

CONTESTED WATERSCAPES

in the
Mekong Region

HYDROPOWER, LIVELIHOODS AND GOVERNANCE



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earthscan
publishing for a sustainable future

London • Sterling, VA

The Nam Theun 2 Controversy and Its Lessons for Laos

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INTRODUCTION

The US\$1.45 billion Nam Theun 2 (NT2) project is the biggest hydropower project under development in Laos, with costs approaching one third of the country's gross domestic product (GDP). When it reached financial closure in May 2005, NT2 became the largest ever foreign investment in Laos and the largest hydroelectric project with private-sector financing (NTPC, 2005d). The project will export 95 per cent of its 1070MW power output to neighbouring Thailand starting in late 2009.

NT2's electricity sales will generate revenue for Laos, considered in conventional development indicators as one of the economically poorest countries in Asia. But these revenues come with a big trade-off: NT2 is flooding 450km² of land, river, forest and wildlife habitat, and displacing thousands of predominantly ethnic minority peoples. As a trans-basin diversion project, NT2 will have significant impacts upon two river basins, reducing fish catches, affecting water levels and water quality for tens of thousands people downstream (ADB, 2004; International Rivers, 2008b).

In 2005, the NT2 project received support from the World Bank and other investors, becoming the first major dam approved by the World Bank in almost a decade. At that time, NT2 was lauded by the World Bank, the Asian Development Bank (ADB) and other project proponents as a 'model' that could pave the way for best practice dam development in the region. But NT2 has attracted controversy ever since it was first proposed in the 1980s. As the project's construction nears

completion, the debate about its costs and benefits – and about large dam development, more generally – continues.

In order to overcome the challenges of developing such a high-risk hydro project in a country characterized by low capacity, poor public financial management and weak governance, NT2's primarily Western backers insisted on a number of commitments from the Government of Laos (GOL) and the Nam Theun 2 Power Company (NTPC). Through these commitments, they attempted to turn a private-sector energy project into a development initiative – an experiment that NTPC and the GOL were prepared to go along with in order to access concessional funding and guarantees from the multilateral development banks (MDBs).

In a country with a one-party authoritarian government, no independent judiciary or independent civil society organizations, no free press, and a ranking as one of the world's 25 most corrupt countries by Transparency International (Transparency International, 2008; US State Department, 2008), dams have left a legacy of broken promises and uncompensated losses. As a result of these projects, tens of thousands of Laotians lack sufficient food to eat, clean water to drink and income to meet their basic needs.

But river-rich Laos, which contributes about one third of the Mekong River's flow, is experiencing a dam-building boom. In its bid to become 'the battery of Southeast Asia', the GOL has signed memoranda of understanding (MoUs) with foreign companies to build more than 45 dams on Mekong tributaries, and is even considering at least six projects on the Mekong River. Power from these projects will be sold primarily to neighbouring Thailand as well as Vietnam and, possibly, China.

As the Lao hydropower sector takes off, observers are wondering just what sort of lessons may be learned from NT2, the country's most controversial large dam. Is NT2 a model for how to plan and build sustainable hydropower projects? Are NT2's social and environmental risks being managed adequately during the construction stage, and planned for during the operations stage? If not, why not? How is the NT2 experience affecting other hydro projects in Laos? This chapter will seek to answer these questions by examining NT2's planning and implementation and drawing lessons for the future.

The chapter starts with an overview of NT2's history and the debate focused on World Bank support for NT2. It then examines the planning process for NT2 and describes the project and its notable features, including social and environmental commitments and revenue management plans. Problems with implementing NT2's social and environmental mitigation and compensation measures three years into its construction phase are also discussed. Finally, the chapter examines why problems have occurred with NT2 and what lessons can be learned, and concludes with general recommendations to promote better outcomes in Laos. An alternative perspective from the World Bank is included as an appendix to the chapter.

THE HISTORY OF NAM THEUN 2 (NT2)

By the time NT2 lined up financing in 2005, the project had already been in the GOL's and the World Bank's sights for more than two decades. World Bank support for NT2 began in the mid 1980s when it financed a feasibility study for the project (GOL, 2002). During those early years, Thailand was identified as the likely market for NT2's power.

In 1993, the GOL awarded Transfield Holdings Ltd, one of Australia's largest construction companies, the rights to develop NT2 as a build–own–operate–transfer (BOOT) project for a 25-year concession period. Transfield established a consortium called the Nam Theun 2 Electricity Consortium (NTEC) with Electricité de France (EDF), Ital-Thai Development (ITD), Jasmine International, Merrill Lynch Phatra Thanakit Securities and the GOL. Electricité de France later took over the lead shareholder spot from Transfield, acquiring a 35 per cent stake in NT2.

By the mid 1990s, concerns about the economic viability of NT2 and its social and environmental impacts were being raised by international non-governmental organizations (NGOs) and some academics (International Rivers Network et al, 1997). Conscious of the growing public opposition to the project, in 1995 the World Bank called for additional economic, environmental and social studies (Scudder, 2005) and urged the GOL to conduct public workshops to discuss NT2. The importance of World Bank support for NT2 was already apparent; David Iverach, NTEC's director in Laos, emphasized in January 1997: 'If the World Bank does not proceed with the project, nor would we' (Nette, 1997).

But the Asian financial crisis put the brakes on NT2's development in late 1997 (Manolom, 2002) and the lull lasted for a few years. As Thailand's economic situation improved, their interest in NT2 returned. An electricity tariff MoU between the Electricity Generating Authority of Thailand (EGAT) and NTEC was signed in 2000 (GOL, 2002). Meanwhile, in 1999 and 2000, Jasmine International and Merrill Lynch Phatra Thanakit sold their equity stakes, and the Electricity Generating Company of Thailand (EGCO) joined NTEC.

In 2002, a Concession Agreement was finally signed between the GOL and the renamed Nam Theun 2 Power Company (NTPC). The World Bank, waiting for the Power Purchase Agreement (PPA) between Thailand and Laos to be finalized, was on the verge of initiating formal appraisal of the NT2 project. But in July 2003, a day before the PPA was to be signed, lead shareholder EDF announced that it was withdrawing from NT2. EDF attributed its pull-out to 'advice from French government officials' (Reuters, 2003) and a 'strategy to consolidate assets and re-focus priorities in Europe' (Praiwan, 2003).

According to news reports, the GOL gave the consortium three months to identify a new shareholder to take over EDF's 35 per cent stake (Lang, 2003). For a short while, NT2 once again seemed to be in jeopardy. But EDF decided to rejoin the NT2 consortium – with little explanation – and in November 2003,



Figure 4.1 *Nam Theun 2 Transmission tower*

the PPA between EGAT and NTPC was finally signed and the search for project financing began.

The US\$1.45 million NT2 was expected to be financed with approximately 30 per cent equity from the shareholders and 70 per cent international loans and

guarantees from the World Bank, the ADB, the European Investment Bank, the Agence Française de Développement (AFD), export credit agencies and commercial banks. Given the size of the investment and the risks of operating in Laos, commercial banks were unlikely to fund the project without guarantees from the World Bank. The potential financiers also primarily relied on the World Bank to lead the economic, social and environmental due diligence for NT2.

WAITING FOR THE WORLD BANK: THE NT2 DEBATE IN BRIEF

In June 2002, the World Bank outlined a ‘Decision Framework’ for NT2 that identified three criteria that would have to be met for the GOL to receive the World Bank’s support. The Decision Framework clarified that:

... the project must be embedded in a development framework aimed at poverty reduction and environmental conservation; must be technically, financially, managerially and economically sound and adhere to the Bank’s environmental and social safeguard policies; and must have greater understanding and wider support within the international donor community and civil society. (World Bank, 2002).

More economic, social and environmental studies were required of NT2’s developers, as well as local and international consultations.

Civil society organizations, including International Rivers Network, Towards Ecological Recovery and Regional Alliance (TERRA), Environmental Defense, Mekong Watch, Friends of the Earth–France and Probe International, had by this time launched a concerted campaign against World Bank support for NT2, asserting that the dam’s risks would outweigh its benefits and that the GOL did not have the political will or capacity to implement such a large and complex project. NGOs and academics in Thailand questioned whether or not NT2’s power was needed, citing Thailand’s faulty energy planning process (Permpongsacharoen, 2004; Greacen and Sukkamnoed, 2005). These and other NGOs had been raising concerns about NT2 since the project was first proposed, but the intensity of their campaign increased once the PPA was signed and the World Bank’s support for NT2 became more likely.

The civil society campaign against NT2 was founded largely on concerns about the GOL’s track record and the lack of legal and political protections for affected communities in Laos. Smaller hydropower projects in the country, such as Houay Ho, Nam Song, Nam Leuk and Theun-Hinboun (most of which had been financed by the ADB), had been poorly managed from an environmental and social standpoint. Tens of thousands of Laotians were still awaiting compensation, livelihood restoration and mitigation measures to replace the fisheries, land, drinking water and other resources that they had lost to these dams (International

Rivers Network, 2004). Even the ADB noted in its technical assistance paper for NT2 that ‘the Government’s capacity to implement large-scale complex hydropower projects still remains a major concern’ (ADB, 2003, p3).

NGOs, donors, the World Bank and others also cited concerns about the GOL’s lack of transparency and poor performance in terms of public expenditure management and other governance indicators. A June 2004 World Bank evaluation of Bank-supported financial management reforms in Laos found that ‘budget discipline [had] not improved significantly’ over the previous decade and – in addition to a lack of implementation capacity – there was a ‘weak commitment to reform at the level of the true policy-makers’ (World Bank, 2004a, p8). The World Bank’s December 2004 *Country Economic Memorandum* for Laos warned that without significant governance improvements upfront, hydropower revenues would not result in good development outcomes (World Bank, 2004b, p72).

Flaws in the NT2 planning and preparation process

In response to the concerns raised by civil society organizations, NT2 promoters argued that the project’s preparation was a model for future hydropower development and could be used to strengthen the GOL’s capacity to manage new dam projects. The World Bank and others touted the transparency and participation of the process – especially compared to that of other dam projects in Laos – and pointed to the volumes of studies that had been completed to assess NT2’s environmental and social impacts and plan for mitigation measures.

But NT2’s critics were not convinced. An analysis by International Rivers Network and Environmental Defense in 2005 found that the NT2’s planning process violated six of the seven strategic priorities of the World Commission on Dams (WCD), including priorities on gaining public acceptance, comprehensive options assessment, and sustaining rivers and livelihoods (Imhof and Lawrence, 2005). Another analysis documented numerous violations of World Bank safeguard policies, including on environmental assessment, involuntary resettlement, indigenous peoples and natural habitats, as well as the failure to comply with World Bank guidelines on procurement and economic evaluation. Finally, NGOs asserted that the requirements of the NT2 Decision Framework – namely, concerning adherence to the World Bank’s policies and support from civil society – had not been met. These concerns and others were outlined in a letter sent to then World Bank President Wolfensohn from 153 civil society organizations in 42 countries in March 2005 (Friends of the Earth–Japan et al, 2005). Some of these issues are elaborated upon further in Table 4.1.

As Table 4.1 demonstrates, sponsors argued that NT2 was needed, was exemplary in the quality of its studies, and was based on extensive consultations with local people. Critics vigorously debated all three claims; but their arguments did not prevent the project from moving forward. Pressure from NGOs and others

Table 4.1 *Problems with the Nam Theun 2 planning process*

NT2 claim	NGO response
<p><i>NT2 achieved public acceptance through a highly participatory consultation process.</i></p> <p>World Bank and other NT2 supporters claimed the project had achieved public acceptability in Laos through consultation processes conducted throughout the project development period.</p>	<p><i>True participation is limited in Laos; consultation was late and focused on mitigation options.</i></p> <p>Although NT2 involved more consultation than other Lao dam projects, the political climate in Laos does not allow for genuine participatory processes. Access to independent sources of information is limited. There are no independent local NGOs and there is no independent media. The GOL continues to arrest and imprison critics (Amnesty International, 2003; United Nations Committee on Elimination of Racial Discrimination, 2003; US State Department, 2005).</p> <p>The legal system is at a rudimentary stage of development. There is no independent judiciary: it is impossible for affected communities to bring legal actions to protect their rights.</p> <p><i>Nakai Plateau:</i> villagers to be resettled for NT2 were consulted on numerous occasions, but logging commenced and the decision to build the dam was taken before any participation processes were conducted. Most discussions with villagers focused on improving resettlement outcomes, not debating whether or not the project was appropriate or desirable. Affected communities had no access to independent legal or other professional support (Imhof and Lawrence, 2005, pp4–5).</p> <p><i>Downstream areas:</i> discussions along the Xe Bank Fai were only initiated in mid 2004, so many people were not consulted prior to project approval (NTPC, 2005b). Villagers were given misleading information about NT2's risks and benefits, being told repeatedly and erroneously that 'more water means more fish' (Les Amis de la Terre et al, 2003, p6; NTPC, 2005f; Scudder, 2005). Most of the 1500 families living along the Theun River were also not consulted before project approval (NTPC, 2005b, Vol 3, Chapter 6, pp7–8). Consultations with villagers whose lands and assets would be affected by NT2 construction were only initiated at the end of 2004, and were not completed prior to NT2 approval (NTPC, 2005c, Vol 4, Chapter 6, pp2–3).</p>
<p><i>NT2 is the best option for Laos and for Thailand.</i></p> <p>The World Bank had promoted NT2 as an important revenue earner for Laos since 1986, claiming that Laos had few other means, aside from timber exports, to generate revenue and reduce the country's dependence upon foreign aid.</p>	<p><i>No comprehensive options assessment was conducted.</i></p> <p>These claims were not based on comprehensive and participatory analyses of options and alternatives. NT2 revenues were estimated to be no more than 5% of total annual government revenues over the life of concession (World Bank, 2005c). There were probably other development options for Laos since the direct contribution of natural resources (such as hydropower) to GDP growth is relatively small (World Bank, 2004b): for example, broadening the tax base, improving revenue administration nationally (AusAid, 2005) and investing in agriculture (World Bank, 2004b, p17) would increase GOL revenue and support poverty reduction without NT2's significant social/environmental impacts.</p>

Table 4.1 *(continued)*

NT2 claim	NGO response
<p><i>NT2 is the least expensive means of meeting Thailand's energy needs.</i></p> <p>The World Bank states that Thai energy demand is growing and NT2 will be easily absorbed. NT2 will not compete with renewable energy and demand-side management options (World Bank 2005a).</p>	<p><i>There is no evidence that NT2 is, undeniably, the least-cost option for meeting Thailand's energy needs.</i></p> <p>A World Bank-commissioned study – not disclosed until after NT2 was approved – showed that feasible demand-side management, energy conservation measures and renewable energy generation in Thailand would 'exceed the output of NT2 and would provide energy to the customer at a cost approximately 25% less than NT2' (duPont, 2005). Thai energy projections have historically overstated future energy demand estimates (Kuankachorn, 2005).</p>
<p><i>NT2 is the most studied hydropower project ever.</i></p> <p>NT2 proponents highlighted the large number of environmental, social and economic studies produced over the decade-long project development period. The World Bank asserted: 'sound methodologies were utilized to address data gaps commonly found in lower-income developing countries', and that there would be additional time during the construction phase for technical support, improving social programmes and identifying markets (World Bank, 2005b).</p>	<p><i>NT2 studies have critical gaps in data and analysis; some livelihood programmes are infeasible.</i></p> <p>Hydrological data and analysis were deficient: it is difficult to predict how much water will be available for power generation (Willing and Knoop, 2005). Inadequate data was used to characterize baseline water quality: it is impossible to accurately predict water quantity and quality changes in the reservoir and in downstream rivers (Lanza, 2005).</p> <p>The proposed agriculture programme for resettled villagers relied on heavy inputs of fertilizer and experimental cropping systems, and was of questionable long-term viability. The market for the sale of cash crops to buy rice was unclear (International Rivers Network, 2005).</p>

did help to encourage NT2 developers to make important changes, however, before the project proceeded, such as increasing the budget for downstream mitigation and compensation to US\$16 million and incorporating a purpose-built downstream channel to reduce erosion and sedimentation downstream.

NT2 MOVES FORWARD

In March and April 2005, the boards of directors of the World Bank and the ADB approved loans and guarantees for NT2 totalling US\$270 million and US\$107 million, respectively. The US was the only MDB shareholder that did not support

the project, citing concerns about environmental and social risks, the macro-economic environment in Laos, and the lack of potential recourse measures (US Treasury Department, 2005).

With the World Bank and the ADB's endorsement, other lenders – such as the European Investment Bank, the Nordic Investment Bank, the Swedish, Norwegian, French and Thai export credit agencies, AFD and a number of private banks – committed to finance NT2. Construction had already commenced a year earlier, in 2004, and power production was scheduled for December 2009.

About NT2

NT2 is a trans-basin diversion project that is dramatically altering not one, but two, key Mekong River tributaries. A 39m high dam has blocked the Theun River to form a 450km² reservoir on the Nakai Plateau where 6200 predominantly ethnic minority people have been resettled. Habitat for the endangered Asian elephant and other wildlife is being inundated by the NT2 reservoir. Downstream from the dam, only 2 cubic metres per second (m³/s) of water will be released.

Once the reservoir has been filled, water will be directed down a 350m drop to the power station before being transferred to the Xe Bang Fai River via a 27km downstream channel. According to independent research (Shoemaker et al, 2001), approximately 120,000 people living in the Xe Bang Fai area will be affected by increased water flows, resulting in fisheries and aquatic resources losses, erosion, flooding and sedimentation. Water quality problems, caused by anoxic water released from the reservoir area, are also anticipated. NTPC asserts that approximately 75,000 villagers in the Xe Bang Fai region will experience negative impacts as a result of NT2.

NT2 will operate under an intermediate peaking power regime, and the resulting weekly fluctuations in water levels will exacerbate erosion and pose safety hazards to downstream villagers. NTPC has proposed both engineering and operational measures to try to reduce the negative effects downstream. However, while the NT2 regulating pond, aeration weir and concrete-lined downstream channel will help to mitigate some of these impacts, their design is insufficient to prevent these problems (Mekong River Commission, 2007). NTPC has also committed to stop power production (and therefore water releases) when the Xe Bang Fai is close to over-bank flooding at Mahaxai town.

In order to secure the World Bank's approval and to meet the standards of other lenders, NTPC and the GOL made a number of social, environmental, disclosure, accountability and revenue management commitments. While these commitments generally surpassed those made by other hydro developers in the region, many NGOs argued that they would still be insufficient to address the significant risks that NT2 would pose to tens of thousands of Lao people. Project critics were sceptical of NTPC's and the GOL's ability and will to implement

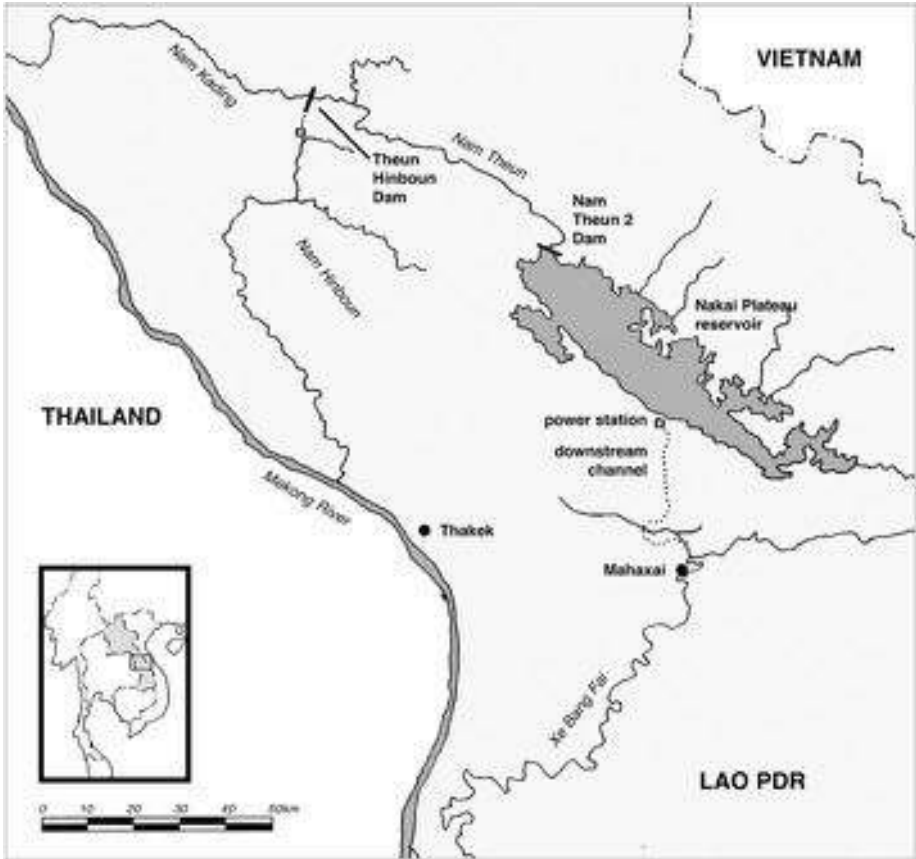


Figure 4.2 *The Nam Theun 2 project area*

Source: International Rivers

these commitments based on experience with other dam projects in Laos. The commitments made by NTPC and the GOL, and the response of project critics, are highlighted in Table 4.2.

The commitments outlined in Table 4.2 were trumpeted as part of an aggressive and extraordinary communication strategy led by the World Bank to rebrand a large, destructive dam project as a ‘poverty-reduction’ and ‘conservation’ initiative. These communication efforts were necessary to convince the World Bank’s member governments, as well as the general public, that the Bank had learned from its dam mistakes of the past.

Table 4.2 *Summary of key Nam Theun 2 commitments and NGO response*

NT2 commitment	NGO response
<p><i>Social and environmental</i> US\$90.5 million provided for social and environmental mitigation and compensation, including US\$31.5 million over 25 years to support protection of the Nakai-Nam Theun watershed area.</p>	<p>Inadequate social and environmental budget, particularly to address downstream impacts.</p>
<p>NTPC and GOL required to comply with World Bank and ADB safeguard policies, as well as environmental and social commitments in the Concession Agreement.</p>	<p>Lack of any legal enforcement measures to ensure that agreements are complied with.</p>
<p>Grievance procedure would allow affected people to submit complaints.</p>	<p>Since the grievance mechanism relies on official district/provincial government channels in a closed political climate, villagers may be unwilling or unable to submit grievances – fearing retribution instead of redress.</p>
<p>NTPC committed to raise resettled villagers' income to national poverty level within five years after resettlement.</p>	<p>Livelihood plans for resettled villagers are inappropriate and unrealistic given poor-quality soils, reduced availability of land for farming and grazing, and high risk that village forestry and reservoir fisheries components will not meet targets.</p>
<p>NTPC acknowledged late in the planning process that villagers dependent upon the Xe Bang Fai River would suffer from destruction of riverbank gardens, loss of buildings close to the riverbanks due to erosion, 'a collapse in the aquatic food chain', and impacts upon domestic water supply and transportation difficulties (NTPC, 2005b, Chapter 5, pp12–15). NTPC committed to 'at least restore' livelihoods on a sustainable basis by year nine of project implementation. US\$16 million would be provided for the downstream programme to address these impacts upon 75,000 people (NTPC's estimate).</p>	<p>Key baseline information on the pre-project livelihoods of downstream villagers was lacking, and no clear compensation plan was provided. The proposal to replace freshwater fisheries with aquaculture will be difficult in Laos: uptake is slow and the poorest people often lack necessary land and capital to develop and sustain fish ponds. More money will be required to address downstream impacts.</p>
<p><i>External monitoring</i> An International Panel of Environmental and Social Experts (PoE) would continue to visit the project area at least once per year and advise the GOL on social and environmental issues. An International Advisory Group (IAG) would also visit the project regularly and advise the World Bank on implementing environmental, social and revenue management measures.</p>	<p>External project monitoring is critical; but there are no enforcement mechanisms to ensure that the recommendations of the PoE and IAG, in particular, are implemented, which limits monitors' effectiveness. A more streamlined but transparent and enforceable system of external monitoring would better ensure that NTPC and the GOL meet their NT2 commitments.</p>

Table 4.2 (continued)

NT2 commitment	NGO response
<p>Independent monitoring agencies (IMAs) would monitor resettlement, watershed management and downstream compensation activities, reporting to the GOL. A Lenders' Engineer would visit NT2 quarterly and provide confidential reports to NT2 lenders on construction, environmental and social issues until the commercial debt was repaid. A Dam Safety Review Panel would advise project developers and the World Bank on safety issues.</p>	
<p><i>Information disclosure</i> Key documents have been disclosed during project preparation and implementation, such as project updates and social and environmental plans required by World Bank and ADB disclosure policies. The World Bank and the ADB would also produce semi-annual implementation updates.</p>	<p>While NT2 released more information than many other projects, complete analyses of potential economic and financial risks and benefits of NT2 have never been disclosed. The PPA and the complete Concession Agreement are not public. Key underlying studies on hydrology and water quality were not made available. Reports of the IAG, PoE and the IMAs are made public only several months after their visits once they have been reviewed by NTPC, the GOL and the World Bank.</p>
<p><i>Revenue management</i> Given the weaknesses in Laos's public expenditure management system, the World Bank insisted on a revenue management framework for GOL's NT2 revenues (estimated to be US\$250 million net present value over the 25-year concession). The framework includes the identification of eligible programmes based on GOL poverty reduction strategies. NT2 revenues are channelled through a dedicated Lao Treasury account so that the transfer can be verified and funds withheld from programmes if they fail to meet standards. Budget execution reports, financial statements, summaries of internal audits and audits of NT2-eligible programmes will be published (World Bank, 2005d, pp17–18).</p>	<p>Although a revenue management plan is welcome and necessary, critical gaps in the framework minimize the likelihood of success. According to World Bank indicators, Laos rates below most countries in terms of control of corruption, citizen participation and freedom of expression. The revenue management system would not provide adequate transparency and anti-corruption controls to ensure that these constraints would be overcome. NT2 revenues will be 'co-mingled' with other revenues and managed following standard procedures (World Bank, 2005c). Revenue allocation, monitoring and reporting will be left to the Ministry of Finance and the fledgling State Audit Organization. The revenue management arrangements specifically reject the use of an independent oversight body or the external independent auditing of NT2 revenues.</p>

NT2'S IMPLEMENTATION

The NT2 legal framework includes the Concession Agreement between the GOL and NTPC, and loan agreements with project financiers such as the World Bank and the ADB. The World Bank and ADB loan and guarantee agreements with the GOL and NTPC, in turn, require compliance with these institutions' own policies. Essentially, these legal agreements constitute the promises made to Laotian villagers regarding compensation and mitigation measures, and the allocation of responsibility amongst NTPC and the GOL.

In the first three years of project construction, NT2's developers have already failed to meet some of their social and environmental obligations. Dated covenants have been missed and NTPC and the GOL have not complied with key provisions of the World Bank's policies and the Concession Agreement, though neither party has been penalized (International Rivers Network, 2007a). The provisions that have not been adhered to include paying compensation before the taking of land and assets, timely disclosure of project information, and provision of irrigation systems for resettled villagers, among others (International Rivers Network, 2007a; International Rivers, 2008a; McDowell et al, 2008).

NT2's construction has proceeded largely on schedule, and the project is on track to start power production by December 2009. However, soon after construction was initiated, it became clear that social and environmental programmes – often more challenging and time consuming than engineering works – were falling behind schedule.

In 2006, the PoE raised the possibility of risks posed to affected villagers and to NT2's reputation of this two-speed process continuing (McDowell et al, 2006a): villagers would lose land and natural resources upon which they depend before compensation and alternative livelihood programmes are in place, causing income declines and other hardship.

The NT2 project did attempt to minimize the risk of construction overtaking social and environmental programmes by including a provision in the Concession Agreement requiring that all Nakai Plateau resettlement infrastructure be completed and resettled villagers moved to their new sites before reservoir flooding began. This provided an important incentive to NTPC and the GOL to achieve these targets, as delays in reservoir filling could impact upon the NT2's ability to deliver power to Thailand on time. The PoE was given the important responsibility of evaluating whether physical resettlement and other Concession Agreement requirements had been met before recommending that reservoir flooding proceed.

All 17 villages on the Nakai Plateau were initially to be resettled by the 2006 to 2007 dry season. But due to delays in permanent housing construction (International Rivers Network, 2007a, p23; International Rivers, 2008a, p16), this deadline was not met. Instead, the first villages were relocated in mid 2006. They, and many of those that followed, moved into temporary houses in their new village

sites. It was expected that villagers would remain in these temporary houses for just a few months, and they were instructed to build their houses with that in mind.

In the end, many villagers had to spend two rainy seasons in temporary substandard housing. Two field visits in 2007 by staff of International Rivers documented villagers' frustration with this arrangement (International Rivers Network, 2007a; International Rivers, 2008a). As late as March 2007, NTPC said that only 20 to 30 permanent houses had been completed (Salignat, 2007), and by December 2007, approximately 30 per cent of new houses were built (World Bank and ADB, 2007, p7).

In February 2008, NT2's resettlement and other social and environmental programme delays reached a critical stage. The PoE submitted a report (McDowell et al, 2008) to the GOL and NTPC that raised doubts about the project's ability to proceed with reservoir filling as scheduled, given the serious ongoing delays. This threat helped to galvanize NTPC and the GOL to action. By the time the PoE returned to Laos in April 2008, the company and the GOL completed (or were likely to complete) the resettlement infrastructure, move the remaining villagers, and meet the other minimal requirements of the Concession Agreement. The PoE issued a follow-up report that commended NTPC and the GOL for the progress made since February and noted that the sturdy houses constitute 'one of the most impressive aspects of the entire project' (McDowell et al, 2008, p39). As a result of these achievements, the PoE recommended that the first step towards reservoir impoundment could proceed as scheduled. On 10 April 2008, NT2's diversion tunnel was sealed and preparations began for closure of the dam's spillways in July 2008. By June 2008, nearly all the 1272 houses on the Nakai Plateau had been completed (Gasparini and Rex, 2008).

Although physical resettlement and reservoir filling represents an important milestone for NT2, problems with livelihood restoration programmes for resettled villagers on the Nakai Plateau, downstream villagers along the Nam Theun and Xe Bang Fai, and villages affected by downstream channel construction remain. In recent reports (McDowell et al, 2007a, 2007b, 2008), the PoE has been critical of NTPC's and the GOL's performance in these areas, while praising their achievements in terms of the physical resettlement of Nakai Plateau villagers (McDowell et al, 2008). Even as the water began rising on the Nakai Plateau, the PoE warned that the main challenges lay ahead:

In a very real sense, the more easily accomplished phase of the project's environmental and, particularly, the social programmes is coming to an end and the hard part is upon us. By comparison with the largely physical tasks of infrastructure building, the challenge now is [to] move on to help convert these aggregations of houses, community facilities, cleared patches of still smoking vegetation and disrupted families into self-managed and self-sustaining communities, viable in all dimensions. (McDowell et al, 2008, p48)

Livelihood programmes for Nakai Plateau resettled villagers

Before reservoir flooding began, villagers in the resettlement sites were primarily surviving on rice and protein supports from NTPC, income earned from the project for land clearance and other work, fishing, and forest product collection. During visits by International Rivers in 2007, a number of villagers reported that the amount of rice provided each month is often not enough for large families. There was also concern about premature cut-offs of rice and protein support for resettled villagers (International Rivers Network, 2007a; International Rivers, 2008a). Some people said that they missed the fruit trees in their old villages, and still returned there to get fish from the river and bamboo and vegetables from the forest. A number of villagers worried about how they would find food in their new sites, especially 'after the flood'.

Despite these apprehensions, many villagers said that they are pleased with the better houses, improved water supply and sanitation, electricity and roads to the new villages. Health improvements, particularly as a result of access to safe water and better sanitation, were quickly noted by the PoE and other monitors. The income from project-related jobs also contributed to initial increases in villagers' living standards.

However, the greatest challenge for NT2 continues to be developing and implementing sustainable livelihood programmes for Nakai Plateau villagers. Resettled villagers have been moved to what will become the reservoir shores so that they can remain, by their request, on their traditional lands. However, soil quality is generally poor on the Nakai Plateau, and two-thirds of the land that villagers once used for farming, grazing livestock and collecting non-timber forest products (NTFPs) will be flooded by the large reservoir. The water buffalo and cattle populations on the Nakai Plateau can no longer be maintained, and the total herd will need to be reduced by approximately half (NTPC, 2008b, p29).

NTPC has committed to raise resettled villagers' income to the national poverty level within five years. To this end, resettled villagers will be provided with:

- house gardens;
- 0.66ha plots (to be irrigated by the end of 2009) for growing some rice, fodder and vegetables;
- use of the reservoir drawdown zone for rice cultivation and grazing land;
- a community forest area for collecting NTFPs and sustainable timber extraction (some of which will also be used for grazing and fodder cultivation); and
- boats for fishing in the reservoir, an area to which they've been granted exclusive access rights for ten years (NTPC, 2005a).

NGOs and academics began to point out shortcomings in these livelihood restoration plans before NT2 received World Bank approval (International Rivers Network, 2005; Lanza, 2005; Willing and Knoop, 2005), and many of these



Figure 4.3 *Nam Theun 2 resettlement homes*

problems have not been addressed. Villagers will be expected to grow cash crops on poor-quality land to sell in an as yet unidentified market. They were originally promised 10,000ha of production forest to be managed as a village ‘business’; but the area has since been reduced by at least 40 per cent and is further threatened by illegal logging (McDowell et al, 2008). The forest area will be difficult for some villages to access, and important NTFPs such as bamboo will be flooded by the reservoir. Villagers were promised bountiful fish in the new reservoir, but it is likely to have initial poor water quality due, in part, to degrading and flooded vegetation, thereby threatening the development of a productive fishery (International Rivers, 2008a; McDowell et al, 2008, p18). While exact numbers are still unclear, as many as 2000 buffaloes may still need to be sold, which will weaken a critical livelihood safety net for villagers (NTPC, 2008b, p29).

In early 2007, the PoE warned that ‘for a range of reasons, the forestry and agricultural livelihood programmes are unlikely to meet their originally planned targets before impoundment’ (McDowell et al, 2007a, p9). A more recent PoE report indicates that after an initial boost from project jobs and other support, resettled villagers’ living standards are likely to decline once the reservoir is flooded (McDowell et al, 2008, p11). Finally, the July 2008 World Bank–ADB update

notes that while ‘encouraging progress’ is being made on the various livelihood programmes, significant challenges remain (World Bank and ADB, 2008, p6).

Villagers affected by construction activities

More than 10,000 people¹ (World Bank and ADB, 2007, pp23–24) have been affected by the construction of NT2’s transmission lines, roads and project facilities, losing land, assets and access to natural resources. Households in Gnommalat District near the NT2 power station, the regulating pond and the downstream channel have been the most severely affected.

The downstream channel is 27km long and approximately 100m wide, cutting through paddy fields and other village land. The channel also blocks access to the forest and villagers’ gardens and rice paddies on the other side. Villagers in the area have lost paddy land, houses, gardens, fruit trees, fisheries, irrigation water supply and other assets to varying degrees.

According to the NT2 Concession Agreement, villagers who lose less than 10 per cent of their productive assets are entitled to cash compensation, and those who lose more than 10 per cent are entitled to replacement land. Compensation payments only began in mid 2006, more than a year after NT2 construction activities had started to impact upon villagers’ land and resources (International Rivers Network, 2006a), and it was not until mid 2008 that most compensation payments were finally made (World Bank and ADB, 2008, p12). As mentioned previously, the taking of land and assets before paying compensation is a violation of the Concession Agreement and of the World Bank’s involuntary resettlement policy (International Rivers Network, 2007a).

There have also been problems with the assessment of entitlements and the delivery of compensation; nearly 400 grievances have been submitted to the District Grievance Committee (World Bank and ADB, 2008). It is unclear if the situation for the 200 households who are entitled to replacement land has been resolved. Only six households had received land-for-land replacement as of late 2007, and NTPC and project backers have said there is a shortage of available paddy land in the area (NTPC, 2008a).

In late 2007 and 2008, villagers indicated to International Rivers and to the PoE that replacement land was, indeed, available. Following more detailed investigations by the PoE, NTPC committed to work with villagers to identify and purchase adequate replacement land. While it was recommended that ‘significant progress on land-for-land issues’ should be made by the end of 2008, the PoE also noted that the Concession Agreement requirement to restore villagers’ incomes within 18 months had not been complied with in many cases (McDowell et al, 2008, p16).

Downstream programmes

NT2 will affect more than 120,000 villagers (Shoemaker et al, 2001), or 75,000 people, according to NTPC's estimates, in the Xe Bang Fai River Basin. Villagers living along the river and some of its tributaries can expect more frequent and severe flooding, decimated fisheries and inundated riverbank gardens. About 40 villages that fish in the Theun River will also experience declines in fisheries and aquatic resources due to the reduced river flow downstream from the dam site.

In an attempt to mitigate NT2's impacts and compensate villagers in the Xe Bang Fai area, NTPC has developed a Downstream Livelihood and Asset Restoration Programme (Downstream Programme). This programme will be implemented in approximately 220 villages, including nearly 90 riparian villages. In breach of World Bank and ADB involuntary resettlement and information disclosure policies, the Downstream Programme Implementation Plan had still not been publicly disclosed as of this writing, although information has been provided to affected villagers.

The Downstream Programme focuses on microcredit funds to support agriculture, aquaculture and livestock projects. NTPC is also supporting water and sanitation improvements, and, in some villages, water-gate rehabilitation or mini-polder flood protection. In late 2007, NTPC said it intended to expand the programme to all the riparian villages in 2008 and to initiate activities in the remaining villages during late 2009 (NTPC, 2008a); but it now appears that the programme will reach only about half of the riparian villages by the end of 2008. As of mid 2008, projects had been initiated in less than 20 per cent of the total villages in the Xe Bang Fai Basin that are likely to be affected when NT2's operations begin (World Bank and ADB, 2008).

The World Bank, the ADB and the PoE agree that the Downstream Programme is behind schedule, and that continued delays pose risks to affected villagers. The PoE February 2008 report states:

While the formulation of the draft [Downstream Implementation] plan has gone on its leisurely way, the construction programme has forged ahead. As a result, many impacts felt below the powerhouse will occur before the remedial or compensatory measures are in place.
(McDowell et al, 2008, p26; emphasis in original)

The PoE also points to the Downstream Programme's short- and long-term funding gap, noting that the US\$16 million budget 'was never going to be sufficient funds to complete the tasks envisaged' (McDowell et al, 2008, p35). Consultant fees will absorb US\$1 million, leaving approximately US\$200 per affected person² for mitigation and compensation measures. Although the budget is not being used to provide cash compensation to villagers, but rather to support infrastructure improvements and contributions to village savings funds, this figure highlights

how inadequate the funding is to at least restore the livelihoods of affected people, as required by the Concession Agreement.

While NTPC has provided no additional funding, the World Bank approved a US\$9 million Khammouane Development Project in June 2008 that will support irrigation development along the NT2 downstream channel and Lower Xe Bang Fai River. The PoE has also urged the ADB and AFD to commit additional resources to support irrigation and flood management (McDowell et al, 2008, p42).

Each of the affected Xe Bang Fai villages will receive approximately 2 million Lao kip per household (about US\$200) from NTPC through a village savings fund. Villagers can borrow from these funds for various livelihood projects, ranging from fish ponds to pig-raising to tomato cultivation. However, villagers reported to International Rivers that they have to pay back the loans to the village savings fund, with monthly interest ranging from 1 to 3 per cent, *whether or not the projects succeed or fail*. Those people with unsuccessful projects have been forced to sell buffalo and other assets to repay debts to the village savings fund. Some villagers report that they have already stopped participating in the fund or will no longer borrow for livelihood projects. The reliance on a microcredit scheme to deliver compensation creates a cycle of debt if projects fail or if repayment terms are too demanding.

Flooding is another major concern for Xe Bang Fai villagers, some of whom lose rice crops and other assets every two to three years as a result. NT2 is expected to increase the frequency and the duration of floods in the Xe Bang Fai area, even if power production is stopped as promised when the river overflows its banks at Mahaxai town. At the nearby Theun-Hinboun Hydropower Project, recent research has shown that flooding along the Hinboun River has become increasingly severe over the past decade, leading to large-scale abandonment of rice paddy fields (FIVAS, 2007). While NT2 and Theun-Hinboun vary in some technical specifications, there are important lessons to be learned from the Theun-Hinboun experience. NTPC should prepare for a worst-case scenario where wet season rice production is no longer viable along sections of the Xe Bang Fai due to protracted annual flooding.

Most of the flood-prone villages visited by International Rivers in December 2007 said that they had requested flood protection works (such as dikes, minipolders or water-gate rehabilitation) from NTPC, but in many cases were told that funding is not available. However, as of July 2008, 15 flood gates had been rehabilitated and work on an additional 4 gates was under consideration (World Bank and ADB, 2008). While it appears that the PoE's recommendation to allocate more resources to flood-protection works before power production starts has been followed (McDowell et al, 2008; World Bank and ADB, 2008), the total funds available will probably still be insufficient to mitigate NT2's flooding impacts.



Figure 4.4 *Woman fishing on the Xe Bang Fai*

Nakai-Nam Theun Protected Area

One of the selling points of the NT2 project was that NTPC would provide US\$31.5 million to help protect one of the Mekong region's richest areas of biodiversity, the Nakai-Nam Theun National Protected Area (NPA). The 4000km² Nakai-Nam Theun NPA is the largest protected area in mainland Southeast Asia (World Bank, 2008a) and forms the watershed of the NT2 project. The funding provided by NTPC helped to establish the NT2 Watershed Management Protection Authority (WMPA) tasked with implementing an ambitious *Social and Environmental Framework and Operational Plan* (SEMFOP) in the Nakai-Nam Theun NPA. According to the PoE: 'without the NPA component, the NT2 Project as such would not exist' (McDowell et al, 2008, pp28–29).

The vision of the SEMFOP – and one of the key objectives of the WMPA – is to establish a balance between biodiversity conservation and development for the 6000 villagers living in the NPA. The PoE questioned the WMPA's progress on this challenging issue (McDowell et al, 2007b, pp27–28) and called for improvements in the WMPA's organization and staffing to more effectively meet the SEMFOP goals (McDowell et al, 2008, pp28, 47). A new director and a new chief technical

adviser were reportedly appointed in mid 2008 (World Bank and ADB, 2008, p16).

Established as a biodiversity conservation area in 1993, the Nakai-Nam Theun NPA faces the threats of hunting and poaching, illegal logging and mining activities that are familiar to other protected areas in the region. In its February 2007 report, the PoE reported that the NPA was ‘bleeding rosewood’, referring to illegal logging of this valuable hardwood (McDowell et al, 2007a). One part of the problem was traced to the NANCY Company – tasked with clearing valuable timber from the NT2 reservoir area before it was flooded – for its alleged ‘laundering’ of illegal rosewood from the NPA during its salvage logging operation of the NT2 reservoir (McDowell et al, 2007a; EIA/Telepak, 2008, pp16–17). The PoE also exposed a significant mining operation that was threatening the integrity of the area, although that operation has reportedly since been shut down by the GOL. While the WMPA’s efforts to control these threats have been commended, the PoE notes that ‘to date, the patrolling results are still inadequate’ (McDowell et al, 2008, p28). Once the NT2 reservoir is filled, it could increase access to the NPA and make illegal logging and poaching even more difficult to control.

Environmental management during construction

The NT2 project was supposed to demonstrate best practice in terms of environmental management. However, the construction companies involved – which include NTPC shareholders Electricité de France as the head construction contractor and Ital-Thai Development as the principal civil works contractor – have repeatedly been cited for environmental infractions by the Lenders’ Engineers and the PoE (McDowell et al, 2006b; PB Power, 2007). These violations include road-building negligence, leading to excessive deforestation, and a failure to control dust, erosion and sedimentation, leading to water quality problems and respiratory difficulties for villagers.

A leaked copy of a Lenders’ Engineer report summarizes NT2’s environmental management shortcomings:

As noted in our previous report, for a project which is intended to set a benchmark of world’s best practice against which future projects can be assessed, the environmental performance still falls significantly short of this benchmark in many areas and, in some aspects, still barely meets ‘business as usual’ levels. (PB Power, 2007, p9)

The PoE, the World Bank and the ADB continued to report on problems with road-building, wastewater treatment and revegetation, in particular (McDowell et al, 2007b, p20; World Bank and ADB, 2008). It seems that no penalties or fines have been levied for these breaches despite the fact that the head construction



Figure 4.5 *Excessive road clearance*

contractor's compliance with the *Environmental Mitigation and Management Plan* 'in all material respects' is a requirement of the World Bank's agreement with NTPC and the GOL (World Bank, 2005d).

Revenue management framework

NT2's development justification – and the justification for its World Bank and ADB support – hinges on the GOL using project revenues to help the poor. The establishment of the NT2 revenue management framework is being supported by a number of World Bank- and ADB-backed public expenditure and public financial management programmes. The goal of these loans, grants and technical assistance initiatives is to support improvements in public financial management, broadly speaking, and to ensure that NT2 revenues, once generated in early 2010, are directed to poverty reduction programmes as required.

The most recent Public Expenditure Review–Integrated Fiduciary Assessment for Laos points to a number of shortcomings. These include poor budget planning, 'weak authority and capacity of the Treasury and deficiencies in the systems for financial control, accounting and budget reporting', and poor fiscal transparency (World Bank et al, 2007, p28). The same review acknowledges 'potential issues'

with regard to NT2 revenues: ‘in the short term, NT2 revenues are likely to be used primarily to increase the timeliness of wage and salary payments to [Ministry of Agriculture and Forestry] staff and to increase the wages of personnel stationed in remote rural areas’ (World Bank et al, 2007, pp72–73). This would seem to run counter to the GOL’s commitments to direct NT2 revenues initially to health, education and rural infrastructure. The World Bank bemoans the fact that ‘despite sizeable donor contributions’, Laos still spends much less on health and education than other low-income countries (World Bank et al, 2007, p25).

The implementation of NT2 revenue arrangements has reportedly progressed, with the identification of NT2-eligible expenditures, such as health, education and rural roads expected to occur before the end of 2008 (World Bank and ADB, 2008, p2). Baseline allocations for these programmes will reportedly be assessed in the 2008/2009 financial year so that the ‘additionality’ of NT2 revenues in 2010 can be assessed (World Bank and ADB, 2008). But after more than a decade of World Bank and ADB support to improve public financial management in Laos, it is clear that significant weaknesses remain (World Bank et al, 2007; World Bank, 2008b). If the GOL loses interest in these reforms, there will be no external controls to ensure that NT2 revenues are not misdirected.

LESSONS AND IMPLICATIONS FOR LAOS

The fact that NT2’s social and environmental programmes have run into such major difficulties raises concerns about the commitment of NTPC and the GOL to deliver on earlier promises, as well as the feasibility of the promises made to justify the project in the first place. If the World Bank, ADB and other project lenders are unable to ensure compliance with key social and environmental obligations while the project is still under construction, it is difficult to see what leverage they will have once the project has been completed and electricity is being generated. At that stage, NTPC will have even fewer incentives to meet its commitments to affected communities and the environment.

Furthermore, the World Bank’s promises that NT2 would provide a model for more sustainable hydropower development in Laos are largely ringing hollow. The GOL’s National Policy on the Environmental and Social Sustainability of the Hydropower Sector in Laos, enacted at the time of NT2 project approval with World Bank support, is still not being implemented (International Rivers Network 2006b, 2007b). Even a basic provision of the policy, that environmental impact assessments for hydropower projects should be disclosed, is not being followed.

Construction on new hydropower projects, such as Nam Theun 1, Nam Ngum 5 and Xekaman 3, is proceeding before environmental licences have been granted. Resettlement guidelines are not being followed (Vattenfall et al, 2008). The GOL’s Water Resources and Environment Agency (WREA) lacks the capacity and the authority to assess, approve and monitor these new dam developments effectively.

There is also no discussion of earmarking revenue from proposed hydro projects for poverty reduction expenditures, as with NT2.

Why have problems occurred with NT2?

The problems inherent in the planning and implementation of NT2 point to broader challenges with the process for deciding upon and implementing dam projects in Laos and, more broadly, the Mekong region. First, the preponderance of non-democratic regimes in the region makes it difficult for meaningful participatory processes to be undertaken due to the lack of true freedoms of speech and assembly in countries such as Laos, Vietnam and Myanmar/Burma. Because of the political situation, it is difficult for affected communities to access independent information about the risks of particular projects or to organize against projects if they feel that they will not benefit from them.

These countries also have rudimentary legal systems and few laws granting basic rights to citizens. This lack of the rule of law makes it impossible for affected communities to seek redress when their rights are violated, or to challenge decisions taken by the government on whether or not to proceed with a particular project. They also make it difficult to ensure that project agreements and commitments to villagers and the environment are upheld. This leaves affected communities vulnerable to exploitation, allows the government and the private developers to avoid covering the true social and environmental costs of their project, and leads to poor outcomes for both people and the environment. While NT2 has gone farther than most projects in terms of public reporting and participation, its efforts have inevitably been constrained by the political environment in Laos.

Second, although numerous studies were conducted for NT2, some of them were of poor quality, containing unrealistic assumptions and insufficient data (International Rivers Network, 2005; Lanza, 2005; Willing and Knoop, 2005; McDowell et al, 2007b). This illustrates a more fundamental problem inherent in hydropower planning around the world: it is up to dam developers to commission and endorse the environmental impact assessment and other studies, and to agree on the funding for compensation and mitigation measures. By the time the EIAs are submitted to the GOL's environmental regulatory agency, for example, the dam has been designed, costs have been determined, and often the Project Development Agreement has been signed. Even if the GOL's WREA had sufficient capacity and resources to review these documents, their ability to stop or change a project at that stage is limited.

Additionally, environmental and social assessments are done by consultancy companies who often have vested interests in presenting all environmental impacts as 'manageable' and seeing that the hydropower project gets built by minimizing the social and environmental problems that it will pose. This is one way of ensuring that they receive more contracts from dam developers. The author is aware of a number of cases of a consultant's work being replaced by that of another firm – or

strong indications that this would be the case – if the consultant’s predictions of likely impacts and mitigation costs are too high (International Rivers, 2008c). This situation is certainly not unique to Laos.

Third, NT2 has suffered from a lack of qualified staff, resources and a high-level commitment from NTPC to the project’s social and environmental objectives. The PoE highlights several examples of Concession Agreement violations that occurred because NTPC preferred to cut costs of provisions for irrigation and adequate compensation for fisheries losses (McDowell et al, 2008, p19). The PoE also cites NTPC’s failure to adequately account for the staffing levels and budget that would be required to meet the obligations of the Concession Agreement (McDowell et al, 2008, p11), although that situation has reportedly improved as of mid 2008 (McDowell et al, 2008, p43; World Bank and ADB, 2008). To improve the implementation of resettlement and livelihood programmes, a more realistic assessment of local capacity and the resources and staffing level required to meet NT2’s social and environmental requirements should have been conducted before the project was initiated and acted upon.

Finally, NT2 points to the limited leverage that international institutions such as the World Bank and ADB have once a project is under construction. Short of withdrawing financial assistance from the country or holding up project loans and guarantees, which they are notoriously reluctant to do, the MDBs have difficulty in ensuring compliance once funds are disbursed and construction has begun, since their supervision of the project decreases. This issue, is, however, becoming increasingly irrelevant as the MDBs are displaced by other dam funders who may be less concerned with the environmental and social risks of their investments.

CONCLUSIONS AND RECOMMENDATIONS

The problems outlined above highlight the difficulties of managing the social and environmental impacts of large dams, particularly in a country with a repressive political climate and without a well-developed legal system through which affected communities’ rights can be defended and environmental laws upheld. They also show that time and money are needed to do these projects right. When developers cut corners, the GOL and the Lao people ultimately bear the high costs of damaged livelihoods, lost fisheries and degraded agricultural land. On the other hand, the added costs of genuine mitigation and compensation measures may only be a fraction of the profits that dam developers stand to gain.

Increasingly, though, the dam playing field in Laos is not being shaped by the World Bank or Western hydropower developers, but by companies from Thailand, China, Vietnam, Russia and Malaysia. If the GOL does not quickly take the reins of the hydropower sector, these private developers and their regional backers will do it for them. It is time for the GOL to learn from NT2’s mistakes and build on some of the things that NT2 has done better. The flood of interest in the hydropower

sector in Laos means there is room for higher standards, especially if it involves weeding out the most irresponsible dam developers.

First, the GOL and donors should comprehensively assess, through a broad-based participatory process, all the poverty reduction and revenue generation options for Laos in a way that honestly evaluates the trade-offs and costs of hydropower development. Laos needs a development strategy that does not destroy the rivers and resources upon which the majority of the population depends. Second, the GOL should recognize that the costs of some dams, including in economic, social, environmental and cultural terms, will be too high to merit proceeding. Projects proposed for the Mekong River mainstream would probably fall into this category. In particular, their non-financial costs need to be more carefully studied and subject to independent review.

Dam projects in Laos need to be selected based on strategic environmental assessments and basin-wide planning, not on an *ad hoc* basis driven by the interests of dam developers or select government officials. For dam projects that do go forward, social and environmental obligations must be considered a core part of the project, accompanied by adequate budgetary resources to both implement mitigation programmes and compensate affected people. The GOL should ensure that quality assessments are submitted which include viable mitigation and livelihood restoration plans. Then the GOL must hold developers accountable to these plans. Failure to meet social and environmental commitments should carry the same penalties as failure to meet engineering deadlines.

In order to evaluate and enforce developers' environmental and social commitments, as well as ensure compliance with the laws and regulations of Laos, the GOL urgently needs to strengthen the capacity and authority of WREA and move its project review process upstream. Working with donors, the GOL should establish a well-resourced WREA unit that is responsible for conducting regular project monitoring during the construction and operation phases. The GOL's ability to negotiate favourable agreements with power purchasers should also be strengthened. Until this capacity has been built, the GOL should consider a moratorium on the signing of new Concession Agreements and PPAs, as well as increasing the use of independent experts and external monitors to assess dam projects.

Finally, transparency and accountability to affected people needs to be dramatically improved. The rural villagers who bear the costs of these dam projects should have more of a say in whether or not they are developed. They also need a better understanding of their rights and entitlements and the space to ask that those rights be respected. In addition to receiving full compensation for their losses, all communities affected by a hydropower project should be provided with a percentage of the dam's revenues – for the life of the project – to support their own community development initiatives.

NT2 may have improved upon the performance of past dams in Laos, but it is still a long way away from 'doing dams right'. Laos will have only one chance

to manage this hydropower boom to minimize costs and maximize benefits for its people. Urgent action is needed to both address the problems with NT2 and avoid a repeat of past dam mistakes in Laos.

NOTES

- 1 According to the World Bank in June 2008, the numbers for significantly affected households have been revised downward to approximately 200. Therefore, 2200 households multiplied by the average household size in Laos (6) means that an estimated 13,200 villagers have been affected by construction activities.
- 2 Using NTPC's numbers of only 75,000 affected people.

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Appendix

Nam Theun 2 and Its Impact upon Hydropower Development in Laos¹

Patchamuthu Illangovan, World Bank country manager for Laos

Laos, a landlocked country in Southeast Asia, is one of the poorest countries in the region. During the early 2000s, the country was characterized by weak infrastructure, low capacity in its institutions, lack of industries, extremely low foreign investment, high poverty and few opportunities for growth. However, Laos had a goal: to exit from poverty and join the ranks of middle-income countries by 2020.

The development challenges of Laos were, and are, abundant; but the country is working hard to overcome them. More children need to attend school, healthcare facilities need significant improvements, roads are needed to give access to communities, agriculture systems need to be upgraded and, crucially, the government needs revenues to invest in poverty reduction programmes. Moreover, these revenues must be well managed so that they can be utilized effectively.

THE CASE FOR HYDROPOWER

In order to tackle these challenges, the Government of Laos (GOL) and the international community have recognized a need to implement far-reaching reforms in the public financial management sector. Moreover, the government has highlighted the imperative of developing what is becoming its regional comparative advantage: hydropower.

Surrounded by neighbours in need of electricity, Laos is blessed with abundant water resources that it can tap and sell, thereby generating much needed revenues. But hydropower also brings social and environmental impacts that must be well assessed and managed. The sustainable management of the country's natural resources has the potential to generate revenues, reduce poverty, improve people's life and protect the environment. The key is to balance water resources and potential developments in Laos so that the country and its people benefit.

Back in 2002, the Nam Theun 2 Hydroelectric Project (NT2) was an opportunity to undertake necessary reforms and to begin to strategically develop this important sector of the economy of Laos, ensuring that local communities benefited. The GOL reached out to the international community for support, including the World Bank, Asian Development Bank, Nordic Investment Bank, European Investment Bank and the French Development Agency (AFD). Together, the institutions, GOL and project developers designed the preparation for a project that would have impacts across the board.

UNDERTAKING IMPORTANT REFORMS

The basic premise behind NT2 was that it would help to generate much needed revenues that the GOL could invest in poverty reduction projects. However, to do this, the GOL had to strengthen its public financial management capabilities and its budgetary framework.

With the support of the development community, including several World Bank projects, the GOL has been undertaking a considerable number of important reforms in the last four years that are helping to establish a more rational and consistent public financial management system. From acquiring and storing data in a more comprehensive manner to implementing a strengthened and new budgetary law, the GOL has been upgrading and enhancing the way in which it manages the country's finances.

These reforms, complementary to the NT2 project, are having far-reaching implications for the future of Laos. The reforms that are being undertaken, the institutions that are being put in place and the capacity that is being built, among others, will not only be useful to manage NT2 revenues, but all revenues in the country and their allocation. This is a very significant impact that the project has had upon the country.

NAM THEUN 2

NT2 has brought with it the most rigorous social and environmental mitigation programmes that any project of its kind has had in Laos. These include detailed assessments of project impacts; a thorough consultation process with communities and national and international stakeholders; resettlement standards that led to the creation of a country-wide resettlement policy; the conservation of a 4000km² protection area that is helping to shape the country's thinking about conservation initiatives; appropriate compensation policies for people losing land to project areas; and mitigation measures and a programme for those affected downstream.

The social and environmental programmes in NT2 are helping to improve the lives of those affected by the project. In the case of the resettled villagers, the project is helping the communities to overcome poverty by raising their living standards above the country poverty line five years after relocation. In the downstream, the livelihood restoration programme is working to ensure that people's lives are not degraded as a result of the project and that they can maintain their living standards.

Moreover, the NT2 preparation process and its current implementation are raising the standard of hydropower development in Laos, as well as building significant capacity across a range of ministries and the project area. NT2 is also a catalyst in framing the discussions about hydropower in the country.

THINKING SUSTAINABLY ABOUT HYDROPOWER

The discussions on hydropower taking place in Laos today involve communities who are affected, national and international civil society, international donors, academia, developers and GOL officials. Many of these discussions centre on the aim of not only developing projects and generating revenues, but developing them sustainably, ensuring that communities benefit and that the environment is protected.

Discussions also centre on the need to attract investments from responsible private-sector partners, as exemplified in discussions during late 2007 at the first Lao–Thai Hydropower Forum, as well as at various other forums. Laos understands the importance of engaging with a private-sector partner who can help to improve the lives of affected people and the environment.

THE SUSTAINABLE DEVELOPMENT OF HYDROPOWER IS AT THE TOP OF LAOS'S AGENDA

Moving forward

The preparation and implementation of the NT2 project in Laos has triggered a number of reforms of economic and social processes, which are slowly transforming various areas in Laos. The impact of the project goes beyond the actual development of the dam and its social and environmental mitigation programme to encompass the broader effects of the project on Laos's public financial management system and natural resource extraction.

Laos's natural resources have the potential to help its people to overcome poverty and therefore need to be sustainably managed. This will require the involvement of all stakeholders to ensure that this potential is met and that the Lao people lead better lives.

Going forward, Laos needs to carefully consider and balance its abundant resources, evaluating the potential to develop them, and the impacts and benefits to all of its population and future generations. Laos, thus, will need to ensure that potential projects are well assessed, that they are carefully reflected upon, that social and environmental programmes are well implemented, that local populations benefit from the projects, that investments are sound, and that the country generates the revenues which it needs, allocating funds to poverty reduction projects.

NOTE

- 1 For more information about Laos, the World Bank's programme in Laos and the Nam Theun 2 Project, visit www.worldbank.org/lao and www.worldbank.org/laont2.