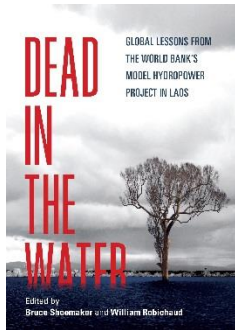


## Briefing Paper



# DEAD IN THE WATER: Global Lessons from the World Bank's Model Hydropower Project in Laos

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In June 2018, the University of Wisconsin Press published a new book about the Nam Theun 2 Hydropower Project in Laos. The book's findings relate to issues of environmental sustainability and biodiversity conservation, resettlement and social development, accountability and governance, World Bank approaches to poverty alleviation, and the general appropriateness of very large infrastructure projects, particularly in developing countries. This paper provides a summary of the book and its findings.

## A NEW MODEL HYDROPOWER PROJECT IN LAOS

### *Background History and Context*

The World Bank has been heavily involved in the planning, financing and development of the 1070-megawatt Nam Theun 2 (NT2) Hydropower Project in Laos since the late 1980s, when the scheme was first studied in detail. While other institutions, such as the Asian Development Bank, also financed the dam, the World Bank was the key dealmaker, and its approval in 2005 allowed NT2 to proceed. Completed in 2010, the US\$1.27 billion trans-basin<sup>1</sup> project is owned by the Nam Theun 2 Power Company (NTPC), a consortium of a private subsidiary of the Electricity Generating Authority of Thailand (EGAT), Électricité du France and the Government of Laos (GoL). Most of the dam's electricity is exported to Thailand.

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<sup>1</sup> In a trans-basin diversion dam, water is diverted from one river basin into another river basin at lower elevation. This can be economically attractive but then also impacts two rivers.

NT2 was proposed and developed at a time when the World Bank and other international financial institutions were criticized for their support of large hydropower projects globally due to their severe negative social and environmental impacts. This criticism led to the formation of the World Commission on Dams (WCD), which, in 2000, acknowledged many of the concerns about large dams and recommended major reforms in how hydropower projects should be planned and implemented.

### *Promotion of the World Bank's New Model Hydropower Project*

Partly in response to the criticism of previous large dam projects, the World Bank positioned NT2 as a new model of hydropower--a project that would pair public and private investment to alleviate poverty and make project-affected people and the environment better off. It was described as a project that would play a key role in meeting Thailand's growing demand for electricity; generate revenues for nationwide poverty alleviation in Laos; help conserve a globally important protected area; improve the lives of affected people; expand the engagement of Lao civil society; and stimulate a reform of the country's investment climate—all while succeeding as a profitable commercial enterprise.

In early 2011, the World Bank published a book titled, “*Doing a Dam Better*”, about the development of NT2. Published shortly after NT2 started commercial operations, the book was part of an extensive World Bank public relations campaign aimed at casting NT2 in a positive light. The lack of independent media and strict limits on civil society in Laos inhibited independent research that might verify - or refute - the Bank's claims. This allowed the World Bank and NTPC to promote a positive story of NT2 largely unchallenged.

To gain international support for NT2, the Bank needed to demonstrate that the project was in the best interests of – and had widespread support from – Lao citizens. With constraints on local civil society, the Bank sought alternative paths of planning, monitoring, and endorsement, which would be perceived as independent. This included establishing a Panel of Experts and contracting international non-government organizations (NGOs) to conduct studies.

### *Independent monitoring and international credibility: The Panel of Experts*

Established in 1997, the NT2 International Environmental and Social Panel of Experts (PoE), comprised three internationally recognized experts in the fields of dam resettlement, tropical forests and biodiversity conservation. The PoE's monitoring role, its public reports, and its enforcement mandate were important and innovative aspects of the project. However, the PoE surprised many NT2 critics when, on its second visit to Laos, it enthusiastically endorsed the project, even before the main social and environmental studies were completed. Through project approval in 2005 and beyond, the PoE remained strong supporters of NT2. However, as implementation of the project progressed, the PoE increasingly expressed concerns and

criticisms over NT2's social and environmental programs. This disillusionment culminated in 2014 when PoE member Dr. Thayer Scudder publicly expressed his disappointment with the project. At the end of 2015 the PoE refused to sign off on the scheduled closure of NT2's resettlement program due to concerns about its achievements and sustainability.

While the PoE's initial endorsement of NT2 has proved to have been premature, its overall record is mixed. PoE reports are an important public record of the history of NT2. PoE interventions at various stages certainly helped the affected people and the environment. PoE members deserve recognition for being willing to criticize a project in which they were very invested. However, the experience also points to limits on the effectiveness of external panels. The advice and advocacy of NT2's independent panels were poor substitutes for an engaged local citizenry and responsive government institutions accountable to their own people.

### *NGO Engagement*

Given political constraints on local civil society, the World Bank encouraged international development and conservation NGOs to engage in the project's planning and implementation. Bank staff recognized that NGO involvement could provide crucial information and perspectives and foster a more positive image for the dam. A major shortcoming to this approach was that international NGOs were required in Laos to partner exclusively with government departments. They had no mandate to represent the interests of communities unable to speak for themselves.

The project developers contracted three organizations --CARE, the Wildlife Conservation Society (WCS) and the International Union for the Conservation of Nature<sup>2</sup> (IUCN)-- to conduct social and environmental research in preparation for the project. In early 1996, the director of the WCS Asia Program publicly endorsed NT2, which resulted in considerable controversy. CARE and IUCN did not formally endorse the project but were viewed as supportive. A large coalition of NGOs opposed to NT2 found that WCS's endorsement, as well as the involvement of the other contracted organizations, undercut their campaign against the project.

Other international organizations based in Laos participated in meetings and a formal public participation process to review project plans. These groups found that their participation, seemingly in the context of decisions already taken, had little meaning. Some former staff view international NGOs as having been inappropriately used as surrogates for the lack of Lao civil society. The NT2 experience has proved a cautionary tale for NGOs, suggesting they approach with care invitations to participate in large development initiatives, and only after full consideration of potential ramifications.

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<sup>2</sup> Technically IUCN is not an NGO.

## **SOCIAL AND ENVIRONMENTAL OUTCOMES**

### *Indigenous Issues*

The NT2 project is located in central Laos, an area that lies at the junction of multiple ethnic and historical forces and domains, including Tai, Siamese, Vietnamese, Cham, Khmer and Lao former kingdoms and principalities, and diverse cultural types ranging from hunter-gatherers to sophisticated city dwellers. Currently, people of three major ethnolinguistic stocks live in the NT2 project area. Probably no other project on the Asian continent has such a level of combined historical and ethnological diversity. Yet the project proceeded without a clear understanding of this background. The consequence has been that the project has been unable to meet its goal of clearly improving the lives of affected Indigenous People.

Some ethnographic research was conducted in the late 1990s in relation to the project, but was discontinued. Instead, project developers focused on the preparation of safeguard policy documents required by the World Bank. Yet safeguard documents are not a substitute for in-depth research. The NT2 safeguard documents were assembled from superficial, rapid appraisal-style gathering of information. The result has been an increased vulnerability of Indigenous People directly affected by the project.

### *Resettlement and the Nakai Plateau*

The flooding of 430 km<sup>2</sup> on the Nakai Plateau by the NT2 reservoir resulted in the loss of the lands of approximately 6,300 Indigenous People in 17 villages. Sixteen of these villages had to be resettled. After consultations it was agreed that, in accordance with villagers' wishes, they would be resettled to un-inundated areas of the plateau. The NT2 Concession Agreement requires the developer, NTPC, to sustainably improve the livelihoods of resettled villagers, including increasing their income earning capacity. NTPC produced a Social Development Plan (SDP), which proposed five "pillars" to restore and improve village livelihoods: agriculture, livestock, community forestry, reservoir fishery, and off-farm activities.

Unfortunately, finding land on the plateau that wasn't flooded by the reservoir or already occupied by other people proved challenging. There is a simple reason the areas identified for resettlement weren't already occupied – the soil is very poor for both agriculture (in particular paddy rice cultivation) and livestock grazing. As a result, hundreds of resettled villagers' water buffaloes starved after the reservoir filled, and agricultural production at the resettlement sites is much lower than at former village sites. Resettled villagers have been unable to produce enough food to feed themselves. Compounding the problem is that with far fewer large livestock, which can sometimes be sold, they have lost opportunities to generate income.

Similarly, community forestry has fallen far short of meeting its projected contribution to villagers' livelihoods. The program, which was set up as a Village Forestry Association, has suffered repeated delays and setbacks from the start, mainly because village-managed forestry models are not supported within the current Lao political climate. From 2006 to 2018, the PoE repeatedly reported on significant problems with the forestry program's implementation, noting that it had fallen far short of its goal to provide a third of resettled villagers' income.

The most successful livelihood pillar has been reservoir fisheries. Fisheries production has followed the typical reservoir trajectory of very high numbers of fish at the closure of the dam followed by a decrease and then stabilization of catch. Despite this relative success, concerns remain on sustainability of production into the future. Reservoir fisheries are inherently fragile and need proactive care and management. The SDP lists essential measures to mitigate risks that threaten sustainable fisheries: ensure water quality through pre-impoundment biomass clearance, guarantee exclusive fishing rights for resettled communities, and prevent introduction of exotic species. Unfortunately, none of these policies were implemented to a high standard.

While significant amounts of infrastructure—schools, roads, clinics and new homes—were constructed for the resettled villagers, success with the sustainable restoration of livelihoods has remained elusive. In 2015, the PoE reported that “important problems remain” with every one of the five livelihood pillars. The PoE also expressed concern that the main advancements in villager income were unsustainable, since they were coming from illegal harvesting of tropical hardwoods and wildlife in the protected area (and thus at the expense of the conservation goals of the project). As a consequence of the collective failure of the livelihood programs to sustainably restore – much less improve – livelihoods, the PoE refused to sign off on the planned closure of the resettlement program at the end of 2015, triggering a two-year extension of the project.

### *Biodiversity Conservation*

The catchment of the NT2 project includes one of the most important nature reserves in the world. Nakai-Nam Theun (NNT) National Protected Area is the largest protected area in Laos and hosts several globally threatened species.

The NT2 reservoir lies along the long western edge of NNT. Consequently, the protected area became a central focus of environmental concerns about NT2 and triggered the World Bank's safeguard policy on Natural Habitats. The Bank embraced two goals: ensure that NT2's impacts on NNT were mitigated; and frame better protection of NNT as an incremental conservation offset to compensate for the inundation of the Nakai Plateau.

In fact, Bank support of the dam apparently violated, at least in principle, the Bank's Natural Habitats policy, which forbids the Bank from supporting a project that significantly degrades a protected area. NNT once included all of the Nakai Plateau east of the Nam Theun River, but the plateau was quietly excised from the protected area in 2000, so that NT2 could proceed.

For NT2's 25-year concession period, US\$1 million/year of the dam's revenues are allocated to conservation of what remains of NNT. A new Lao government agency, the Watershed Management and Protection Authority (WMPA), was created to use these funds to protect NNT. Yet, in late 2014 the PoE reported on WMPA's "manifest failure in its present form to carry out the fundamental task of protecting the watershed's biodiversity." In 2016 they wrote, regarding NNT, "Continuation of the basically failed approach...will probably result in the [environmental protection] component of the NT2 project being determined to be unsatisfactory or in non-compliance."

In response to sustained criticism of WMPA's performance, the World Bank and the GoL are designing new models of management of NNT, including the direct involvement of NGOs. Whether or not this works, or it proves too little too late, remains to be seen. More fundamentally, it bears asking if environmental destruction in one area is an effective and sustainable vehicle for environmental protection elsewhere.

### *Troubles Downstream*

While much attention has been paid to resettlement on the Nakai Plateau and conservation efforts in the NT2 catchment, the project has also had significant downstream impacts in two river basins. This has been most dramatic along the Xe Bang Fai River, which receives the huge volume of reservoir water after it passes through the NT2 turbines. The livelihoods of more than 150,000 people are dependent on the river downstream of NT2.

In 2014, independent research on the Xe Bang Fai revealed that people along the river have been left worse off by the project. Villagers reported dramatic drop in wild fish catches and other aquatic life, excessive flooding of low-lying rice fields during the rainy season, loss of riverbank gardens due to fluctuating water levels, and other impacts associated with major hydrological and water quality changes.

The PoE originally praised NT2 for instituting an innovative downstream compensation program, but later criticized the World Bank and NTPC for terminating the program prematurely. Compensation programs were too brief, and many initiatives were either inadequate or inappropriate. In the view of most villagers, the compensation provided by NTPC has not come close to making up for their livelihood losses. As the World Bank moved to terminate its involvement in NT2 in late 2017, downstream issues remained unresolved.

### *Revenues without Accountability*

A key promise of the NT2 project is that it would generate income that the GoL would use for national-level poverty alleviation. While the project has generated significant revenue, Bank staff have had difficulty ascertaining where project revenues are going. This led the Bank's own internal evaluation team to repeatedly rate NT2 as “moderately unsatisfactory.”

Whether or not NT2 has had a significant impact on poverty reduction in Laos remains essentially unknown. However, anecdotal evidence indicates that it has had much less impact than anticipated. For example, in October 2013, long after NT2 revenues had started flowing, the GoL was again in fiscal crisis, at least three months behind on paying its teachers. An internal GoL auditing agency issued a report in 2015 documenting widespread embezzlement of government funds. Despite an overall high rate of growth, Laos has had to backtrack on its long-promised goal of graduating from Least Developed Country status by 2020. In 2017, the process of re-authorization of funding for a Poverty Reduction Fund, which was established in part to channel NT2 revenues into poverty alleviation, revealed that it remains solvent in large part due to contributions from international donors.

The World Bank has an obligation to convincingly show that NT2 revenues are contributing to the prosperity of Laos as a country, but so far has been unable to do so.

### **NAM THEUN 2'S LEGACY**

The failure to date of NT2 to deliver its promised social and environmental benefits has important implications at both national and regional levels. Given the extent to which NT2 has been promoted as a new global model, the project's failings also yield wider lessons.

#### *Public Debate and Engagement in Laos*

Proponents of NT2 claimed that the project would transform institutions shaping public debate in Laos, not only in project-affected area, but across the country. NT2 proponents envisaged that by using the project to strengthen the national legal and regulatory framework, the country would move toward a more inclusive and open society and more socially and environmentally responsible development.

NT2 proponents overestimated the nationwide impact of reformed formal institutions, and largely ignored the importance of informal institutions, even though the latter are often more important in Laos. Although Laos has seen some positive transformations since NT2, these owe mainly to other economic, political, and social factors rather than NT2-stimulated reforms to formal institutions. In addition, not all these transformations have proved sustainable.

NT2 proponents, and in particular the World Bank, focused primarily on formal institutions in international and urban contexts, which resulted in a distorted view of the opportunities for public discussion and debate in Laos. The result was a simplistic and unrealistic forecast of the economic, political and social change that would flow from the project. Although NT2 has helped open the door for other privately funded hydropower projects in Laos, it has not proved to be a model for stimulating a more inclusive society.

### *Thailand's Role in Nam Theun 2*

An important part of the NT2 story involves neighboring Thailand, the main buyer of NT2 electricity. During project planning a major point of contention was whether or not Thailand needed electricity from NT2. In contrast to World Bank projections, Thailand has since consistently maintained a very high reserve margin - well above 15% - for power generation. Thailand could easily have done without NT2's electricity. This over-investment in power generation in Thailand means Thai consumers have continued to pay more than they need to for electricity.

The World Bank's new business model to finance hydropower, which is centered around non-transparent power purchase and concession agreements and facilitated by public subsidies, has offered protection and guarantees to private investors and commercial lenders without providing commensurate protection and guarantees to affected citizens and ratepayers. This has greatly influenced subsequent private sector hydropower deals between Thailand and Laos. In the case of NT2, the Bank's response to unmitigated or intractable problems has been the provision, directly or through partnerships with other donors, of more grants and loans to the Lao government. The result is more public subsidy and debt kept separate from NTPC's balance sheet. This institutionalized separation of revenues from a dam's true costs and liabilities in a context in which public opposition to these projects in Laos is not tolerated has created an attractive environment for private hydropower financiers and developers—and extends even to projects where the considerable subsidies provided in the NT2 case are not available.

The NT2 dam is managed based on Thailand's variable demand for electricity—and in particular the variable demand for air conditioning in Bangkok. This results in the dam being opened and closed, and water released into or withheld from the Xe Bang Fai River, based on electricity demand in Thailand, rather than any sort of more beneficial environmental flow regime. The resulting dramatic changes in flows in the Xe Bang Fai have caused ongoing disruptions and damage to the livelihoods of Lao villagers dependent on the river.

The Thai–Lao regional energy network is oriented towards serving high consumption, while disregarding the impacts of distant production. Thai consumers, EGAT, the Lao government, and the international banks that supported NT2 remain connected to problematic and unequal relationships with far-off Lao villagers.



An alternative to this unequal relationship would be to take advantage of the increasing potential feasibility of solar power, which is an excellent match with Thailand’s daily load profile—air-conditioning demand and solar output coincide with hot, sunny weather. This would allow a more ecologically and socially benign electricity network—and one that relied less on hydropower dam development in Laos. One benefit of such a system would be changes in how Thai electricity consumers relate to projects like NT2 and the villagers who depend on the ecological flows of their rivers.

*Branding Dams: Nam Theun 2 and its role in producing the discourse of “Sustainable Hydropower”*

At a time when large hydropower faced an international crisis of legitimacy, both the World Bank and the private hydropower industry sought to frame NT2 as a new model, with significant social and environmental benefits. This “branding” of NT2 helped stimulate a new “sustainable hydropower” discourse. Yet NT2’s status as a model is now called into question not only by the project’s failure to achieve its ambitious social and environmental promises, but also by the post-NT2 hydropower development in Laos. NT2 now stands as an anachronism. A new wave hydropower industry has boomed, backed by construction companies and financiers mainly from Thailand, China, and Vietnam, which mostly adhere to weaker environmental and social standards and offer less transparency and accountability.

Despite this, the World Bank and its client governments are still keen on large dams in the name of international development. NT2 played, and continues to play, a key role in this promotion. Most recently, as large hydropower seeks to position itself to access climate change financing, “sustainable hydropower” has been invoked as evidence by the industry of its transformation. Meanwhile, Myanmar is a new boom market for large hydropower, and the hydropower industry is seeking to demonstrate its sustainability credentials there. Here, the World Bank Group’s International Finance Corporation has been a key actor in proposing the concept of sustainable hydropower, based on its experience in Laos.

The framing of NT2 as a model has helped the large hydropower dam industry and, in discursively repackaging hydropower beyond NT2, mostly perpetuated a “business as usual,” or at best “business as a bit better” approach. If there is to be a more genuinely sustainable energy transition, it is important to reframe the debate beyond sustainable hydropower and to look toward comprehensive forms of energy options assessments, which seriously consider the increasingly compelling arguments for more benign renewable technologies, demand-side management, and energy efficiency.

## CONCLUSION

More than ten years after the NT2 reservoir began to fill, there is widespread evidence that the project has achieved few of its social and environmental goals. The World Bank and the international hydropower industry are left promoting a myth of NT2 success rather than a genuinely successful model. What is needed in place of a public relations campaign is an acknowledgement by the Bank, both internally and publicly, of NT2's failings, followed by sincere and sustained efforts to repair the damage. The Bank should focus on making amends before embarking on new model projects.

What are the roots of what happened in NT2, and what has been learned? First, the Bank characterized its new model of NT2 as a high risk–high reward project and put in place political risk guarantees, to shield NT2's private investors from risks to their capital. In contrast, the people and places exposed to the social and environmental risks of NT2 did not receive equivalent guarantees of protection. Perhaps more than any other factor, the Bank's primary orientation toward the project's investors rather than affected local communities and the environment set the stage for the disappointing social and environmental outcomes that followed.

NT2 *has* become a model, of another sort: a model of the extreme difficulty (and perhaps impossibility) of restoring ecosystems, indigenous cultures, and livelihoods disrupted by large infrastructure projects – let alone making them better off. There are limits on how much can be achieved by studies, agreements, advisors, funds, and the best intentions. Not all damage can be fixed and not all impacts can be mitigated. The challenges are significantly compounded when such projects are attempted in countries with a demonstrably poor enabling environment, such as issues of weak governance and limited transparency.

The NT2 experience has also shown that, if anything, World Bank safeguards are either not strong enough or are too difficult to apply, especially in countries like Laos. The question now emerges is how the World Bank, at a time when it faces increased pressure to lower these standards, will respond. Will it join the race to the bottom and weaken its safeguards?

For NT2 to be transformative, foremost a transformation is needed within the World Bank and its financial partners. These institutions must prioritize communities and the environment over the needs of investors and should step back from financing large projects in environments that lack the conditions necessary to ensure positive, sustainable results, especially for affected people and the planet's remaining areas of high conservation value.

#### Abbreviations

EGAT	Electricity Generating Authority of Thailand
IUCN	International Union for the Conservation of Nature

NNT	Nakai-Nam Theun (National Protected Area)
NT2	Nam Theun 2 Hydropower Project
NTPC	Nam Theun 2 Power Company
NGO	Non-Governmental Organization
PoE	International Environmental and Social Panel of Experts
SDP	Social Development Plan
WCD	World Commission on Dams
WCS	Wildlife Conservation Society
WMPA	Watershed Management and Protection Agency