

THE LEGACY OF HYDRO IN LAOS

The Dtdad Gngong Falls at the bottom of the Nam Gngong River will likely dry out for 4-5 months of the year after the completion of the Nam Mang 3 Dam, affecting fisheries.

Hdropower projects developed over the past decade in Laos have left a legacy of destroyed livelihoods and damaged ecosystems. As a result of dams, tens of thousands of Laotians lack sufficient food to eat, clean water to drink and income to meet basic needs. The Lao government has taken very few steps to improve the livelihoods of affected communities. Where the government has acted, it has been piecemeal and haphazard, and only after sustained lobbying and pressure from international NGOs. As there are no independent agencies within Laos to monitor the government's commitments, affected communities remain isolated, marginalized and intimidated from voicing concerns

The five case studies in this paper point to the great difficulties in implementing large-scale infrastructure projects in Laos. The same problems have been repeated, regardless of which financial institutions, bilateral agencies or contractors are involved.

These experiences raise fundamental questions regarding the Lao government's institutional capacity and political will to ensure that infrastructure projects are adequately monitored, that compensation is fairly and fully distributed and that environmental issues are properly addressed. Even the Asian Development Bank (ADB) admitted in a recent Nam Theun 2

project document that "[t]he government's capacity to implement large-scale complex hydropower projects still remains a major concern."

As three of these projects were funded by the Asian Development Bank (ADB), questions should also be directed to that institution. The ADB claims that its financing of hydropower projects in Laos will help to ensure that environmental and social impacts are adequately addressed. However, the ADB has carried out poor quality, selective or non-existent post-construction monitoring, resulting in affected people being worse off after the project than before it.

HOUAY HO HYDROPOWER PROJECT, SOUTHERN LAOS

Built by Korean company Daewoo and completed in 1998, the Houay Ho Hydropower Project has had a devastating impact on two ethnic minority groups in Southern Laos. Around 2000 ethnic Heuny and Jrou people living in the dam's reservoir or watershed area have been forced to move to resettlement sites, where there is insufficient arable land and fresh water supplies. The disruption caused by relocation, and the separation from their ancestral lands and traditional communities, has led many villagers to abandon their traditional cultural practices.

According to reports by researchers, most families in the resettlement area have only one or two hectares of land, and much of this is marginal and of poor quality, making it unsuitable for swidden agriculture. They have limited access to non-timber forest products, which formerly sustained them, and have severe shortages of food. While 90% of the relocated families used to



One of the resettlement sites housing families displaced by the Houay Ho project. Shortages of cultivatable land has caused hunger and malnutrition amongst the people.

be self-sufficient in rice, it is now estimated that 95% have rice deficiencies, with enough rice for only three months of the year.

Villagers also lack clean, accessible fresh water. In the largest resettlement area, there are only two wells for more than 1750 people. Consequently, many villagers must travel one to two kilometers to the nearest water source, causing considerable hardship. Lack of adequate water and food has led to malnutrition and other health problems.

Many people living in the resettlement sites wish to return to their former villages but are prevented from doing so by government officials. Despite this, since they were relocated, government officials have never visited them, given them encouragement or helped them find solutions to the problems they are facing. Says one villager from Thong Nyao village:

My relatives and I don't want to live in the resettlement village but we were forced to and we could not protest. We miss our native lands where we used to live for hundreds of years, our crops, vegetables and our happy lives.

Sources: Nok Khamin, "More trouble for the Heuny," *Indigenous Affairs*, No. 4/2000; "Hydroelectric Dams and the Forgotten People of the Boloven Plateau," unpublished report from field visit to the area, 2003.

NAM SONG DIVERSION DAM, CENTRAL LAOS

Completed in 1996, the Nam Song Diversion Dam was funded by the ADB at a cost of US\$31.5 million. It was designed to divert water to the Nam Ngum reservoir to increase the generating capacity of Nam Ngum Dam.

After an investigation by the Australian Mekong Resource Center in 2000, the ADB paid consultants to do a follow-up "impact analysis and action plan." Released in October 2001, the report found that Nam Song "has caused severe impacts on aquatic ecosystems and human use by 13 villages, of the river downstream of the Diversion Weir. Negative impacts of smaller magnitude have been experienced along the Diversion Canal (3 villages) and on the Headpond and the Nam Song upstream of the Diversion Weir (2 villages)."

Impacts include severe declines in fisheries for over 1,000 families and loss of boats and fishing nets, loss of agricultural land through flooding or erosion, and lack of clean washing and bathing water. Eight people have died due to dangerous project structures. The consultants estimated total losses since diversion

(a period of 6 years) to be valued at nearly two million dollars. According to the consultants, the "magnitude of unidentified and unmitigated impacts ... points to failings in the studies carried out prior to construction, the review process, and the compliance monitoring framework designed to prevent these types of events from occurring for this extended period of time."

Despite these findings and recommendations by the consultants for remedial measures, the ADB has refused to publicly release the report or pressure the Lao government to follow its recommendations. The Lao government has failed to act on any of the consultants' recommendations.

Source: Roel Schouten and Sean Watson, *Nam Song Diversion Project ADB TA 5693 – Draft Impact Analysis Report and Action Plan*, Asian Development Bank, October 2001.

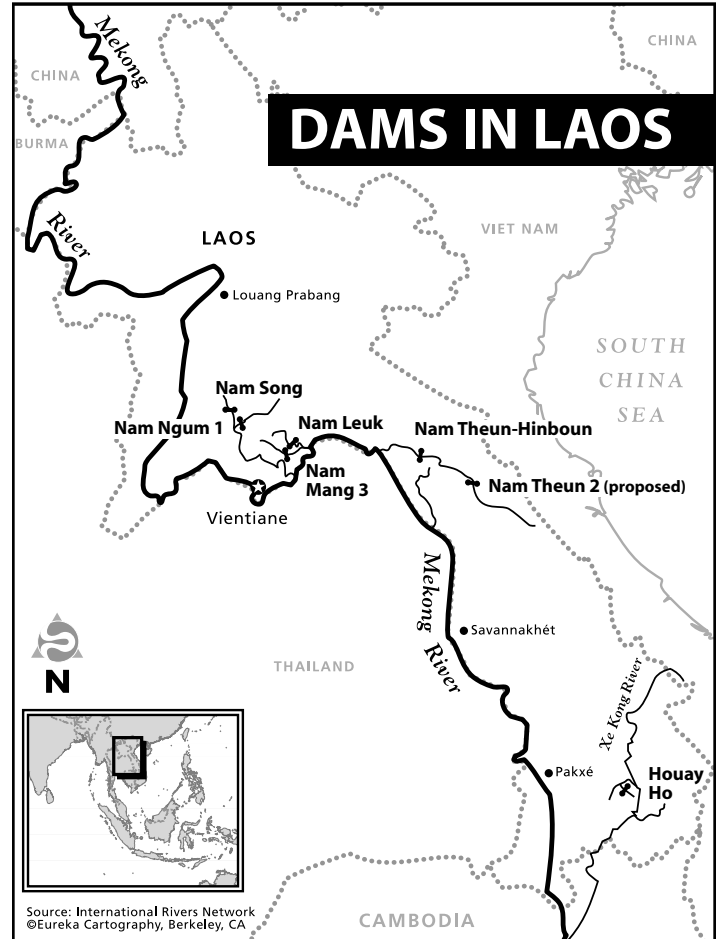
NAM THEUN-HINBOUN HYDROPOWER PROJECT, CENTRAL LAOS

The 210-MW Nam Theun-Hinboun Dam, 50 kilometers downstream of the proposed Nam Theun 2 Dam, was funded by the Asian Development Bank and completed in 1998 by the Theun-Hinboun Power Company (THPC). THPC is owned by the Government of Laos and Nordic and Thai investors.

Theun-Hinboun has had a severe impact on the livelihoods of more than 25,000 people in 57 villages living downstream and upstream of the dam. These impacts have included declines in fish catches of between 30-90%, the destruction of vegetable gardens and dry-season drinking water sources, loss of fishing nets and increased difficulties with transportation. At Theun-Hinboun, water is diverted from the Theun River to the Hai and Hinboun Rivers. Due to increased water levels, serious erosion has occurred along the riverbanks of the Hai and Hinboun Rivers. These impacts have been acknowledged by the ADB and THPC.

After several years of sustained lobbying from NGOs, the Theun-Hinboun Power Company released its Mitigation and Compensation Program in September 2000, promising to spend up to \$5 million on mitigation and compensation measures for affected communities over a 10 year period. While the company is actively working to mitigate the impacts of the project on communities, adequate compensation has still not been provided to all affected communities.

A visit to the project site by International Rivers Network staff in 2002 revealed the many problems that THPC is facing in trying to restore subsistence-based livelihoods. Wells to supply drinking water were dug too shallow and became unusable after floods clogged them with sediment. Erosion of riverbanks along the Nam Hai continues unabated and is impacting villagers' vegetable gardens and water quality. It is



Serious erosion along the Nam Hai and Nam Hinboun Rivers has swept away land and riverbank vegetable gardens.

uncertain whether the livelihood programs encouraging villagers to grow fruit will be economically viable. While these and other problems abound, THPC is making concerted efforts to improve its compensation program and has commissioned a review of its Environmental Management Division to take place in March. The question that remains is whether it will be possible to restore the subsistence-based livelihoods of 25,000 people who continue to suffer from the impacts of Theun-Hinboun.

Sources: Bruce Shoemaker, *Trouble on the Theun-Hinboun: A Field Report on the Socio-Economic and Environmental Effects of the Nam Theun-Hinboun Hydropower Project in Laos*, IRN, 1998; Asian Development Bank, *Aide Memoire: Special Review Mission, 18-28 November, 1998, and 9 to 18 November, 1999*; personal communication with Theun-Hinboun Power Company.

NAM LEUK HYDROPOWER PROJECT, CENTRAL LAOS

The 60-MW Nam Leuk Hydropower Project was completed in 1999 and funded by the ADB and Japanese government. The project, located within the Phou Khao Khouay National Park, diverts water from the Nam Leuk River to the Nam Xan River.

The project was built with the stipulation that one percent of revenues would be used to protect the Phou Khao Khouay National Park. In an April 2003 letter from Electricité du Laos (EdL) to IRN, EdL admitted that these revenues have not been fully disbursed due to inadequate institutional capacities in managing the funds and implementing the proposed management plan.

Although more than 9,500 people were expected to face direct impacts from Nam Leuk, almost no consultation with affected villagers occurred until long after the project was planned and approved. In October 2002, IRN met with villagers living along the Nam Leuk River downstream of the dam. Some of their concerns were as follows:

Inadequate fresh water supplies: Before the dam was built, villagers relied on the river for drinking water. Now, if they drink the river water or bathe in it, they get rashes and stomach ailments. Villagers had been promised new water supply by project authorities, but still do not have enough water during the dry season.

Unaffordable electricity: Although transmission lines have been erected, few houses had been connected to the grid because



Boys hunting for rats. Since the decline in the Nam Leuk fishery, hunting has become more important to the villagers.

of the high connection fee (roughly half of annual per capita income). Villagers believed this would be provided free of charge.

Problems with irrigation: Lower levels of water in the Nam Leuk River have made it difficult to irrigate vegetable gardens. Villagers have to carry water over longer distances to water their gardens during the dry season.

Decreased fish populations: Fish catches have declined from 2-4 kilograms per day to less than one kilogram per day. Despite spending more time fishing and investing in more expensive gear, villagers cannot catch enough fish to sell in the markets and sometimes do not have enough to eat.

When IRN visited villages previously in 2000, villagers said that consultants in charge of carrying out the mitigation program for Nam Leuk had promised fish ponds and other livelihood replacement. Since this time, villagers report that none of the promised compensation measures have materialized.

Sources: Personal communication with villagers; Susanne Wong, "Nam Leuk: Another ADB-Funded Dam Fiasco in Laos," *World Rivers Review*, April 2003.

NAM MANG 3 HYDROPOWER PROJECT, CENTRAL LAOS

The US\$63 million Nam Mang 3 Hydropower Project is being financed by the Government of Laos and the China Export-Import Bank. The project is expected to be completed by December 2004. Nam Mang 3 has been planned, approved and financed in a non-transparent manner. Construction began in late 2001 even though the project design had not been finalized and studies required under Lao laws had not yet been conducted. The World Bank, IMF and ADB have expressed concerns about project implementation and its economic viability.

At least 15,000 people are likely to suffer impacts to their livelihoods as a result of the project. Of these, about 2,700 people living in three villages will lose homes, rice paddies, fruit trees, fish ponds, grazing lands and gravesites to the project's reservoir. They have not been informed of possible plans to relocate them or provide compensation for their lost assets.

Thousands more people living along the Nam Nyang and Nam Ngam Rivers will face impacts to their livelihoods due to Nam Mang 3. Diversion of water from the Nam Nyang will dramatically lower water levels downstream of the dam, thereby reducing fish populations, impacting riverbank gardens and impairing domestic water supplies. Increased water flow on the Nam Ngam River will impact at least 1,100 households in seven villages who

depend on the river for fisheries, irrigation and riverbank gardens.

Efforts to mitigate the impacts of Nam Mang 3 are likely to fail. The project's own Environmental Management and Social Action Plan points out the difficulties in successfully mitigating the project's impacts due to lack of adequate financial resources and problems with government capacity in implementing the program.

Sources: Resource Management and Research, *Environmental Impact Analysis and Outline Social Action Plan and Environmental Management Plan*, produced for CWE and Electricité du Laos, 2002; *New Lao Dam Embroiled in Controversy: Report from a Fact-Finding Mission to the Nam Mang 3 Hydropower Project*, IRN, March 2003.

IRN supports local communities working to protect their rivers and watersheds. We work to halt destructive river development projects and to encourage equitable and sustainable methods of meeting needs for water, energy and flood management. Published in March 2004.