

April 8, 2010

Mrs. Ikuko Matsumoto  
Lao Program Director  
International Rivers

Mr. Toshiyuki Doi  
Representative Director  
Mekong Watch

Dear Ms. Matsumoto and Mr. Doi

*Re: Operation of the Nam Theun 2 Project, Lao PDR*

Thank you for your letter dated March 26, 2010, addressed to the Presidents of the World Bank and Asian Development Bank (ADB). We welcome constructive feedback on the NT2 project from civil society organizations and other stakeholders. We note that our staffs have discussed each of the issues raised in your letter with International Rivers in the weeks preceding your letter, as well as on several occasions during 2009.

Your letter includes several factual inaccuracies which we clarify below. However, at the outset, we would like to state clearly that **the start of NT2 operations in early March was in compliance with all applicable agreements, contracts, laws and regulations; was approved by the Government and the lenders; and is consistent with the Concession Agreement (CA).**

As we discuss the specific issues below, it is important to remember the project development objective that explains the rationale for the World Bank and ADB supporting the NT2 project: *"To generate revenues, through environmentally and socially sustainable development of NT2's hydropower potential, that will be used to finance priority poverty reduction and environmental management programs".*<sup>1</sup> Our two institutions therefore view each of these issues with respect to whether they risk the achievement of the broader development objective of the project, as well as the welfare of project impacted people.

Your letter raises specific concerns about downstream impacts in the Xe Bang Fai River and the situation of the resettled people on the Nakai Plateau. We will address each of these in turn.

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<sup>1</sup> The World Bank & MIGA, NT2 Project Appraisal Document, March 31, 2005- available at <http://www.worldbank.org/laont2>

## Downstream Impacts: the Xe Bang Fai

A number of project impacts on the Xe Bang Fai were anticipated at the time of project preparation. These included increased erosion, changes in water quality, loss of some riverbank gardens, reduction in fish catch, and increased duration or depth of the annual flood cycle. A number of mitigation and compensation measures were put in place to address these, including:

- Project infrastructure design measures, including a large regulating pond; a 27km long downstream channel, and several aeration structures. Together, these measures are designed to reduce fluctuations in water levels and downstream erosion, and improve water quality.
- A downstream program, which started several years in advance of project impacts with strong community participation. This includes *inter alia* (a) measures to relocate or compensate for assets that are impacted by project related erosion; (b) a Water Sanitation and Hygiene program; (c) a livelihoods improvement program that includes village funds and technical support; (d) specific compensation for riverbank gardens; and (e) a grievance procedure.
- A range of monitoring systems that will assist Government, NTPC and project oversight agencies track impacts on the natural environment and the people who live in the area.

Two Francis turbines began operations on March 8, 2010, and all four commenced by March 15, 2010. When operating at full power, the four turbines release approximately 300m<sup>3</sup> of water per second into the regulating pond (330 m<sup>3</sup> per second once the two Pelton Turbines are also operating at full power). This needs to be compared to the natural flow of the river, which varies between around 10-20m<sup>3</sup> at the end of the dry season to over 2000m<sup>3</sup> at the height of the wet season. When the full 330m<sup>3</sup> is released from the regulating pond into the downstream channel, this results in an approximately 0.2-4 meter increase of the lowest water level in the Xe Bang Fai during the dry season, depending on where it is measured along the river. These numbers were anticipated at the time of project preparation, revised during project implementation and publicly disclosed. Water releases into the Xe Bang Fai to date are within these ranges<sup>2</sup>.

The ADB, Agence Française de Développement (AFD) and Proparco, European Investment Bank (EIB) and the World Bank – collectively the International Financial Institutions (IFIs) – visited the project areas during the first week of March 2010 to assess the situation prior to commercial operations. With respect to the Xe Bang Fai downstream, the team reached three broad conclusions:

- a) considerable progress had been made by Government and NTPC in rolling out the downstream mitigation and compensation program prior to project impacts;
- b) effective erosion, water quality, fish catch, and socioeconomic monitoring systems were in place; and,
- c) a combination of close monitoring and adaptive management would need to be used to manage the downstream program as impacts materialized.

Regarding *clean water supply*, your letter suggests that: (a) the water being released into the Xe Bang Fai is a problem for public health; (b) clean water supply promised by the project is not in place; and (c) the project “has warned communities living along the Xe Bang Fai not to drink the river water because it is contaminated”.

- a) *Water quality monitoring* in the Xe Bang Fai downstream area shows that project water releases are having only very small impacts on the natural water quality in the river to date (compared to control stations upstream of the release) and comply with the recently improved national standards for water quality (which are in turn, consistent with relevant international standards). The key

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<sup>2</sup> NT2 hydroelectric project – Downstream Implementation Plan , April 8<sup>th</sup>, 2008- Available at <http://www.namtheun2.com>



change for most villagers during the dry season is an increase in total suspended solids (TSS), which are similar to TSS levels usually found during the wet season (June-November). Therefore, there is no additional threat to human health posed by water releases from the Nakai Reservoir to the Xe Bang Fai River to date.

In relation to your other concerns about water quality monitoring for NT2, it is important to note that the water quality monitoring system includes over thirty monitoring stations covering all key areas of the project (including several automated stations that provide hourly data via satellite), a well equipped local Aquatic Environment Laboratory to rapidly analyze samples, and a set of quality controls (such as blind sampling) and oversight mechanisms (external bodies review both the process and the data) that ensure the integrity of the system. We believe that the current system is already consistent with CA obligations, meets project objectives, and provides appropriate information and analysis to both project management and oversight agencies in a timely manner.

- b) *Improved water supply* for all riparian villages along the Xe Bang Fai is in place. Approximately 500 boreholes, with pumps, have been installed in the Xe Bang Fai region since the approval of the project in 2005. Most of these boreholes provide a reliable source of clean water suitable for domestic use. Some boreholes have naturally occurring high levels of iron, turbidity or salinity due to geological conditions, and others have had occasional mechanical problems. A monitoring system is in place that samples water quality from the pumps and identifies mechanical problems where they exist. In addition, since downstream program staff are in most villages at least once a week, these issues are usually picked up quickly through community feedback. Where groundwater quality is an ongoing problem, new boreholes are dug, and where pumps malfunction, they are repaired. With respect to the specific locations where you identify problems in your letter, the situation in Ban Navang Tai is broadly as you describe (two functioning boreholes providing good quality water); in Ban Mahaxai Tai there are in fact six fully functioning boreholes at the moment rather than the two you describe; and in Ban Beungxe there are three fully functioning boreholes of good quality while your letter suggests that water in all nine boreholes is “contaminated”..
- c) Regarding *NTPC communications* with villagers about water quality, the company has not in fact “warned communities living along the Xe Bang Fai not to drink the river water because it is contaminated”; rather, villagers were educated about the importance of clean water and sanitation during the implementation of the Water and Sanitation Program (one element of the broader downstream program), which aims to improve the health and economic welfare of affected communities.

We find no evidence to indicate that “fish have disappeared from the river” as you claim. Fish catch monitoring to date suggests that while the water is deeper and faster, the villagers are still catching fish in the Xe Bang Fai. This is also corroborated by field fisheries observations and discussions with villagers which have not reported any fish mortalities in the Xe Bang Fai. We will continue to closely monitor the changes in Xe Bang Fai in the coming months, and ensure that the legal obligations are fulfilled by the Company and Government as the implementation of the downstream program continues.

A detailed registration process for *river bank gardens* was complete by June 2009. The data shows that 3,101 households are eligible for compensation because their garden will be partially flooded. They are expected to lose access to around one third of their riverbank garden during this growing season. It should be noted that river bank gardens are not used during the rainy season. Based on the data collected and analyzed, it is our understanding that no household in any village will lose more than 10% of their annual total livelihood. Villagers have been informed in advance of these impacts and have, during this season, largely restricted their riverbank gardens to above the new water level. Initial visual surveys indicate that almost no riverbank gardens have been flooded this year as a result of this community outreach campaign.



The riverbank garden compensation process has been underway since December 2009, and is happening systematically:

1. Community consultations were completed during December 2009 to January 2010, which confirmed the compensation program that would be implemented (including the process, general rates of compensation, and timing of the process), and physically marked the riverbanks at the level that the river was projected to reach following the start of electricity generation. Villagers were advised not to plant below this level so as to avoid direct loss of crops (as opposed to losing the opportunity to grow crops, which are being compensated for as below).
2. The actual compensation process is now being rolled out across villages. The process includes a final agreement signed by each project affected household, local authorities and NTPC. A grievance procedure is also in place, and no grievances related to riverbank gardens have been filed to date.

The compensation process is currently underway, and final compensation payments for specific areas of riverbank gardens that are lost due to increased water level (i.e. the lost livelihood associated with riverbank gardens they have used in the past, but can no longer be accessible as a result of the project) will be completed in the coming months.

We have been concerned about the pace of implementation of the riverbank garden compensation program, and have received assurances from NTPC that the program implementation has been accelerated in recent months. In operational terms, there is a basic trade-off between thoroughness (accuracy of data; quality of community engagement; quality of documentation etc.) and speed. On balance, particularly given the relatively limited impacts to livelihoods, our institutions have preferred that the process is done thoroughly. This was confirmed most recently during the IFI management mission in the first week of March.

We would like to conclude that the implementation of the downstream program remains a challenging process, as anticipated at the time of project preparation. We are committed to ensuring its success by continuing to take a careful and systematic approach to ensuring that the project objectives are realized.

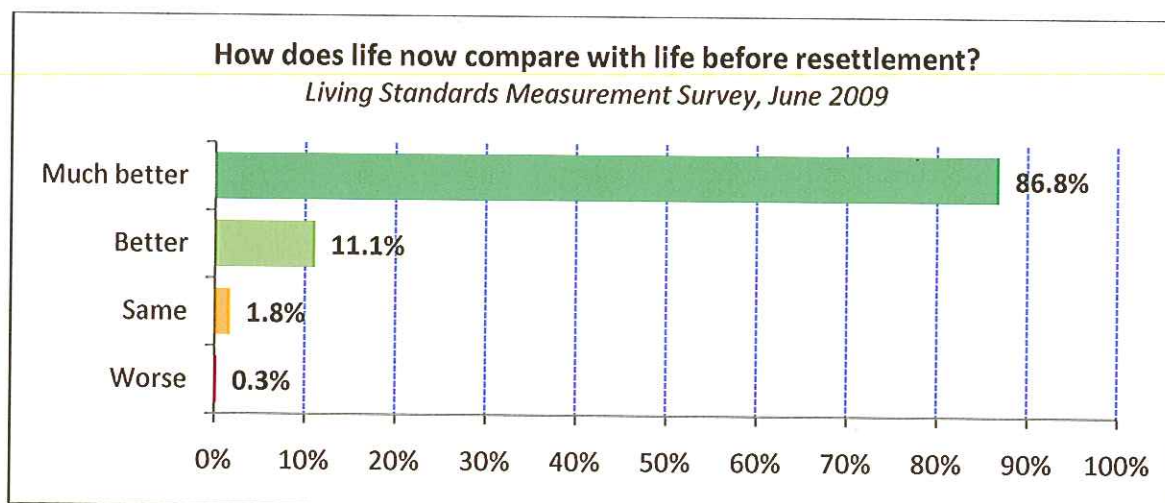
#### **Plateau Impacts: Resettler Livelihoods and Irrigation**

Socioeconomic monitoring surveys among resettled people on the plateau show that resettled people are becoming better off following resettlement. Not only do people have better housing, roads, water supply, and access to health and education, but the majority of people also currently have higher incomes and consumption in comparison to their baseline situation. Perhaps the simplest evidence of resettler welfare is to rely on the resettlers own views, which are summarized in the chart directly below.<sup>3</sup> This data is from the 2009 Living Standards Measurement Survey (LSMS) on the plateau.

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<sup>3</sup> A fuller discussion on this chart, as well as the key issues that resettlers are currently concerned about, can be found at <http://blogs.worldbank.org/eastasiapacific/nam-theun-2-how-are-the-resettled-people-doing-overall-in-their-own-words-part-2-of-2>





It is too early to tell whether current progress is sustainable, but it does suggest that a good start is being made on livelihoods, and that resettled people are broadly benefiting from the project rather than being left worse off by it. A fuller analysis of this data will be made public in the coming months.

It is useful to keep this broader developmental context in mind as we discuss delays to the provision of *irrigation on the plateau*. The delays stem from two factors: (a) the need to redesign the approach to better meet community needs; and, (b) the need for a full reservoir drawdown to complete the redesigned system.

- a) The original cause for delays in irrigation roll-out stem from the need to redesign the irrigation approach following the experiences of farmers in two pilot village schemes. The key conclusion from the pilot experiences was that the systems was overdesigned, unsustainable, and did not sufficiently support farmers to take an integrated approach to agriculture across their 0.66ha plots and the drawdown zone of the reservoir. The need to change this approach has been discussed in previous public reports<sup>4</sup>, and the approach to redesigning the irrigation system has been done in consultation with the international financial institutions (IFIs) and the various other project oversight bodies as part of the adaptive management system envisaged in the Concession Agreement. It has also been discussed at length with International Rivers in the past.
- b) The new design currently being implemented emphasizes much more simple technology, enabling integrated 0.66ha and drawdown zone agriculture, and a greater involvement of farmers in finalizing their local system. The current status is that irrigation systems are already installed in several resettlement villages, while the remaining will all be installed by the middle of this year. However, the finalization and full operation of these irrigation systems depend on a drawdown of the reservoir for three reasons: a) tube wells need to be dug deeper than they currently can be because of the high water levels in the wells caused by the full reservoir; b) gully dams cannot be completed until the land is exposed; c) villagers cannot finalize how they want to integrate and irrigate the drawdown zone area until they actually see it.

Though irrigation systems were supposed to be finalized prior to Commercial Operations Date (COD), we understand that this is likely to be delayed for the reasons explained above. However, adaptive management (a process of adjusting project implementation to shifting realities on the ground) is allowed within the Concession Agreement, and the World Bank and ADB will continue to encourage adaptive management that benefits the livelihoods of villagers and that is consistent with the development objectives of the project. With respect to irrigation, we believe that it is critical to design locally appropriate and sustainable irrigation approaches that will continue to boost livelihoods over the long-term, and we will continue to support NTPC and Government progress on this.

<sup>4</sup> Please refer to World Bank and Asian Development Bank NT2 Board Updates as well as Panel of Experts reports, all available at <http://www.worldbank.org/laont2>

Finally, we note that the objective of the Concession Agreement requirement that irrigation be provided prior to Commercial Operations Date was clearly to ensure that resettled people had opportunities for reasonable livelihoods at the time of commercial operations. We believe this is currently true: socio-economic monitoring data demonstrates that people are better off following resettlement; food security is increasing – the percentage of households with a rice shortage of more than one month dropped from 51% in 2006 to 5% in 2009; and a safety net program of food support continues to be available to genuinely vulnerable people.

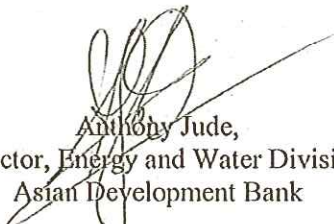
### Conclusion

The World Bank and ADB have welcomed the start of electricity generation as it has two immediate outcomes which are consistent with the project development objective:

1. At the local level, it enhances the project's social and environmental benefits to the affected people. For example, it allows resettled people to integrate the drawdown zone into their livelihood strategies (which is being facilitated by the participatory land use planning process currently unfolding on the plateau), as well as enabling the irrigation systems to be completed following a drawdown of the reservoir.
2. At the national level, revenues generated by NT2 will be used by the Government for pro-poor programs in education, health, and rural development, as well as for environmental protection programs. These NT2 financed programs are already under implementation around the country.

The World Bank and ADB continue to value their interaction with civil society groups and other stakeholders about the development of the NT2 project, particularly when it contributes to the improvement of the project and the lives of people impacted by it. We look forward to constructive and informed feedback on the project in the future.

Sincerely yours,

  
Anthony Jude,  
Director, Energy and Water Division  
Asian Development Bank

  
Patchamutu Illangovan  
Country Manager Lao PDR  
The World Bank



CC: Robert B. Zoellick, President, The World Bank  
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