving into this province. Because we have more empty land than in other provinces, it's not hard to buy land here.'

Although it's difficult, the district authorities have initiated some activities to try and improve the situation. 'We do have some fisheries activities in conservation areas. We release fingerlings. We try to encourage village people to grow paddy rice, instead of going on with their destructive methods. We really want to move on with this. Especially in the border area with Cambodia there is a great wealth of biodiversity, from which we all can profit. We could even get the dolphins back. If we would get some assistance, we could try to regulate the fish trade.'

### Give us some help

We end the day with a visit to the village Ban Somsanouk, which consists of some 80 families. Thirty-six-year-old Phoukham and 23-year old Onta are two of a group of women that are sitting together in the shadow of the village meeting place as the afternoon draws to an end. The women are waiting for their men to return with some food, which they will then prepare. The men have gone to the river or the forest, they don't know. But they don't expect them to bring back much fish or meat, because the end of the dry season is 'a bad part of the year'.

The older, Phoukham, has seven children, the younger, Onta, only two. Asked what is the ideal number of children, they say that three would be the best. 'It costs a lot.' But when some time ago a family-planning course was held here in the village, the two women didn't take part. 'I prefer the natural way. Some also say you can get sick from taking those pills or having an injection.'

Compared to the time when they were young, the situation in the village has improved a lot, both women agree. There is a health clinic now and also a school. But the food situation has not improved, they say. 'There are still periods in the year when food runs short. We have only one harvest from the paddy field. Just before the new planting season, some families have run out of rice. It's also difficult to earn any money here. We used to collect many products from the forest, but there is not much demand for this anymore. Only some seasonal fruit.'

Thirty-six-year-old Khamphoun has been the chairman of the village for quite a number of years already. He says that the village got external assistance to install a water pump, which would help to make a second paddy harvest possible. However, the pump broke down, and moreover, the population is too poor to pay for the fuel.

Khamphoun says he is looking forward to starting project activities in his village. 'There is so much we could do if we had the funds. We would particularly like to stimulate sustainable agriculture here: rice, but also vegetables and fruit trees. We've asked the district authorities for this several times, but they do not have seedlings. It would also be great if there would be some possibilities to get micro credit. No one here can afford the interest rates regular banks are charging.'

The whole village would take part in a co-management agreement on fisheries, the chairman is certain. 'That would be the best approach; we all know that we catch too many fish. We should stop the use of destructive methods too, the chemicals and the poison. That should be possible because actually only a handful of people practise these methods.'

When we leave, the two women have a farewell message: 'Please, come back and give us some help,' they say. 'We really need it.' This confirms what we've heard and seen everywhere in Attapeu Province: ordinary people as well as local authorities in this sometimes painfully poor part of Lao PDR are eager to work with the project. There is a lot of support for the idea of co-management agreements, which could restore some of the good things from the past. But there is also the urgent need to get some development starting, simply to improve the life of the Attapeu people.



## Participatory management and conservation of the Xe Kong river basin

<b>Duration:</b>	4 years (2005-2009)	<p>This will be achieved through specific objectives and activities that are designed to achieve the following outcomes: (i) strengthen sustainable livelihoods of the rural poor (ii) develop capacity for communities to participate in basin development planning (iii) strengthen government policies and planning for river basin development.</p> <p><i>Specific objective 1 - Community-based natural resource management</i> By 2009, 30 co-management plans for critical habitat are established in the Xekong Basin to conserve freshwater and forest habitat.</p> <p><i>Specific objective 2 - Livelihoods</i> By the end of the project the food security in five villages will be strengthened based on sustainable management and improved community access to natural resources that support rural livelihoods.</p> <p><i>Specific objective 3 - Policy</i> By 2009 provincial food security strategies are integrated with aquatic resource management plans.</p>
<b>Budget:</b>	500,000 USD	
<b>Project goal:</b>	To improve livelihoods and conserve biological diversity of the Xe Kong basin through participatory management of natural resources.	
<b>Overall objective:</b>	To improve the food security and natural capital of communities in the Xe Kong river basin through an integrated river basin management approach that strengthens community participation in natural resource management and rural development initiatives.	
<b>Geographic focus:</b>	The project will focus on floodplain and upland areas to support the linkages between freshwater and forest ecosystems of the Xe Kong river basin in Attapeu and Xekong provinces. To address large-scale threats to natural resources a dialogue between Lao PDR, Vietnam and Cambodia will be developed to implement transboundary approaches to river basin management.	

## Fish farming



One way to deal with declining riverine fish catches is to stimulate aquaculture, the breeding of fish. According to government officials in Xekong Province, there is a very high interest among villagers in starting fishpond activities. Problems are the lack of know how (also within the provincial department of Fisheries) and non-availability of financial inputs. However, still many believe that fishponds could substitute for the loss of capture fisheries from the river, and even provide some sizeable profits if the surplus fish can be traded.

To see how this works in practice we pay a visit to Man Xayaseng (45) and wife Simaly (42). They started digging their first pond in 1992, after a plot of land had been allocated to them. A former government official, Man received some training,

## The Xe Kong river basin - Biodiversity

With a total watershed area of 28,815 km<sup>2</sup>, the Xe Kong river basin is one of the largest tributaries of the Mekong and an important river basin for capture fisheries and biological diversity. Due to the remoteness of the basin, there still remain large areas of relatively undisturbed forest that represent important habitat to local communities for collecting non-timber forest products to support local livelihoods. The headwaters of the Xe Kong originate in the Annamite mountain range along the Lao-Vietnam border. The entire Xe Kong basin is within the forests of the Lower Mekong ecoregion complex. From the headwaters the river flows south-west through the provinces of Xekong and Attapeu before crossing the Lao-Cambodian border where it joins the Sesan/Srepok river systems and enters the Mekong near the town of Strungtreng. Along this journey the Xe Kong encompasses a wide range of habitat from the rugged and forested mountains of the Annamites down through the lowland hills, wetlands and plains. This rich biological diversity is of paramount importance to the livelihoods of rural communities of the Xe Kong river basin.

While these ecosystems have been poorly studied, the available information suggests they represent a significant portion of globally important biodiversity such as the Irrawaddy dolphin, Siamese crocodile, tiger, clouded leopard, Asian elephant, and others. An ecological survey in the Xe Sap National Biodiversity Conservation Area in the upper catchments of the Xe Kong, determined that the area has unique importance for conservation due to the extent of remaining intact old-growth forest and altitudinal variation. This survey confirmed the occurrence of the large-antlered muntjac in the area, a species until recently unknown to science. Bird diversity is also high in the area. A total of 178 species were identified in the above survey, including three of international importance - crested argus, green peafowl and spot-bellied eagle owl.



and eventually went on a study tour to Cambodia. Later, provincial authorities also helped him secure a small FAO-grant to enlarge his business. Now the family owns some eight ponds. Seated on straw mats, on a wooden construction that is built above one of the ponds, Man tells about his successes and failures. In the meantime his wife serves traditional *lâap* - a spicy salad of minced buffalo meat - the eating of which is accompanied by several toasts with home made *lào lão* (rice liquor). 'Despite the fact that I had taken some courses', Man says, 'I had to learn most things through practice. Now we breed four species, one of which is exotic. We also try to breed fingerlings, which we catch directly from the river. We are doing ok, my whole family lives from the ponds. We have a daughter who studies Pedagogy in Vientiane.'

But presently, only three of the ponds contain any fish. The bottleneck is the lack of fingerlings. There are not enough in the river to catch, while it is virtually impossible to buy these somewhere else. 'The government wants to stimulate fishponds and they promised they would deliver young fish. But they fail to do so.'

Still, Man and his wife Simaly stimulate others to start fishponds too. 'Our neighbours regularly face food shortages. Our nephew has the same problem. He used to practice slash-and-burn agriculture. We advised both of them to start a fishpond business and they have listened to us. Slash and burn is very bad for nature, and it does not bring you much. It is much better to start in this business.'





## Xekong Province

# ‘Our ancestors will be angry with us’

*‘We used to live over there’, chairman Katong, says, pointing upstream. ‘We left a lot back there, our memories and the graves of our ancestors. If in the coming years these graves go under the water, we will be unable to visit them anymore. Then we will become sick, because our ancestors will be angry with us.’*

We had gone to the river to see the low water level, according to the villagers the lowest in ten years. But standing at the bank of the Xe Kong river, the conversation soon turns to the resettlement programme that made the Alak people of Ban Pakayom leave their old village and move to the place where we are now standing, some 30 kilometres downstream.

This all happened in 2002. ‘The government encouraged us to move from the old village, and to stop the shifting agriculture’, chairman Katong says. ‘We accepted, and got some funds in return. Other communities refused to leave. They will only go away when the hydropower dam is constructed.’

*Alak women and girls traditionally smoke tobacco from large pipes*



At the time of Ban Pakayom’s resettlement, nobody knew about the plans to construct the hydropower dam Xe Kong 4 (planned to be built in 2008) in the area where they used to live. The 58 families of the village decided to leave, after government officials told them that their traditional slash-and-burn practices would no longer be tolerated. They were promised a school and some financial assistance to start rice production, in return for their decision to move the village downstream, out of the mountainous area.

‘We asked our ancestors for permission, before we decided to move’, says chairman Katong. ‘We organised a meeting, and sacrificed two buffaloes. Then we were confident that we could do it. We still visit their graves every year. When somebody gets sick, we also go there and pray. That’s how we live.’

The chairman talks with nostalgia about the old place. ‘I used to have a lot of buffaloes back there. Now I only have two. We had fruit trees, more wild food too. And wildlife. It was a better condition there.’

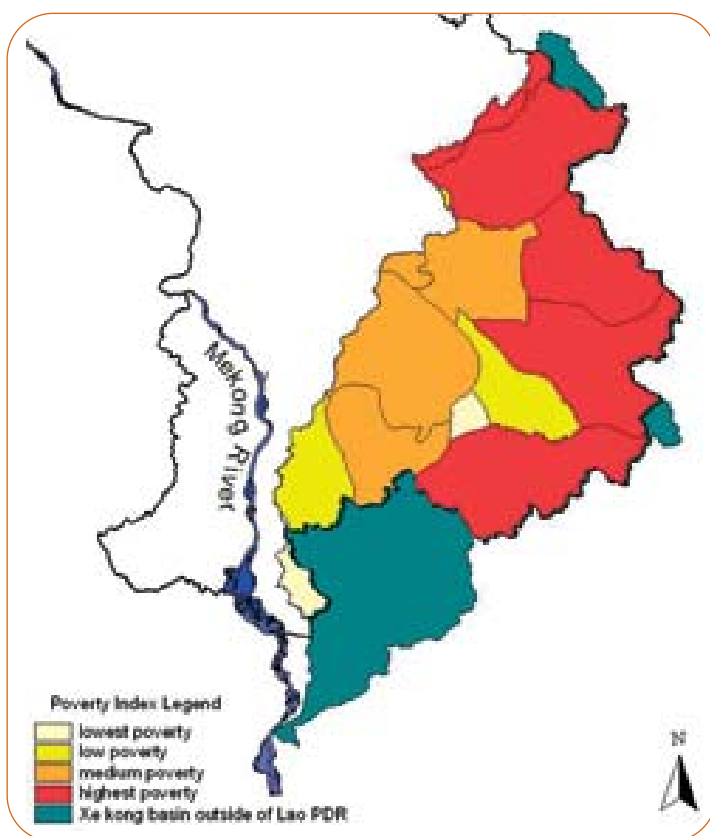
So far, the resettlement has not been a big success. ‘I don’t want to criticise the government, but we do have problems. Our production of rice is very low here. We have a lot of land, but that is not suitable for rice cultivation. I proposed to the government to help us with livestock, but they do not have any funds. We do have a school now, which is good. But many times when we are hungry, the children have to go to the forest instead of going to school.’

The villagers gather a lot of products from the forests that surround the village, like wild cassava and vegetables. Asked about wildlife, the chairman says there is none here. ‘Maybe there are some deer, but I never saw any.’

## Ethnic minorities

Half of the Lao population consists of ethnic minority groups. In the two provinces Attapeu and Xekong ethnic groups are in the majority, especially in the mountainous areas. Excluded as they are from institutional support in agricultural development, these communities in remote upland areas are extremely vulnerable to poverty.

For the government of Lao PDR, the solution to



this problem is simple: resettlement. At several meetings we have with provincial authorities, the inevitability of this solution is emphasised. In Attapeu, the head of the provincial agricultural department says that the only way to stop the destructive slash-and-burn cultivation, as practised

by most ethnic groups, is through resettlement. 'We have a major programme for this. We encourage people to come down from the hills and settle on land given to them by the government. We support them with construction material for their houses. But many people refuse to move. We try to adapt to their behaviour. But in the future we will have to move them. We cannot bring electricity up there to the mountains, or establish schools. So for their own good, we have to bring them together.'

At the Forestry Department, almost the same story is told: the high level of forest degradation in the province is mainly due to the destructive behaviour of ethnic groups in the uplands. 'A very good programme has begun for resettlement, but without much success. It would be good to create a model village. I see in the field that people who came down got a better life. But many do not want to adapt and they need assistance.'

To see in practice how resettlement can work, we visit a conservation area near the border between the two provinces. Xenamnoi village is located at the point where the road from Attapeu to Xekong passes the river. For a year, the people of this village have been cooperating with a village on the other side of the river, in an effort to restore fish stocks in the area. In this part of the river fishing has been banned, a decision taken jointly by the population of both villages after they had held some meetings and been taken on a study tour to see the results of fishing bans in other areas. We meet 75-year old Khamsene, who enthusiastically points at small fish, which can be



### **Ban Hangyang village**

This village in the forest was established ten years ago. This group of Alak people was also stimulated by the government to leave their traditional area high in the mountains, to settle down in the lowlands, on the Xe Kong river. In the afternoon, when we visit them, only men are available to talk with, many of them carrying small children. When asked, they say the yearly shortage of rice, in the last months before the paddy fields can be harvested, is their biggest problem. 'The government encourages us to grow paddy rice, but we have never practised this. We still need to learn how to do this in an effective way. It is very difficult. We have no buffaloes, there is insufficient water. Sometimes we have no food for several days. Besides rice we grow some maize and pumpkin. That's the women's job, we men practise fishing every day. In the afternoon, when our women work in the field, we take care of the children.'



*Xenamnoi: Khamsene points at new fingerling*

seen in the clear water. ‘Last year you could see no fingerling at all here. We had to go far away to catch some fish. Seeing these young fish again, we know we will have more fish in the near future.’

The population of this community belongs to the ethnic group Katou. They used to live in an area close to the Vietnamese border, Khamsene tells, but twenty years ago the whole village decided to move to the spot the government offered them. ‘We lived in a very bad mountainous area there. Many people got sick and died. Now we are much better off: we have a school, health care, and, because of the road, easy transport possibilities.’

Their main worries are the diminishing fish catches. Several villagers tell stories about illegal practices such as fishing with dynamite. Also there are persistent rumours that people in Cambodia block the lower part of the Xe Kong river, which would effectively stop the fish from migrating upstream. Officials from the provincial department of Fisheries in Xekong even travelled to Cambodia to check these stories, but could find no proof. As one of them says: ‘It’s probably more significant that a private company has been granted a concession by the Cambodian government to catch fish in that area.’

People say they catch everything. Several endangered species have disappeared completely.’

### **Not a panacea**

Resettlement of the upland ethnic minorities is official government policy in Lao PDR. It is seen as the best way to stop destructive activities, as well as alleviating poverty. In practice, it is not the panacea envisaged by the government, many critics say; especially when resettlement is not accompanied with an integrated approach to agriculture, natural resource management and rural development. ‘These groups have always relied upon forest products to support their household income and food security’, explains WWF Lao PDR forestry officer Somphone. ‘Most of the time resettlement is not accompanied by any effective training and education on adapting to lowland environments. As a result, it tends to exacerbate the poverty and suffering of many communities and can also easily worsen the degradation of natural resources, instead of preventing it. The resettled communities convert riverine and forest lands to suit lowland agriculture systems, without having any idea of the impact of the loss of critical habitat for wildlife and capture fisheries.’

At the WWF's Vientiane office, project leader Roger Mollot agrees. 'In the project we have to deal with the resettlement policy. We will choose several resettled communities as pilots to work with. But we will also try to get permission to work with some ethnic groups that are still on the list to be resettled. We could then work with them on sustainable management of their natural resources. We could carry out some livelihood activities and perhaps make the government staff see that things can be done in a different way, without resettling complete communities.'

There is mounting evidence that slash-and-burn activities may not be as destructive as has always been thought, Mollot points out. Logging seems to be a much greater environmental threat to the country. 'Anyway, replacing whole communities is not the solution. There is a lot of international criticism of this policy of the Lao government. They don't like that. But eventually they may be more open to other solutions. That is a challenge.'

More generally, one could say that the land reallocation processes in Lao PDR are often badly performed, notwithstanding the good intentions. Mollot: 'Now government officials often tell villagers which part of the forest surrounding their village can be used for collecting non-timber forest products, which part should be left for conservation. But that is often completely opposite to the ways these villagers are accustomed to using these forests. There is not much of a dialogue. We feel the communities themselves should be more involved in this whole process of land reallocation. Include their knowledge; make use of it instead of destroying it all by replacing whole communities, which also makes way for all kind of other activities like logging and building dams.'



## Foreign business

On an afternoon walk through the sleepy village of Ban Pakayom, there is the sudden, roar of heavy vehicle engines, approaching rapidly. What could this be, in this village where no one of the Alak ethnic minority population possesses a car and just a handful of mopeds can be seen? Within a few minutes two huge trucks arrive in a cloud of dust. These are old army trucks, with winches mounted where once light artillery might have been. Each truck carries some seven men. There is also one woman, some chickens and a goat. Villagers hurry to the side when the trucks pass the main road, hooting loudly but without slowing down. Both trucks drive

on to the river and park in between a group of women who are washing clothes in the water. The men jump from the trucks, start filling large water cans with river water and take a bath themselves. No greetings are exchanged, not a word is said. Then the Vietnamese start the engines again, and speed off again through the village, back into the forest.

'These men are employed by a Vietnamese company, which has a logging concession for this area', explains Ban Pakayom's chairman Katong. 'Last year they felled a lot of the forest here. Now they've come back to collect the trunks they couldn't take with them at that time because of the rainy



season. They have official papers, so we can't object. Also, they bring in some cash for the village. They have to pay 1 dollar tax for each cubic meter they cut.

While the villagers accept the Vietnamese loggers (although showing disgust at their rude behaviour), a serious conflict arose some time ago with a group of Chinese gold miners. Chairman Katong points to some rocky islands in the middle of the river. 'Residues of the gold mining', he explains. What exactly went wrong he does not want to say, but it ended with the villagers forcing the Chinese to leave. 'They did not contribute to the village', Katong says, 'and I guess their activities were illegal too. So when we asked them to go away, they did.'

Driving back from the village, we pass large piles of hardwood in this dry dipterocarp forest, ready for transport. Some time later, close to the city of

Xekong, large fires near the road catch our attention. No slash-and-burn cultivation this time, but a brick factory, run by another Vietnamese company. Some ten Vietnamese labourers are busy digging out clay. At the edge of the large hole in the ground, three men operate a simple machine that turns the clay into bricks, which are directly transported to the ovens. Most of the burning material is collected as waste wood at the nearby sawmill explains the foreman, the only one who speaks any English. He expects that this operation will continue for a few more months, and that then they will leave again, he says. What will the happen with the huge hole in the ground, he does not know.

'It is a big problem in this country', says Khamkhoun, large mammal specialist at WWF's Vientiane office. 'Our neighbouring countries have



depleted their own natural resources, now they come to Laos.' Many of these activities are in some way or another illegal. Evidence from several sources shows that illegal commercial logging activities in Lao PDR are on the rise, mainly to feed the growing appetite for wood in neighbouring China, Thailand, and Vietnam. Most of the illegal hunting in Xekong and Attapeu is supposed to be done by Vietnamese. New roads that are currently being built to Vietnam will further stimulate these activities. The flow of people through the Xe Kong basin will grow and the roads will open up previously inaccessible areas to wildlife traders.

Additionally, legal activities of foreign companies, legitimised by the Lao central government, are frequently performed in an unsustainable way. This is true for many of the forestry activities, which in practice are clear-cut operations. It will probably also be true for the hydropower dams that are planned in Xekong province: a Vietnamese consortium has signed an agreement to build five hydro dams in the Xe Kong river basin, two of which will be on the main stream of the Xe Kong itself.



## The river fish market

Every morning, from 8.00 - 11.00, Xe Kong fishermen, middlemen and traders meet at Keng Louang, a spot where the river is extremely broad, with many small rocky islands in the water. Some 20 to 30 men and women gather at the riverbank, waiting for the boats to arrive. As soon as one comes in sight, several of the waiting crowd jump into the water and hurry to the boats. The person who first lays hands on a newly arriving boat, is entitled to buy its complete catch. Prices for almost all species are fixed, so there isn't much haggling.

'This place has improved a lot', says Seumy, the WWF's project counterpart at the Provincial Agriculture and Forestry Office. Most of the traders are of the Alak ethnic minority. Since they came to live here, some eight years ago, 'they have done well. They are better dressed, and know how to trade now.' 'That's development', concludes the satisfied government official.

Trader Pui



Take middleman Phong (36), who every morning goes out with his speedboat to buy fish at the villages. He leaves at 5.00 am; within two hours he reaches the most remote settlement and at 9.00 am he is back at the market place. He came to live here in 1997, with the first group who settled in this place. Life has improved a lot since then, he agrees, although now things are getting worse again. 'I used to purchase some 100 kg each day. Now many traders from other areas are active here too, while the catches are shrinking.' Writing with a pencil on his hand, he calculates how much he has bought and sold today. It turns out to be only 50 kg.

Twenty-eight-year-old Pui is a trader from the Xe Kong market. She stands a bit away from the group that is anxiously awaiting the arrival of the next boat. 'I am still learning by observing', she explains. Pui just started doing this job last year. Maybe she is not bold enough for it, she says. That's why today she has brought her nephew. 'He is very fast, although the more experienced ones still know how to be the first. But actually the problem is that most of the time there is not enough trade here. There are so many traders here.'

At the end of the morning, Pui and her nephew have succeeded in buying some 12 kg of fish. She could have easily handled 30 kg, but this was all she could lay her hands on. For these 12 kg she paid 110 thousand kip (the equivalent of 11 dollars). Selling this amount at the market in the province capital will bring her some 180 thousand kip. The difference is enough to pay for the expenses and make a contribution to the family income. She still lives with her parents; three out of the five children are still studying. 'But now I have to leave for the market', she says with a smile, and starts the moped's engine. Her nephew climbs on the back seat, with one hand holding the basket with today's haul.



## Need some elephant skin to cure kidney problems?

At the Morning Market in Vientiane, everything is for sale. Outside, against the wall of the huge marketplace one finds a row of Hmong women traders, seated on the ground behind their wares. They specialise in all kinds of medicines, much of which is composed of parts of wild animals and plants. Do you need some elephant skin which, prepared as tea, will cure your kidney problems? Or dried rhino bone to use when you feel weak or tired? The leg of the iko bird for your stomach problems? You will find it here. As well as a porcupine or squirrel tail, dried mice or teeth from the wild white pig.

Mrs. May Lee is one of the traders. She is originally from the South, close to Xekong. You can find her here at the market almost every day, except for the periods when she goes back to her home town to buy new products. Although relatives who come to the capital also bring these with them.

The main reason for customers to buy her products, says Mrs. Lee, is that 'people have no money to pay for a hospital visit. That is why they use traditional medicine. Or, if the regular medicines do not cure their illness, they also come to us.'

For wealthy customers, Mrs. Lee has something

special: rhino horn. One horn costs 300,000 kip (some 30 dollars). Later we discover that rhino horn should be more expensive, and we've probably been offered cow or buffalo horn instead.

It turns out to be a lot more difficult to find wildlife for consuming at the market. At the Nong New market, in the northern part of Vientiane, exotic species are no longer sold. At least not in the open. There is a large sign at the market entrance saying, 'Don't sell wildlife. It is illegal.' The Forestry Department comes to check the market three times a week. When we ask traders at the market for wildlife, they say they 'have to check people' and tell us to come back later.

Khamkhoun Khounbolin works with WWF Lao PDR, as large mammal specialist. This means that he is involved in efforts to save Lao PDR's remaining elephant, tiger, rhino, saola, and dolphin. 'Laos has some protected areas', he explains, 'but even in those areas there is no patrolling. A further problem is that there are areas where the army is active, and we cannot interfere with that.'

In the provinces of Xekong and Attapeu, construction of new roads is opening up previously

inaccessible areas to wildlife traders. Khamkhoun: 'Because of the general cultural acceptance of eating wildlife, it is hard to stop.' Many species have been already exterminated; most of the remaining have retreated to isolated parts near the Vietnamese border, high up in the mountains. 'The Vietnamese do most of the hunting. They come to Lao PDR and catch everything: deer, snake, birds. Most of it is

meant for food, and also medicine. They either sell to Lao traders or take the catch with them to their own country. There is a lot of illegal border trade. Sometimes they have official letters from politicians. It is a big problem in this country. Our neighbouring countries have depleted their own natural resources, now they come to Laos.'



Anyone visiting Lao PDR in the late dry season, gets the impression that the whole country is on fire. Rice farmers set fire to the weeds in their paddy



fields, villagers do the same with the forests in their neighbourhood to quickly generate fresh grass for their cattle when the rains start falling. And in the hills and the mountains, ethnic minority groups practice their swidden (slash-and-burn) methods of cultivation, as they have done throughout the ages. On many days in March and April, the sky is completely obscured by the smoke while small particles of ash fall like rain.

According to the WWF's forestry officer Somphong, it's easier to convince the paddy field owners not to burn their land than the shifting cultivators. 'They have no alternative. That is one of the reasons why the government wants to resettle them. In the North, mainly around Luang Prabang, there is less burning now, mainly because tourism offers an alternative. In the South, it's still difficult.'

'For some reason', Somphong says, 'every Lao wants to burn things. My father lives in the city, but when there are some leaves in his garden he immediately makes a big fire.' Maybe it's something genetic with Lao people, Somphong jokes. 'Some time ago I gave some lessons at the Forestry College in Vientiane. Even those forestry students were convinced that it is good to regularly set fire to a forest to clear it, as they said. They really had no idea about the protective and productive qualities of leaves and trees.'



*To conclude*

# The battery of Southeast Asia?

Ten years after the World Bank last helped build a big dam, it agreed in April 2005 to lend the government of Lao PDR \$270m to build a dam on the Nam Theun river, a tributary of the Mekong. Other financing followed and construction of the dam is expected to start soon. Thailand's state-owned power company has already signed an agreement to buy most of the electricity generated by the dam. That should bring Lao PDR's cash-strapped government, which currently depends on foreign aid to fund its budget deficit, up to \$2 billion over the dam's first 25 years of operation. Much of that money, in turn, could be used to fund additional development schemes for ordinary Laotians.

Lao PDR is landlocked and short of high-value exploitable natural resources. The only exception is hydropower: the Mekong and its tributaries have tremendous hydropower potential. The Lao government is determined to use this potential. If fully harnessed, it could position Lao PDR as the 'battery' of Southeast Asia, providing a base for the development of the country.

According to its many critics, the Lao government is living in a dream world, believing that it can push development through without hurting the country's cultural (ethnic) and natural resources. Should all the hydropower plants that are presently being planned for the near future actually be built, consequences for nature and for large parts of the population will inevitably be huge. Also, it is common knowledge that hydroelectric companies often deliberately apply for concessions in areas zoned for dams, confident in the knowledge that - even if the facility is never constructed - they can usually stall for time long enough to log the valleys intended for inundation. Hence the main profit comes from timber, whether or not the dams go ahead.

At the WWF's Vientiane office, project leader Roger Mollot points out that, slowly, things are changing in Lao PDR. 'The heated debate on Nam Theun II has made dialogue in this country more acceptable. There is still some resistance here against the role of NGOs, but that is decreasing. In the 1990s most officials here believed that conservation groups were only interested in keeping the Lao people poor.'

Providing a forum for dialogue is one of the things Mollot hopes to achieve in the short time span of the project. 'We are not going to tell government that

building dams is a bad idea. Or that there should be no logging or no more road construction through ecologically vulnerable areas, like the flood plain of the Xe Kong. But we can try to influence the process and stimulate dialogue on a more sustainable future for this land. We will conduct training courses and workshops, and bring people to the field. That may show them that hydropower can bring in a lot of money, but also costs a lot. Dams certainly can be built in a better way than now is often the case; without all the environmental damage. Or you can try to find alternatives.'

Working directly with government is inevitable in the still very centralised political system in Lao PDR. Mollot sees this more as a positive than a negative aspect. 'We will mainly work at the provincial and district level. Generally, these officials are very supportive; mostly they are quite excited about the activities. Once you get over the initial hurdle at the central level, there is a large potential to work in the provinces. I see the project as a great opportunity to engage local government in sustainable development. We will try to influence their attitudes, convince these guys that they should have a say in the whole process of decision making, get them more involved, and guard their own areas' interests.'

The main goal of the project, to create a substantial amount of co-management arrangements between local authorities and communities on fishing and other uses of natural resources, should, in the end, result in the creation of an overall Xe Kong watershed committee. Such a committee would include all key stakeholders.

Mollot: 'This will essentially be a place for dialogue. How this will develop in the future we don't know, but this is how we plan to get government in dialogue with others. We need to look further than four years time, we should try to start a process that will go on afterwards. We need to support governmental institutions, find out what their mandates are, and train their staff at provincial and district levels. Help them to understand more about conserving natural resources, while at the same time working on poverty alleviation. But you have to realise this is going to take time: a combined approach to environmental and social issues is completely new here. That is our challenge: to make this concept understood.'



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