Power Surge

THE IMPACTS OF RAPID DAM DEVELOPMENT IN LAOS

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Executive Summary

The small country of Laos is undergoing some big changes. As it tries to become the "battery of Southeast Asia," Laos' hydropower industry is booming. Increasing power demand from neighboring Thailand and Vietnam and new investors from Thailand, China, Russia, Vietnam and Malaysia are driving this expansion. Six large dams are officially under construction in Laos and at least 12 more are at advanced planning stages. Laos is also proposing six dams for the mainstream Mekong River.

Most of power produced by these hydro projects will be exported to countries like Thailand and Vietnam, as well as to Cambodia and China. If favorable contracts are negotiated with the buyers of Laos' hydropower, the Lao government could earn substantial revenue over the next few decades. But in a country with low government capacity to monitor the impacts of dam projects, where freedoms are restricted, transparency is low, and corruption is high, this "flood" of new high-risk hydro projects raises important concerns. Hundreds of thousands of Lao villagers are likely to lose land, fisheries and other resources when these large dams are constructed and Laos does not have a good track record of managing the social and environmental impacts of big dams.

The few large hydropower projects now in operation, such as the Houay Ho and Theun-Hinboun dams, have increased poverty for tens of thousands of Laotians. Villagers who have been resettled have not had their incomes restored to previous levels. Other villagers have lost important fisheries, rice fields and riverbank gardens, but have not received sufficient compensation or replacements.

Laos' largest dam, Nam Theun 2, is nearing the end of its construction phase. This project was supposed to help raise the environmental and social standards applied across the Lao hydro sector. But Nam Theun 2 itself has experienced resettlement and compensation problems, and its program to address the impacts on villagers living downstream has significant shortcomings. Furthermore, the new dam projects that have been approved since Nam Theun 2 actually indicate a regression in environmental and social performance. It does not seem that Nam Theun 2 is leading to improvements in the design and management of Lao dam projects so that impacts on communities and the environment are addressed.

Though Lao environmental and social laws, regulations and policies are good on paper, the companies building dams in Laos are not following these rules. The Lao government also does not seem to be enforcing the laws and policies that it has adopted. The 11 case studies of dam projects included in this report tell troubling stories of poor planning, inadequate compensation and mitigation measures, and broken promises to affected villagers (see table on pages 7-9).

Dam developers, consulting firms and construction companies are benefiting from the lack of resources, capacity and authority of the Lao Water Resources and Environment Agency (WREA). WREA is supposed to ensure that dams built in Laos comply with the country's social and environmental laws and policies. However, WREA often has not approved the social and environmental plans for these dams before their construction begins, and dam builders are not being required to provide sufficient funding to address their projects' negative impacts on Lao

The Mekong River at Vientiane, Laos. Photo: Shannon Lawrence

villagers. Since WREA does not have the funding or staff to monitor dams during their construction or operation phases, many dam companies will be able to reduce their costs by violating Lao regulations and the commitments they made to affected communities. Finally, because WREA does not have the authority to say no to a project, some of the most harmful dams will still be built.

Furthermore, no genuine strategic planning process or river basin-wide management approach is informing how the Lao government selects and approves dam projects. Although studies have been done in recent years to help prioritize projects in terms of costs, benefits and environmental and social impacts, the recommendations of these studies are not being followed. It seems that any company that wants to build a dam in Laos is allowed to do so. This dam disorder increases the costs and the negative impacts of hydropower development, both for the government and for Lao people.

Since most of Laos' large dams export their electricity across national borders, their primary benefit is the revenue that is generated in taxes, royalties, dividends and other payments to the government. Laos is one of the poorest countries in the region, and these revenues should be used to help reduce poverty in the country. This was the commitment made for the revenue that will be generated when Nam Theun 2 begins operating at the end of 2009. However, money alone will not be enough to reduce poverty in Laos if a number of harmful policies and initiatives continue to be supported by the government and donors. These initiatives include the eradication of swidden agriculture, internal resettlement, and the rapid awarding of hydro, mining and plantation concessions, which are undermining food security and income opportunities for rural people.

There are alternative development and poverty-reduction options for Laos, a number of which are already being studied and implemented by Lao government agencies in cooperation with donors and non-governmental organizations. These approaches would improve the ability of lowland and upland farmers to adapt to change, safeguard their natural resources, and help them take advantage of new income-generating opportunities. Bottom-up strategies, such as developing markets for niche agricultural products and ensuring community land rights, combined with top-down strategies to improve government transparency and revenue collection and management capacity, need to be prioritized and scaled-up.

While the Lao government has declared hydropower

to be a national priority, Laos will gain few long-term benefits from these projects if serious consideration is not given to when, how and if they should be built in the first place. Rushing to meet its neighbors' power demands or the profit-seeking motives of investors will likely do Laos more harm than good. A selective, cautious approach would allow the government to use revenues from the next few dams to improve its regulatory capacity and its ability to negotiate favorable contracts with power purchasers. Large dams that do not meet Lao laws, regulations and policies, or that would cause widespread, irreversible environmental and social harm, should not be built.

Overall recommendations for the Lao hydropower sector include:

- **Better assess the development options for Laos.** The Lao government and donors should comprehensively assess, through a broad-based participatory process, all poverty reduction and revenue generation options for Laos and evaluate their costs and benefits.
- **Slow the flood of new dam projects.** The Lao government should slow the pace of new hydro projects and consider a moratorium on the signing of Concession Agreements for new dams until comprehensive assessments and basin-wide planning are used to prioritize hydropower developments.
- **Minimize the costs/maximize the benefits.** Donors and the Lao government should work together to increase the capacity, authority and resources of the Water Resources and Environment Agency of Laos. The government's capacity to negotiate favorable agreements with power purchasers should also be strengthened.
- **Improve environmental and social assessments.** The Lao government and dam developers should ensure the timely disclosure of feasibility studies and draft environmental and social assessments in Lao and English languages and in multiple venues, including through the internet. Comprehensive consultations should be conducted to identify gaps and weaknesses in these studies.
- **Support rural livelihoods.** The Lao government should reject any resettlement plan that does not include detailed documentation of the availability of productive agricultural land and resources in the proposed resettlement sites. The government should not proceed with any dam project unless the assessments include baseline data and a comprehensive evaluation of upstream and downstream fisheries impacts. Compensation for fisheries losses for all affected communities should be provided for the life of the project. Performance bonds, or other legally binding mechanisms to ensure that dam developers provide sufficient funding to address the impacts of their projects, should be required.
- **Share the benefits directly with affected people.** The Lao government should establish clear, enforceable mechanisms to guarantee that dam-affected communities receive a share of project revenue or other benefits for the life of the project. Benefit sharing must be additional to compensation for people's losses.
- **Protect critical resources.** Based on their considerable environmental, social, economic and cultural value, some rivers—such as the Mekong River mainstream—simply should not be dammed.

Children near Khongpat Village on the Hinboun River. Photo: David J.H. Blake

Summary of Impacts

FOR DAMS FEATURED IN *POWER SURGE* CASE STUDIES

Project	Developers (+ GoL)	Market	Status	EIA Disclosed?	Main Issues
Don Sahong 240-360 MW (p. 80)	Mega First	Thailand	Proposed; PDA signed	No	• First dam proposed for the lower Mekong mainstream • Block main fish migration channel in Khone Falls area; severe fisheries impacts for Laos, Cambodia and region • Threaten last Irawaddy Dolphin population in Laos • Jeopardize tourism value of Khone Falls area and potential RAMSAR status • Affected villagers not properly informed; no consultations in Cambodia
Houay Ho 150 MW (p. 73)	Suez Energy-Tractebel, MCL	Thailand	Operation; 1999	No	• Resettled about 2,500 mainly ethnic minorities to area with insufficient agricultural land and affected others downstream; adequate compensation still not provided
Nam Kong 1 150 MW (p. 63)	Region Oil	Vietnam or Thailand	Proposed; PDA signed	No	• Villagers already displaced from project area • Impact about 1,612 ethnic minorities downstream; no compensation proposed/ budgeted • Affected villagers not properly informed
Nam Leuk 60 MW (p. 50)	EdL	Laos	Operation; 1999	Yes	• More than 9,500 people downstream affected by fisheries losses and clean water shortages; adequate compensation still not provided • Built in Phou Khao Khouay NPA
Nam Ngum 2 615 MW (p. 47)	Ch Karnchang, Ratchaburi, Bangkok Expressway, TEAM, PT Construction and Engineering Co, Shlapak Group	Thailand	Construction; COD 2013	No	• Resettle 6,000 mainly ethnic minorities; questionable land availability and livelihood proposals; apparent lack of RAP • Impact fishery of Nam Ngum 1 reservoir, a source of food and income for more than 9,000 people • Transmission line constructed through Phou Khao Khouay NPA
Nam Ngum 3 440 MW (p. 47)	GMS Power, Ratchaburi, Marubeni	Thailand	Proposed; CA/PPA under negotiation	No	• Resettle 523 people within their village territory • Affect at least 2,455 people downstream and unknown numbers upstream • Road construction before EIA approval
Nam Ngum 5 120 MW (p. 47)	Sinohydro	Laos	Construction; COD 2011	Yes	• Affect paddy land of 49 households; questionable livelihood proposals • EIA/SAP underestimate impacts; lack of baseline data or assessment of downstream impacts • Construction before EIA approval

Project	Developers (+ GoL)	Market	Status	EIA Disclosed?	Main Issues
Nam Song (p. 50)	EdL	Laos	Completed; 1996	No	• About 1,000 families affected by fisheries losses, flooding/erosion impacts, clean water shortages; adequate compensation still not provided
Nam Tha 1 168 MW (p. 25)	China Southern Power Grid	Thailand/ Laos	Proposed; CA under negotiation	No	• Resettle 8,000 mainly ethnic minorities; questionable land availability and livelihood proposals • Affect more than 4,600 downstream; unknown numbers upstream • Road construction before EIA approval • Impact Bokeo Reserve and Nam Ha NPA
Nam Theun 1 523 MW (p. 29)	Gamuda, EGCO	Thailand	Proposed; CA/PPA under negotiation	No	• Resettle 3,700 mainly ethnic minorities • Significant fisheries impacts affect at least 32,000 people upstream and downstream • Bisect regionally significant Nam Kading NPA • Road construction before EIA approval • Questionable economic viability
Nam Theun 2 1,070 MW (p. 41)	Electricité de France, EGCO, Ital-Thai	Thailand/ Laos	Construction; COD 2009	Yes	• Program to deal with downstream impacts on 120,000 people behind schedule and under-funded • Some livelihood programs for 6,200 resettlers and other affected villagers of questionable viability • Compensation for more than 10,000 people affected by construction paid more than a year after land and assets taken; apparently not enough land to provide most of 200 significantly affected households with critical land-for-land replacement
Sekong 4 600 MW (p. 55)	Region Oil	Vietnam or Thailand	Proposed	No	• Resettle more than 5,000 mainly ethnic minorities; questionable livelihood proposals; many villagers already moved out of reservoir area • Cause an estimated $6.25 million in fisheries losses annually in Lao part of basin, potentially affecting more than 190,000 people in Laos and unknown numbers in Cambodia; no compensation proposed • Affected villagers not properly informed; no assessment of impacts in Cambodia
Sekong 5 400 MW (p. 55)	Region Oil	Vietnam or Thailand	Proposed	No	• Resettle unknown numbers of mainly ethnic minorities; many villagers already displaced from reservoir area • Exacerbate fisheries losses and water quality problems caused by Sekong 4 • Bisect Xesap NPA
Theun-Hinboun Expansion 280 MW (p. 35)	GMS Power, Statkraft	Thailand/ Laos	Proposed: CA/PPA signed	Yes	• Resettle 4,360 mainly ethnic minorities; questionable land availability and livelihood proposals • Affect 48,411 people downstream, on project lands and in host villages • Exacerbate flooding and erosion in Hai and Hinboun basins

Project	Developers (+ GoL)	Market	Status	EIA Disclosed?	Main Issues
Theun-Hinboun 210 MW (p. 35)	GMS Power, Statkraft	Thailand	Operation; 1998	Yes	• About 30,000 villagers lost fisheries, rice fields, gardens and drinking water as a result of the project; adequate compensation not provided
Xekaman 1 322 MW (p. 67)	Vietnam-Laos Joint Stock Electricity Investment and Development	Vietnam	Proposed; PDA signed	No	• Resettle about 800 ethnic minorities; many others already displaced from reservoir area • Affect up to 10,000 people downstream through water quality changes, fisheries losses and erosion • Impact Dong Amphan NPA
Xekaman 3 250 MW (p. 67)	Vietnam-Laos Joint Stock Electricity Investment and Development	Vietnam/ Laos	Construction; COD 2010	No	• At least 7 ethnic minority villages downstream and 40 villages upstream may be affected • Inundate one village • EIA not completed before construction • Impact Dong Amphan NPA
Xekatam 61 MW (p. 76)	Kansai	Laos	Proposed; PDA signed	No	• Resettle 235 mainly ethnic minorities; questionable land availability and livelihood proposals • Affect unknown numbers downstream; no compensation proposed/budgeted • EIA/SIA underestimate impacts and numbers of affected people; villagers not properly informed
Xepian-Xenamnoi 390 MW (p. 73)	SK Engineering & Construction, Korea Western Power, Ratchaburi	Thailand	Proposed; PDA complete	No	• Would be built on former village land of Houay Ho resettlers that was supposed to be a nature reserve; possibly built in conjunction with large bauxite mining project • Resettle at least 4 villages and affect at least 8 other villages • Impact Xepian River downstream

CA–Concession Agreement

COD–Commercial Operation Date

EIA–Environmental Impact Assessment

PDA–Project Development Agreement

PPA–Power Purchase Agreement

SAP–Social Action Plan

SIA–Social Impact Assessment

Key Existing and Proposed Dams in Laos

About International Rivers

International Rivers is a non-governmental organization that protects rivers and defends the rights of communities that depend on them. International Rivers opposes destructive dams and the development model they advance, and encourages better ways of meeting people's needs for water, energy and protection from damaging floods.

The full report and additional supporting materials can be downloaded at internationalrivers.org

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