

**LAO PEOPLE'S DEMOCRATIC REPUBLIC
NAM THEUN 2 MULTIPURPOSE PROJECT**



**SIXTEENTH REPORT OF THE
INTERNATIONAL ENVIRONMENTAL AND SOCIAL
PANEL OF EXPERTS**

25 February 2010

**DAVID McDOWELL
THAYER SCUDDER
LEE M. TALBOT**

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For the Nam Theun 2 Multipurpose Project
Lao People's Democratic Republic
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Cover photos: Illegal Exploitation of Project People’s Resources.

Top Left: “Exploratory” mining road well within the NNT National Protected Area

Top Right: Excavator working on mining road inside NNT National Protected Area.

Bottom Right: Illegally logged stump ten meters above the reservoir in National Protected Area embayment.

Bottom Left: Log dump on Nakai Tai/Nadane road (over 90 logs here, many taken illegally from VFA reserves)

All photos taken by POE in February 2010.

LIST OF RECOMMENDATIONS

The POE states:

That National Assembly legislation this year is a requirement if the NNT NPA is to remain inviolate.

The POE recommends accordingly:

- 1/16 That the Government of Laos, through a Presidential Order, a Prime Ministerial Decree or other urgent measures, take immediate action to protect the NNT NPA from mining and logging, thus making more specific the existing but inadequate measures which have failed to achieve this. Further that all relevant laws, decrees, regulations and orders be publicized and explained through workshops in Nakai and Khamkeut Districts to government officials and to resettler, PIZ and NPA villagers and that all such regulations be strictly and effectively enforced.**
- 2/16 That a binding National Law be drafted and submitted to the National Assembly for its June, 2010 meeting. Consistent with the GLIP, SEMFOP and Decrees, the law would establish the NNT NPA as inviolate, with mining and logging specifically prohibited, and would create an institutional mechanism for regular reports to the National Assembly on the status of the NNT NPA.**

The POE recommends:

- 3/16 That without further delay GOL apply for World Heritage status for the NPA.**
- 4/16 That a high level GOL official, such as the Vice Governor of Khammouane Province, meet with the district and provincial authorities and the village heads from the NPA and surrounding areas, impress upon them that GOL takes NPA conservation very seriously, expects full cooperation with WMPA, and requires that they mete out penalties commensurate with GOL's concern with protection of the NPA.**
- 5/16 That WMPA, desirably jointly with NTPC and the World Bank, convene workshops in Nakai and Khamkeut District including all stakeholders (heads of resettlement villages, PIZ villages and NPA**

villages; RMC, DAFOs and PAFOs; district and provincial governors; district and provincial police; district and provincial military; representatives of NTPC and World Bank, etc.) to clearly explain the regulations, and solicit the support of all present in upholding them. This should be implemented as soon as possible or, at a minimum, be put in WMPA's 2010/2011 annual work plan.

The POE requires:

- **6/16** That the Watershed Access Plan or Framework be submitted to the POE no later than 1 June, 2010, for approval as being consistent with the SEMFOP and the CA. The plan must detail proposed access development in the NPA through 2025, any subsequent modifications of the plan or framework must also be approved by the POE, and no new track construction be undertaken or be budgeted in the WMPA work plan unless there is first a final, POE-approved WARF.

The POE recommends:

- **7/16** That WMPA and its Board develop and implement a plan to obtain long term biodiversity conservation capability without delay.
- **8/16** That a plan be developed to remove the water buffalo from the area of the NPA between the reservoir and the dividing hills. The resettlers should be fully involved in developing and implementing the plan.
- **9/16** That the GOL give serious consideration to the payment of an independently assessed amount to VFA as compensation for the logs illegally removed from the Nakai Tai Nadane road area
- **10/16** That if this does not prove feasible the VFA accept the Khammouane Governor's offer to ensure replacement of the logs harvested from VFA land along the Nakai Tai Nadane road with logs of equivalent volume and quality.
- **11/16** That this operation be independently assessed and monitored by the IMA and that the logs be cut and transported at PAFO's expense, and taken from PAFO's quota, given PAFO's disregard of CA undertakings.
- **12/16** That the GOL respond positively to a renewed approach from the Governor for a multi-year wood cutting quota allocation for VFA in

recognition of its unique requirements.

- **13/16** That the NT2 Steering Committee reconfirm its December 2008 recommendation that authorization be given for only one sawmill (VFA) on the Plateau due to the limited forest resources available and the CA's provision for exclusive use of logs from the Resettlement Area for the benefit of the resettlers.
- **14/16** That NTPC move quickly to reach agreement with the GOL on the total funding required for the new road and provide these funds as soon as feasible.
- **15 /16** That consideration be given to assigning a proportion of the funds from substitute logs for those removed from the Nakai Tai Nadane road to help VFA reactivate such functions as actively monitoring and protecting its forest lands and beginning to promote reforestation and agro-forestry activities, pending further consideration of VFA's future by the stakeholders.
- **16/16** That NTPC supply paint, brushes, advice and encouragement to householders to paint their dwelling roofs and conduct practical courses on maintenance of resettlement houses.
- **17/16** That NTPC round off its successful resettlement construction program by addressing the items cited in the text of this report including the provision of advice on waste disposal.
- **18/16** That NTPC and GOL negotiate an equitable transfer of the Gnommalath camp to GOL ownership and collaborate with the World Bank in setting up a vocational skills training facility for PAPs to acquire a range of much-needed skills.

The POE requires:

- **19/16** That at least one agricultural extension staff member be resident overnight in each resettler village.

The POE recommends:

- **20/16** The continued involvement of the Consultant due to the complexity of the ongoing PLUP process, ongoing implementation delays, and the

need for further staff training.

The POE recommends:

- **21/16 That the resettlers have prior rights to islands within their village boundaries.**

The POE requires:

- **22/16 That NTPC initiate recruitment of a qualified Lao social scientist as a senior staff member prior to COD or failing that an experienced international specialist linked with a promising Lao social scientist.**
- **23/16 That the wishes of the four Vietic Households to join the Vietic community in Nam Nian be implemented, with construction of new houses or transfer of their present ones to be initiated prior to COD. The POE understands that NTPC is amenable to implementing this request.**

The POE recommends:

- **24/16 That the Downstream Program work with the Pakatan villagers on village planning, village hall construction that would include a two class school and finding a solution to access the Ponsa-art full primary school that does not require village resettlement along Route 8.**

The POE requires:

- **25/16 That VFA, the Livelihood Department, the WMPA and the Reservoir Management Secretariat have their first meeting on Nam Malou boundary and use issues before COD.**
- **26/16 That production assistance be continued until those who have lost over 10% of their land have achieved production targets and had their livelihood incomes restored.**
- **27/16 That the situation in Sangkeo and other downstream villages complaining about inadequate compensation for lost of common property resources be reviewed with further production assistance provided where necessary.**

The POE recommends:

- **28/16 That the World Bank include within its IWRM PID the establishment of a XBF River Basin Organization and give the XBF basin**

priority in the implementation of development activities.

- **29/16 That the World Bank contract a leading expert such as India's Professor R. Malik "to assess the development potential of the XBF river basin" (Recommendation 3/15 in the POE's 30 April 2009 Report).**
- **30/16 That the ADB and AFD play a more active role in XBF basin development.**

1. INTRODUCTION

This is the sixteenth report of the International Environmental and Social Panel of Experts (POE or the Panel) for the Nam Theun 2 (NT2) Multipurpose Project in the Lao People's Democratic Republic. The members of the Panel are D.K.McDowell (consultant, Otaki, New Zealand), T.Scudder (Professor Emeritus, California Institute of Technology, USA) and L.M.Talbot (Professor, George Mason University, Virginia, USA).

The Panel members have an aggregate of over 150 years of professional experience, much of it international and much of it specifically involving development projects and/or their environmental and social impacts. In the long run, we have seen few if any of these projects to be successful in terms of the welfare of the involved local people and the environment being as well off, much less being improved, by the project. However, the Panel has felt that the NT2 Project has the potential to break this downward cycle and to result in real gains for the affected people as well as the environment, the latter particularly in terms of conservation of the NPA. However, if this potential is to be realized and the project to be truly successful, there are actions that must be taken in the very near future, most particularly by the GOL, as we describe in Sections 2 and 3.

The Commercial Operations Date is scheduled to occur within the next two months, consequently the project is approaching a crucial time. As a result this visit has been a particularly important one for the project and the POE. The Panel spent a total of 21 days in Laos, nearly half of them in the field in the Project Area. Some of what the POE found was extremely encouraging. As discussed below this includes but is not limited to NTPC staffing, the Xe Bang Fai downstream work, the health endeavors, and some recent activities of the WMPA. However, the Panel finds that some issues are extremely worrying and unless rectified quickly they represent significant threats to the success of the NT2 Project.

Since its first mission to Laos for the NT2 Project, the POE has been committed to the project both for providing a most important development priority for the people and country of Laos, and for providing a global model of what can be accomplished in such a project. In the past the POE has been quite critical of the NTPC and also the World Bank and the other IFIs when we determined that their performance fell short of what was needed to make this a model. Now that we are close to COD, we find that there are significant problems with the performance of elements of the GOL. Unless those problems are addressed rapidly and effectively, they threaten the success of the project.

1.1 The Panel's Mandate

The Panel derives its mandate from the Concession Agreement which assigns the POE a contractual responsibility to provide independent review of and guidance on the treatment of environmental and social issues associated with the Project, and after the Implementation Period of nine years or more, to determine whether the Project's environmental and social goals have been met. The POE submits its findings to the GOL Minister of Energy and Mines and the Standing Deputy Prime Minister, addresses recommendations to the GOL, NTPC and the IFIs, and is required to assess the extent to which NT2 meets the requirements of the safeguard policies of the World Bank and the Asian Development Bank on such issues as the environment, indigenous peoples and resettlement with development.

1.2 Panel Activities

The POE arrived in Vientiane the weekend of January 30, and on February 1 and 2 was briefed by the Department of Energy Production and Development and met with the Minister of Energy and Mines, NTPC, the World Bank and other International Financial Institutions, and the Lao Holding State Enterprise. The next 9 days were spent in the field, starting with a day's helicopter flight to and over the reservoir area, Village Forestry Association (VFA) lands, resettlement villages, areas of illegal logging along the western escarpment of the plateau, the southern and eastern edges of the reservoir including areas of salvage logging east of the Nam Theun river, the Nam Xot river basin, the Nakadok mining and northwestern peripheral impact zone. Subsequent visits by boat were made to inspect the salvage logging east of the Nam Theun River in the two protected areas across from Oudomsouk and along the Nam Xot and Nam Mon.

One day was spent on a ground inspection of the gold mining operations at Nakadok, and additional ground visits were made to inspect the logging in the VFA area off the new track between Nakai Tai and Nadane, areas of illegal logging in the Khon Kaen and Done area, and areas of construction site restoration and rehabilitation at the dam, the plateau, downstream from the power house and along the downstream channel.

While on the Nakai Plateau the Panel met with the Nakai District Governor and useful discussions were held with project agencies including the Watershed Management and Protection Authority (WMPA), the NTPC's Resettlement Office (RO) team, NTPC's Environment Management Office (EMO), the GOL Environmental Management Unit (EMU), the Village Forestry Association (VFA), and the Reservoir Management Secretariat (RMS). Members of the Panel visited the resettlement villages, resettlement irrigation and agricultural research stations and the meeting of the Wildlife Adaptive Management Committee at the EMO. On February 10 the POE proceeded to Thakhek for briefings on the Downstream and Project Lands and on the following day returned to Vientiane.

On the 13th and 14th meetings were held with the Khammouane Governor and His Excellency Bounyang Vorachit, the Vice President of Lao PDR, following which Thayer Scudder departed. During the following five days David McDowell and Lee Talbot had meetings with the Hon. Somsavat Lengsavat, Deputy Prime Minister and Standing member of the Government, the Ministers of Energy and Mines, and Agriculture and Forestry, the Head of the Water Resources and Environment Administration, the NTPC Project staff, and the IFIs prior to Wrap Up meetings with project agencies, the media and the public and departure over the February 20-21 weekend.

1.3 Acknowledgements-Appreciation

The Panel expresses its appreciation for the organizational time and energy devoted by GOL, NTPC, World Bank and WMPA staff to setting up a most worthwhile schedule, not least Phalim Daravong. It is grateful to His Excellency Bounyang Vorachit, the Vice President, the Standing Deputy Prime Minister, Hon. Somsavat Lengsavat, the Minister of Energy and Mines, Hon. Soulivong Daravong, the Minister of Agriculture and Forestry, Hon. Sitaheng Rasphone, Minister to the Prime Minister's Office, Hon. Mme. Khempheng Polsena, the Governor of Khammouane Province, the Governor of Nakai District, the World Bank Country Representative Mr. P. Illangovan and the CEO of NTPC, Jean-Pierre Katz, for their insights and time. The POE is particularly grateful for the personal hospitality and many forms of assistance and advice it has received throughout this mission.

The POE also wishes to acknowledge with appreciation the work done in the Panel's absence by NTPC, WMPA, the World Bank and other IFIs, in addressing logging and mining issues in the watershed, bringing them to the Panel's attention and moving assertively with GOL to get them stopped. NTPC first called attention to the logging east of the Nam Theun River which led to the subsequent action of the World Bank and other IFIs. And it was a joint mission of WMPA and the World Bank which established that gold mining operations by the Phonesack Group were being undertaken within the NPA and led to the Bank's action with GOL.

2. INVIOABILITY OF THE NNT WATERSHED: THE NAKAI NAM THEUN NATIONAL PROTECTED AREA (NPA)

2.1 Introduction

The NNT NPA and its significance, including its key role in obtaining international agreement and support for the NT2 Project, was described in Section 5 of the POE's Fifteenth Report in 2009, as well as in previous reports. Consequently those descriptions will not be reiterated here.

2.2 Gold Mining Returns

The most serious current threat to the integrity of the NPA is gold mining and prospecting, and what we understand may be a concession within the NPA given to the Military, who have contracted with Phonesack Company.

2.2.1 Nakadok Area

Prior to the Panel's visit, and after WMPA and the IFIs had discovered that gold mining had resumed again in the Nakadok area in the north of the NPA, we understand that there was a letter from the Prime Minister's Office saying that the company was withdrawing from the NPA and would rehabilitate the damage it had caused. However, during the Panel's helicopter flight over the area it was clear that the company was still active within the NPA. Two days later at the time of the POE visit to the site the company had moved its equipment out of the NPA, except for one bulldozer. There was massive clearance of vegetation in the valley above the former site of Nakadok village well into the NPA and extending up the hillsides. One large hillside area just outside the NPA had been cleared to construct a mill to process the gold ore. A nearby area had been cleared and the top of a hill flattened for construction of barracks, office and a huge maintenance building that was nearly complete. It appeared evident to the Panel that the company would not be constructing such a major facility if they intended to stay out of the NPA.

Several tracked excavators and front loaders were digging up the valley floor literally up to the border of the NPA loading a fleet of large trucks which were shuttling back and forth presumably bringing gold-bearing dirt to the site of the mill. There had clearly been similar digging inside the NPA prior to our arrival. There were roads cut and areas cleared far up the sides of the valley and there was clearance for road access to prospecting areas, with the roads often cut vertically up and down the side hills and valleys. Well within the NPA in a valley that had been the site of previous artisanal and small-scale commercial mining, heavy equipment recently had opened the whole area. There was a huge pile of dirt – that presumably contained gold ore -- that the Panel was told was being trucked down the valley to the mill site which was just outside the NPA.

The Panel was informed that all this development had been accomplished by Phonesack in about two weeks, which indicated the capability of the company to make major impacts on the land and vegetation in a very short time. The impacts on the NPA in the Nakadok area are severe, but of much greater concern are the potential impacts if the mining and exploration should be expanded elsewhere in the NPA.



“Exploratory” mining roads inside the NPA.



Legitimate artisanal mining, just outside the NPA.



Industrial and artisanal gold mining in uneasy coexistence near the NPA.



The NPA is vulnerable to erosion when cleared. These landslides were caused by shifting cultivation. Roads and mining would be more damaging.



Extensive areas of drowned trees in the reservoir.



Destructive mining techniques on the Nam Pan hills.

2.2.2 A Broader Mining Concession in the NPA?

Both in the field and in Vientiane, the Panel has been informed that Phonesack, through the military, had or was obtaining a concession for mining and exploration that covered between a quarter and a third of the northern part of the NPA. These reports are unconfirmed though the Panel saw several maps which appeared to incorporate such a concession. The area includes some of the highest and steepest of the west-facing mountains, some of the richest biodiversity of the area along with vulnerable mountain people, and its loss would devastate the NPA.

If the activities of Phonesack in the Nakadok area were approved by GOL, they already are in contravention to the national and international commitments of GOL to protect the NPA. These commitments are contained, for example, in Prime Ministerial decrees (e.g., Decree #39), the SEMFOP, and in agreements with the IFIs. The Government Letter of Implementation Policy (GLIP), signed by His Excellency Deputy Prime Minister Thongloun Sisoulith, on 7 March, 2005, states that: “We commit to ensuring the integrity of the project’s watershed (Nakai Nam Theun National Protected Area and its two corridors) and will strictly promote and abide by the guiding principles for its medium-to-long-term development set forth in the SEMFOP. Specifically, we will ensure that there is no commercial development (including roads, logging, mining and other resource extractive activities) in the Nakai Nam Theun National Protected Area and its two corridors which together comprise the NT2 watershed, and that all land use within the watershed is fully consistent with the community-based forest and land use planning and management (FLUPLAM) process described in the SEMFOP.”

Without the NPA there would be no NT2 -- protecting the watershed was a key element in building international agreement and support for the NT2 project. Therefore, if the government fails to protect the watershed – or is complicit in destroying it -- it will be seen by many as portending a failure of the whole project and will have serious repercussions for the reputation of GOL.

Beyond the reputational considerations for Laos, extensive clearance, even for prospecting, such as Phonesack has done at Nakadok and at Nam Pan (which is outside but near to the NPA), would lead to sedimentation that could be devastating to the NT2 project. In late 1996 there was a storm whose rainfall caused a number of small landslides in the upper slopes of the NPA. On its first visit in early 1997 the POE observed these slides from a helicopter and followed the course of the resulting sediment down the streams and rivers to the Nakai Plateau where the sediment formed substantial alluvial fans at the mouth of each river. The erosion caused by Nakadok and Nam Pan type mining activities would be vastly more extensive than that caused by a single storm, and the resulting sedimentation would dramatically impact the shallow, vulnerable Nakai reservoir. It would significantly reduce the hydroelectric power output of the NT2, and would mean that when GOL takes over NT2 in 25 years it would take over an expensive but largely non-functional project.

So there are truly major downsides for GOL if destruction of the watershed is allowed to continue. But there are also major benefits if it is protected – as GOL has committed itself to doing.

2.3 The UN REDD Program

For example, there is a program called REDD, The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. A multi-donor trust fund was established in July 2008 that allows donors to pool resources and provides funding to activities towards this program. Under the program industries

that are large CO2 emitters can get emission credits by funding developing nations to maintain their forest areas. We believe the NPA could participate in such a program. It would require an evaluation of how much CO2 and other emissions the NPA would sequester, and then finding an appropriate firm in an industrialized country that would contribute on an annual basis. The World Bank staff in Vientiane have said they could assist GOL in this process. How much money might be available to GOL for maintaining NPA would depend on the results of the evaluation and finding an appropriate donor, but this program appears to offer a potential for an ongoing and substantial income to GOL. In the POE's view, this could more than offset the one-time benefit to a small part of government from mining the resources of the NPA.

2.4 World Heritage Status

World Heritage Status can offer another benefit. Since its first mission the POE has recommended that GOL apply for World Heritage status for the NPA. The NPA has the global natural and cultural heritage required, and through the WMPA, it has the conservation capability. The Panel considers that it is very important for GOL to initiate action toward World Heritage status, and such status would be complementary to the REDD program and probably would assist in receiving benefits under it.

2.5 Needed Action by GOL

The NPA and through it, the NT2 Project now faces unprecedented and urgent threats. There is an urgent need for clear, decisive GOL action to protect the watershed of Laos' single most important development project and single most important protected area. Given the threats that have continued, repeated and worsened over the years, it is clear to the POE that a strong National Assembly Law is the only way to ensure protection from mining, logging and roads. The next meeting of the Assembly is in June, and the mining threat is immediate, so strong action from the Government is required to provide protection in the interim.

The POE states:

- **That National Assembly legislation this year is a requirement if the NNT NPA is to remain inviolate .**

The POE recommends accordingly:

- **1/16 That the Government of Laos, through a Presidential Order, a Prime Ministerial Decree or other urgent measures, take immediate action to protect the NNT NPA from mining and logging, thus making more specific the existing but inadequate measures which have failed to achieve this. Further, that all relevant laws, decrees, regulations and orders be publicized and explained through workshops in Nakai and Khamkeut Districts to government officials and to resettler, PIZ and NPA villagers and that all such regulations be strictly and effectively enforced.**

- **2/16 That a binding National Law be drafted and submitted to the National Assembly for its June, 2010 meeting. Consistent with the GLIP, SEMFOP and Decrees, the law would establish the NNT NPA as inviolate, with mining and logging specifically prohibited, and would create an institutional mechanism for regular reports to the National Assembly on the status of the NNT NPA.**
- **3/16 That without further delay GOL apply for World Heritage status for the NNT NPA.**

2.6 WMPA

2.6.1 Introduction

The Watershed Management and Protection Authority (WMPA) and its challenges have been described in detail in the previous reports and will not be duplicated here. The Panel was very pleased to see that the WMPA has made significant progress on many of its previous recommendations along with those of the IFIs¹. However, significant problems remain. Chief among these is the illegal harvest of rosewood and poaching of wildlife within the NPA.

2.6.2 Poaching of Rosewood and Wildlife

Illegal harvest of rosewood, particularly by the Phonsack/Nancy salvage loggers (at least in the recent past) and the resettlers, appears to the Panel to be even more serious than before. The more easily accessible trees have been cut so the rosewood poachers now reportedly go deeper into the NPA.

Wildlife poaching remains an increasingly critical threat to the survival of the larger and rarer forms of wildlife in the NPA. The principal poachers remain the resettlers who cross the reservoir by boat, Vietnamese who cross the international border, villagers from the PIZ area to the northwest, and individuals from the enclave villages within the NPA itself.

One problem has been uncertainty about the laws among some of the public and some of the local government agencies. The WMPA is seeking to deal with this and has prepared a very useful document (“Consolidated Rules and Regulations...”) that compiles and condenses into booklet form all the laws and regulations to protect the NPA and its wildlife. This is now undergoing legal review and should be published and distributed in the near future.

A related part of the problem is lack of cooperation between some district and provincial government agencies and the WMPA. In addition to issues of cooperation in the field, the inadequacy of penalties levied against violators by the local judicial authorities appears to represent a major obstacle to law enforcement by the WMPA. When the WMPA patrols catch violators and

¹ Assessment of the Nam Theun 2 Watershed. Aide Memoire. World Bank, ADB and AFD. September 16, 2009.

confiscate boats, chain saws, weapons, etc., they deliver them to the district police. The district judicial system then appears to give minimal fines, occasional very minimal jail sentences, and returns the confiscated equipment to the violators. The penalties assessed by the district are far less than is authorized by the National Forestry and Wildlife laws. Presumably the district authorities do not consider poaching in the NPA to be a serious offence. Such weak penalties do not constitute a deterrent and as a consequence the violators may return to the NPA.

Consequently there is a need to convey to the district and provincial authorities, and to the villagers, that the GOL takes conservation of the NPA seriously and that they are expected to act accordingly. This message could be conveyed at the time of the release of the Consolidated Rules and Regulations.

The POE recommends

- **4/16 That a high level GOL official, such as the Vice Governor of Khammouane Province, meet with the district and provincial authorities and the village heads from the NPA and surrounding areas, impress upon them that GOL takes NPA conservation very seriously, expects full cooperation with WMPA, and requires that they mete out penalties commensurate with GOL's concern with protection of the NPA.**
- **5/16 That WMPA, desirably jointly with NTPC and the World Bank, convene workshops in Nakai and Khamkeut District including all stakeholders (heads of resettlement villages, PIZ villages and NPA villages; RMC, DAFOs and PAFOs; district and provincial governors; district and provincial police; district and provincial military; representatives of NTPC and World Bank, etc.) to clearly explain the regulations, and solicit the support of all present in upholding them. This should be implemented as soon as possible or, at a minimum, be put in WMPA's 2010/2011 annual work plan.**

The POE welcomes the revised Law Enforcement Plan of the WMPA, dated 12 February, 2010, which describes the planned priority patrolling activities. The Panel emphasizes that maximum use should be made of the cooperating agencies including DAFO, Police, Military and VCMU, and from the new plan we understand that this will be done.

2.6.3 Controlling Access to the NPA

In previous reports the POE has emphasized that on a worldwide basis ready road access is the greatest single threat to the integrity of protected areas. Roads allow or facilitate entry to poachers and others who would damage the protected area and its resources, as well as provide for exit with whatever they have illegally obtained. The Panel has called for, and in Report #15, required, that the watershed access plan or framework be completed quickly, be consistent with SEMFOP and the CA, and that it must be approved by POE. Such a plan has not yet been produced, and the Panel was extremely concerned to learn that within some WMPA staff there is still questioning as to whether road access to the NPA should be allowed. We fear that the current imbalance in WMPA of staff with development expertise (many) and those with biodiversity conservation expertise (very few, if any) means that while WMPA may appreciate the development

benefits of increased access, it is constrained in its understanding of the biodiversity conservation risks of increased access, especially in the existing local context (e.g., the proven extreme difficulty in controlling new access and damage to the NPA via the reservoir). Most emphatically, access to the NPA via roads allowing use by 4-wheel vehicles should not be allowed. The watershed access plan or framework must be completed quickly and must include a map showing all existing and planned access routes, with descriptions of their characteristics, e.g. rationale, risk, type, size, and as appropriate, planned construction date.

The POE requires:

- **6/16 That the Watershed Access Plan or Framework be submitted to the POE no later than 1 June, 2010, for approval as being consistent with the SEMFOP and the CA. The plan must detail proposed access development in the NPA through 2025, any subsequent modifications of the plan or framework must also be approved by the POE, and no new track construction be undertaken or be budgeted in the WMPA work plan unless there is first a final, POE-approved WARF.**

2.6.4 Biodiversity Conservation Capability

The WMPA has the dual role of conservation and development. It now has high-level staff capability in agricultural development, but it does not have the equivalent in biodiversity conservation. The WMPA needs ongoing, competent, long-term biodiversity conservation expertise to fulfill its mandate of protecting the area's globally significant biodiversity. The biodiversity TA position no longer exists, but it is clear to the POE that some way must be found for WMPA to obtain that expertise in the short and long term. There are various ways that this might be accomplished, including several of the following:

Short-term and/or long-term:

- Formal collaboration with NGOs or research institutes, to implement major collaborative biodiversity research or conservation projects in the NPA;
- Reinstating a biodiversity conservation TA.
- Recruiting wildlife or biodiversity conservation expertise for the IMA (*and extending the duration of the IMA's mandate?*)

Long-term:

- Formal collaboration with NGOs or research institutes;
- Vigorous staff recruitment from the emerging generation of young Lao environmentalists and trained wildlife biologists.
- Supporting well-supervised Lao graduate students to do biodiversity research in the NPA.

The POE believes that the WMPA and its Board must recognize the need for the long term biodiversity conservation capability, and they should explore the various possibilities to obtain it and should take appropriate action soon. We believe the no one of them is the answer, but that WMPA must develop a combination of several short- and long-term approaches.

The POE recommends:

7/16 That WMPA and its Board develop and implement a plan to obtain long-term biodiversity conservation capability without delay.

2.6.5 Water Buffalo in the NPA

In its fifteenth report the POE recommended extending the period during which resettlers could graze buffalo in the NPA, along the east side of the reservoir edge. This was because the limited grazing in the resettlement areas was leading to starvation of significant numbers of buffalo and even cattle there. However, the situation now appears to have gotten out of hand. The estimates of the buffalo population in the NPA range from about 500 up to 1,000. In a recent camera trap monitoring of a western part of the NPA intended to document presence of wildlife, villagers' water buffalos were found in about 40% of the camera locations. This was much more than the recorded presence of any forms of wildlife.

The buffalo represent two threats to the NPA. One is ecological, in that the large numbers of buffalo appear to compete with the wildlife for food and the minerals in the salt licks that have been constructed for the elephants and other wild animals. They also heavily impact the wetlands that have been constructed for the wildlife to replace the wetlands inundated by the reservoir. The buffalos' very presence may keep the wild animals away.

The other threat posed by the buffalo, far more serious, is that the buffalo provide an excuse for the resettlers to enter the NPA for poaching of wildlife and rosewood. The resettlers cross the reservoir in their boats (many provided by the NT2 project) and when apprehended by the WMPA patrols, they say they are only there to look after their buffalo. These resettlers have become the major source of poaching in the western NPA.

There is clearly a need to remove the buffalo from the NPA. At the same time, the removal must be done by and with the cooperation of the resettlers and there must be enough feed available for the buffalo and/or adequate marketing opportunities available for the buffalo owners. The removal should occur after the coming wet season, not in the present dry season, because there is not enough feed available elsewhere. There have been two provincial deadlines for removal of the buffalo but both have been ignored. This time the resettlers must be involved in the planning for the buffalo removal and subsequent feeding or sale, and there should be a well-understood deadline after which any buffalo left in the NPA will be confiscated. This approach is also consistent with the recommendation of the NT2 Wildlife Adaptive Management Committee at its meeting on 9 February, 2010.

The POE recommends:

- **8/16 That a plan be developed to remove the water buffalo from the area of the NPA between the reservoir and the dividing hills. The resettlers should be fully involved in developing and implementing the plan.**

3. THE NAKAI PLATEAU

3.1 Introduction

There are two major issues that require special attention. One involves the increasingly adverse impact of outsider encroachment of small, medium and large scale interests on resettlement zone resources and the livelihood of the 16 resettlement villages and the inability of the district to control it. The other involves ongoing NT2 project-induced livelihood delays some of which include hydro project requirements and delayed COD

3.2 Resettlement Zone Encroachment by Outsiders

The adverse impact of encroaching outside interests is having an increasingly adverse impact on the natural resources allocated to the resettlers by various Prime Ministerial decrees (including PM Decree #24 of 13 February 2008). Especially adverse has been the illegal so called salvage logging by Nancy which included removal of large timber well above reservoir storage level. Subcontracted loggers brought with them a complete range of barges to expedite their illegal activities. An apparently significant proportion of loggers were experienced underwater loggers and/or fishers from the Nam Ngum hydro reservoir.

Though the POE saw no barges on the reservoir, we counted at least 25 occupied ones moored by the shore on the outskirts of Oudomsouk. Meanwhile, apparently in the expectation that logging would re-start, at least some barge personnel continued to fish the reservoir illegally, and to enter the NPA for other illegal and environmentally degrading activities. One option available to the Nakai District authorities would involve seeking help from a national committee recently established in the Prime Minister's Office to deal with the immigration issue. Those who enter an area illegally are denied identity cards and family books. The pressure on resettler access to the reservoir's fishery will be under further pressure should approximately 300 non-resettler inhabitants of Oudomsouk receive licenses for commercial fishing. With more capital and business experience than most resettlers they would have a comparative advantage as commercial fishers with a disproportionately adverse impact on the reservoir fishery.

The forest resources of the VFA, which are owned by the resettler population, are under two types of extreme pressure which are discussed below. One involves Provincial Forest Office (PAFO)-directed logging of VFA timber along, and in many cases well away from, the route of the new Nakai Tai Nadane road prior to its descent down the escarpment to the 21 lowland Nakai District villages. The other involves small scale logging and collection of NTFPs on VFA land inland from southern cluster villages. In all cases District authorities appear unable to arrest, fine and deport encroachers, while in some cases Provincial forestry authorities (PAFO) are actually playing a major role in illegally removing VFA and hence resettler resources.

3.3 Forestry Sector and the Village Forestry Association

It is important to emphasize the threat to the viability and longterm success of the CA requirement to enhance the resettlers' income --- and thus contribute to the overall success of the

NT2 project---posed by the illegal and often unauthorized encroachments on the resources meant to be reserved for the exclusive use of the resettlers. None has more serious consequences than the depredation by outsiders, and sometimes by rogue insiders from the resettlement villages themselves, of the forest resources set aside for the resettlers as a group. These resources are not limitless; they will need careful husbanding to be sustainable.

The CA is unequivocal. The GOL, it records, will take appropriate steps to “...ensure that the forest resources in the Resettlement Area are for the exclusive use and benefit of the Plateau Resettlers for seventy (70) years from the establishment of the NPVFA.” There are no qualifications to this undertaking.

The POE encountered a breach of the undertakings given in the CA and other solemn documents regarding the villagers’ rights. In accordance with a decision to replace an old road (now inundated) with a new rural road leading down from Nakai Tai on the Plateau to Nadane, NTPC and the Governor of Kammouane Province signed a financial agreement for road construction. A portion of the road (2-3 kilometers) crosses virtually uncut VFA forested land. No contract has yet been signed to build the road but authority was nevertheless given by the Provincial forestry authorities for a private sector firm to cut a logging road along the track of the new road, presumably to remove trees blocking the route. The POE walked the new track as far as the escarpment and found over 150 hardwood logs stockpiled, numerous fresh stumps well away from the roadbed---some as far away as 100 meters and more---and many others marked for harvesting.

None of the logs from the VFA area was going to the VFA mill, no compensation was planned to be paid to VFA for their removal and it was not clear who was to be the eventual beneficiary. What was obvious was that this was not primarily a road clearance exercise but a well-organized removal of a significant portion of the resettlers’ forest resources.

This was not an isolated exercise. The POE viewed from the air and the ground a number of sites around VFA land adjacent to Ban Done and Khon Kaen where fresh stumps and small numbers of logs were visible. There appeared to be collaboration between some of the resettlers and kinfolk in Gnommalath in these depredations. Some small areas of VFA land have also been cleared by resettlers for cultivation, an inevitable result of the delays in allocating land and issuing titles so that all resettlers know who owns or can use what areas.

These depredations must be stopped. One estimate of the potential loss to each resettler family of the log removals on the Nakai Tai Nadane road is Kip 1 million if the logs are not replaced. This is a very significant part of their annual income.

The POE had a useful discussion of the Nakai Tai Nadane situation with the Khammouane Provincial Governor. He pointed out that national regulations permitted log removal out to 25 meters on either side of a new rural road (which seems excessive to the POE) and that there remain shortfalls in funding the new road. He undertook nevertheless to send forestry staff to inspect the site as a matter of urgency, to have them work out how many logs had been removed from VFA land and to ensure that an equivalent volume of logs---and presumably of equivalent quality, which is most important---is supplied to VFA from other areas. It is assumed that these logs will be cut and transported to the VFA mill without charge since PAFO should pay a penalty for facilitating the harvesting of VFA logs against CA undertakings.

While the Governor suggested that the replacement logs should come from VFA’s quota,



Four stumps in NPA embayments, the logs having been removed illegally.



Floats and barges gathered for an unauthorized salvage logging operation halted by GOL action.



Log falling off skidder removing timber from VFA - owned land.



Log stump 100 metres from the Nakai Tai / Nadane roadbed. The tiny human figure at the top is on an old track - the roadbed is beyond him.



Provincial forestry markings on Nakai Tai / Nadane log



Ban Done headman and VFA manager with hastily abandoned chain saw gear by a rosewood stump in VFA forest.

POE's view is that there would be more equity if they came from PAFO's quota. The payment of an independently assessed compensation amount to VFA would be preferable to log replacement were this to prove feasible.

The POE recommends:

- **9/16 That the GOL give serious consideration to the payment of an independently assessed amount to VFA as compensation for the logs illegally removed from the Nakai Tai Nadane road area**
- **10/16 That if this does not prove feasible the VFA accept the Khammouane Governor's offer to ensure replacement of the logs harvested from VFA land along the Nakai Tai Nadane road with logs of quality equivalent volume and quality**
- **11/16 That this operation be independently assessed and monitored by the IMA and that the logs be cut and transported at PAFO's expense, and taken from PAFO's quota, given PAFO's disregard of CA undertakings**
- **12/16 That the GOL respond positively to a renewed approach from the Governor for a multi-year wood cutting quota allocation for VFA in recognition of its unique requirements**
- **13/16 That the NT2 Steering Committee reconfirm its December 2008 recommendation that authorization be given for only one sawmill (VFA) on the Plateau due to the limited forest resources available and the CA's provision for exclusive use of logs from the Resettlement Area for the benefit of the resettlers**
- **14/16 That NTPC move quickly to reach agreement with the GOL on the total funding required for the new road and provide these funds as soon as feasible.**

3.4 Other forestry matters

During last year's demanding transition of its harvesting and processing units into a commercial enterprise owned by the resettlers the VFA had neither the time nor the funds to address some of the other useful functions originally assigned to it. These include setting up tree nurseries, promoting reforestation, fostering small-scale wood industry, cooperating with the Livelihood specialists in developing agro-forestry activities and, importantly, monitoring and protecting its assigned forest areas. Nevertheless these remain important functions and the VFA is the logical home for them.

The problem is funding, now that the NTPC has stopped its subventions to VFA. The company has already gone well beyond its CA undertakings by its financial and technical assistance to VFA in recent years so it cannot be expected to provide more than advisory help at this point. POE's view is that there needs to be further consideration of VFA's future by the stakeholders and that setting aside a proportion of the returns from processing of the logs to be supplied to VFA as a replacement for those taken from the Nakai Tai Nadane road to fund some of the neglected functions would be a prudent interim move.

The POE recommends:

- **15/16 That consideration be given to assigning a proportion of the funds from substitute logs for those removed from the Nakai Tai Nadane road to help VFA reactivate such functions as actively monitoring and protecting its forest lands and beginning to promote reforestation and agro-forestry activities, pending further consideration of VFA's future by the stakeholders.**

3.5 Infrastructure

The project construction phase being nearly over there is a separate exercise to be undertaken regarding certification of the completion of this phase (see below). In the interim the POE regards the resettlement construction program as being substantially and very largely successfully finished. The housing and community buildings are particularly impressive and well appreciated by the resettlers.

Our only observation is that although the CA does not require the painting of the corrugated iron of the house roofs this looks like an oversight which should be remedied. The roofs are already lightly rusted and in this climate will be more so very quickly. We do not suggest that the company undertake the work but are of the view that NTPC should, if only for reputational reasons, offer to supply villagers with good quality tropical grade paint, brushes, cleaning materials and advice so that they can do the work themselves. Indeed there is an emerging need for instruction to be given to villagers brought up in less modern dwellings on how the houses and services like electrical systems are best maintained.

We have some qualifications relating to other aspects of the construction requirements:

- compost bins, some cattle yards and crushes remain to be supplied
- the smallest granaries are so small that they will not be able to accommodate storage requirements when families expand
- the solid waste disposal problem has not been solved so advice is called for on this also. The villagers need to be encouraged by EMU, RMU and the company to assume responsibility for setting up an effective communal disposal system.

The POE recommends:

- **16/16 That NTPC supply paint, brushes, advice and encouragement to householders to paint their dwelling roofs and conduct practical courses on maintenance of resettlement houses**
- **17/16 That NTPC round off its successful resettlement construction program by addressing the items cited above including the provision of advice on waste disposal.**

3.6 Rehabilitation and restoration of construction sites

The POE took advantage of the availability of the helicopter to have a look at the condition in which the dam site has been left. It is impressive----the site is clean, all temporary buildings have been removed, revegetation is occurring naturally on the slopes around the dam itself and the grey

and black water systems appear to have been closed down and buried. This is reassuring.

More work is needed before the sites around Nakai and downstream to the Xe Bang Fai are fully rehabilitated, restored and landscaped. A good start has been made in most areas but there are, for example, difficulties in locating adequate supplies of topsoil to cover the extensive rehabilitation sites along the saddle dams and on the platforms below the powerhouse. Little effort to stockpile topsoil was made when the sites were originally cleared, which was a mistake. It would be prudent to check for hydrocarbons in the soil where the Ital/Thai workshop was located at Phonphanpek and the drive to remove old vehicles and other equipment, tires and hazardous industrial wastes on Platform 1 near the Power Station in particular needs to be satisfactorily completed. There remain problems in disposing of hazardous wastes accumulated in Gnommalath. The solid waste facility there, which is working well now, may not be affordable to the community in the longterm.

But the NTPC's environmental monitoring system appears to be more effective than in the past in getting key work done by the Head Contractor and that is a welcome development. There is a sound action plan in draft which envisages that 90% of the disturbed areas will be rehabilitated as forest and the balance as grazing areas. In short, the project has made a good start to leaving the sites in a reasonable condition and deserves credit for this.

3.7 Use of redundant project buildings

Little progress appears to have been made on reaching agreement on a transfer of such valuable assets as the now redundant Ital/Thai camp at Gnommalath. There is an obvious need for a vocational skills training camp for PAPs requiring a whole range of skills to expand their livelihood options. This facility would help meet the need. Project revenues will be available to the GOL to set up and equip such a school at a fraction of the cost of starting from scratch and we understand that there may also be World Bank funds available to the Province for this purpose. POE favours this outcome.

The POE recommends:

- **18/16 That NTPC and GOL negotiate an equitable transfer of the Gnommalath camp to GOL ownership and collaborate with the World Bank in setting up a vocational skills training facility for PAPs to acquire a range of much-needed skills.**

3.8 Reservoir Fishery and the Reservoir Management Secretariat (RMS)

3.8.1 Reservoir Fishing and the Impact of Non-Resettlers

At present the reservoir fishery is the major contributor to the incomes and therefore well being of the resettlers. The current harvest of the resettlers is about 1,479 tons a year, of which about 80% are sold. The remainder are dried or immediately used by the villagers. The Prime Minister's Decree 24 of 13 February 2008 reserved to the resettlers "The rights of fishery, fish processing and fish trading" for the period of 10 years from the date of the dam closure. However, the Panel is concerned that the fish resource for the resettlers is threatened by outsiders and others who are not resettlers.

There are over 200 people living on or near at least 25 barges that are moored at Oudomsouk. The POE was informed that these are people from the Nam Ngum reservoir who were contracted by Phonesack/Nancy and brought to Nakai for salvage logging to the east of the Nam Theun River. The logging was halted pending an independent legal opinion on its legality. All salvage logging will cease at COD, which is anticipated in one or two months. Prior to that time any possibly legal logging would be subject to a series of plans and approvals that appear to preclude resuming logging east of the river. The occupants of the barges, however, have not wanted to leave the plateau in the hope that logging would resume, and while on the plateau they are fishing.

In addition, there are a reported 300 families in the town of Oudomsouk who are not resettlers but who want permission to fish. Reportedly most or all are fishing illegally at present. Some, at least, used the river for consumption fishing prior to creation of the reservoir, and presumably at least those who actually did so should receive consideration for fishing because they should not be penalized by the project just because they were not resettled.

Both the groups from Nam Ngum and Oudomsouk have more business experience and possibly fishing skills than many of the resettlers. Consequently they may represent a disproportionately large drain on the fishery resource and income for the resettlers. The POE believes the barge loggers should be removed as soon as possible, because their rationale for staying is no longer valid. It is then up to the Reservoir Management Secretariat (RMS) to determine the validity of the claims of the Oudomsouk residents and deal with access to fishing accordingly. The RMS should bear in mind that the location and experience of the Oudomsouk fishers give them a comparative advantage over the resettlers and in making their decisions on licenses they should consider the impact on the fishery resource and the resettlers.

Outsiders will continue to try to enter the fishery and its commerce, and therefore will continue to represent a threat to the livelihood of the resettlers. Consequently there must be effective monitoring and enforcement of the residence rules to make sure that unauthorized persons do not come to live and fish or trade fish on the plateau.

3.8.2 Closed Commercial Season in the Dry Periods

When the reservoir level is drawn down late in the dry seasons it is anticipated that the reservoir fish may be concentrated in the pools and deeper areas. The fish would be particularly vulnerable to intensive fishing and understandably the resettlers would be expected to target those areas for heavy fishing. The result could be a substantial negative impact on the fish populations. Consequently, the POE supports the recommendation of the Wildlife Adaptive Management Committee that investigations be undertaken to determine the effectiveness and timing of a closed commercial (but not subsistence) fishing season during periods of full drawdown of the reservoir.

3.8.3 The Reservoir Management Secretariat

The Reservoir Management Committee was created by the Prime Minister's Decision 32 of 21 March, 2008, with authority to establish a reservoir management unit, now known as the Reservoir Management Secretariat (RMS). The RMS has the authority to approve any activities that are carried out on or in the reservoir and to promulgate rules and regulations for reservoir use. At the time of the 2009 POE mission the RMS was just getting started. The Panel was pleased to see that the RMS is now organized, it has a staff of 8 and has been provided office space in the old WMPA headquarters in Oudomsouk which has been renovated with funding from the NTPC. The

Panel believes that it would improve efficiency and coordination if the RMS at least had one office by the reservoir itself within the new facilities of the WMPA.

A Reservoir Fishery Association has been established along with Village Fishing Groups, and the RMS has held several workshops to assist the resettlers with their fishing endeavors. At the time of the POE's visit the RMS had registered 648 NTPC-provided resettler boats, 223 wooden boats and 58 from other organizations. They anticipated that the boat registration would be complete within the first quarter of 2010. The Panel considers this very important because if the boats are registered and have legible identifications, the reservoir patrols can identify and determine the legitimacy of the locations of the boats. The RMS also issues licenses for fishing and trading.

The RMS has a small patrol and during the time of the POE visit the NTPC offered to provide RMC with a high speed aluminum patrol boat with driver. The RMS is charged with monitoring the reservoir and its uses. If it finds violators the district officials who are part of the RMS patrols have authority to make arrests. The Panel was concerned that, as with the results of WMPA patrolling, the penalties given to violators appear to be small (the first is just a warning) and confiscated equipment is returned to the violator.

3.9 Hydro Requirement, COD and Other Project Induced Delays

2008/2009 hydro requirements and project COD delays are worrisome because they have largely eliminated 2008/2009 reservoir drawdown and currently are reducing 2009/2010 drawdown. Such reduction has further delayed completion of small-scale irrigation projects, gully dams, and location of fish landing places. These delays in turn seriously slow progress toward reaching CA livelihood requirements since resettler fishing and use of the drawdown area has assumed increased importance for improving resettler living standards and livelihood. As in most other large hydro projects, such delays have also brought forward the second generation problem as resettler children marry, and form new families and households, before planned development activities for those families as required by the CA have been implemented. In the meantime they can be expected to put further pressure on the house plots and livelihood resources of their parents with sustainability implications for meeting CA requirements.

NTPC and GOL need to offset these delays by speeding up the delayed completion of small scale irrigation and siting of fish landings once drawdown allows. In the interim there are other important activities that require attention. Especially important is completing the PLUP process so that resettler villages know their boundaries and can plan and implement the development of their resources. Other important activities include:

- Intensifying the transition currently under way from a previous emphasis on infrastructure to an increased emphasis on livelihood
- Improving NTPC-RMU coordination and cooperation
- Further upgrading community development and extension staff and numbers
- Further supporting the current attention paid to marketing issues
- Recruiting a Lao social scientist and addressing Vietic issues

3.10 Moving from Construction to Development

During previous POE visits a legitimate concern was the ability of resettlement area soils to

support the agricultural program. The POE was gratified to learn from Dr. Oliván and his colleagues that the technical problems have been solved during an impressive research program. Research plots at the three farming centers and elsewhere are available to show resettlers rotations that can maintain fertility under a two crop per annum cropping system provided the recommended rotations are followed. Results from use of Stylo legume, mulching, minimum tillage, use of organic compost and pesticides, and the irrigation that will be available to each household in a portion of their 0.66 ha plot and drawdown area are impressive. In a few villages Master Farmers are available to demonstrate results with their own fields.

The Livelihood Department has developed an appropriate strategy to implement its agricultural strategy. Implementation, however, will require senior staff members to spend much more of their time in the villages encouraging and training extension staff and village farmers. Better use of local knowledge and innovative activities requires much more attention. The Master Farmer Program is only one component of such an approach. Other approaches need be explored. The POE noticed in several villages that some of the immigrant families that have come to join relatives are especially innovative in regard to a range of craft (carpentry and mechanics) and agricultural skills. Such skills need be identified in each village and incorporated with the project development strategy.

3.11 Improving NTPC and RMU Coordination and Cooperation

Better RMU coordination and cooperation is essential since it is the RMU that plays an essential role in funding District community development and agricultural extension staff. Budgetary problems at the time of the POE's 2009 visit caused the withdrawal of all village based CD and Agricultural extension staff for at least a six month period. Current budget is only sufficient for agricultural extension, there currently being no district community development staff in the villages. Looking to the future the current NTPC budgeting for essential RMU activities through 2013/2014 is grossly inadequate.

3.12 Community Development and Extension

Global experience emphasizes the complexity, difficulties and time required for relatively isolated small scale producers to shift from extensive systems of production, such as those with which most resettlers are familiar, to intensive systems of consumption and cash crop agriculture and livestock management. The transition can be made but it requires first rate extension work over an extended time period. Though extension staff have now been assigned to the 16 resettler villages, the POE found that in two of the three villages visited in the southern cluster extension staff were not residential. That is an unacceptable situation.

The POE requires:

- **19/16 That at least one agricultural extension staff member be resident overnight in each resettler village.**

At the end of its February 2010 visit the POE recommended that NTPC and RMU assess



The crowded peninsula on which resettled Ban Thalang stands



POE meeting with Lao Vice President H.E. Bounyang Vorachit, together with NTPC's Loy Chansavat.



Second generation issue: newly weds have their own modest house across the road from parents.



Tire dump on Platform 1 near powerhouse. Some can be recycled but what is to be done with others?



Riprap boulders holding back potential erosion at the dam site.



Pakatan, a culturally unique (Vietic) community in the Peripheral Impact Zone.

the capacity of the sixteen extension staff to combine agricultural extension and community development skills and that NTPC continue reorganizing and staffing up its small community development section and improving contact between senior technical staff, staff resident in the 16 villages, and model farm households, fishers and villagers emphasizing non-farm activities. More recently GOL and NTPC informed the POE that they had agreed in concept to assess staff capacity and that the RMU would recruit new staff from the district which in turn would provide a full time official to supervise all resettler village activities and to report directly to the new District Governor. The POE greatly appreciates this rapid NTPC and GOL response to its earlier March recommendation.

3.13 Village Participatory Land Use Planning (PLUP)

Village Participatory Land Use Planning in all 16 villages is absolutely essential if CA requirements are to be met. Villagers must know their village boundaries and the location of the natural resources available to them (including arable dry and drawdown land, grazing land, forest and NTFP resources, and reservoir islands) if those resources are to be properly developed and protected.

During three separate visits, the POE was impressed by the execution of the PLUP process in the two pilot villages (Khon Kaen and Done) including the active involvement of villagers. Villagers showed us their boundaries including those with the VFA and with Khon Kaen. It was they who also showed us the illegal logging in VFA areas that had been found during the PLUP process as well as mutually agreed upon changes in village boundaries. They also showed us areas which they suggested could be used for grazing, and which they hoped might be made available for additional agriculture and housing for first and second generation resettlers. But that is only the start of a too long delayed process that only began in September 2009 and that must be accelerated to the remaining 14 Phase 3 villages with more staff and funding.

Impressive as the Pilot Phase has been, the POE was very concerned that only one eighth of the preliminary mapping has been completed in the 16 resettler villages. More recently GOL and NTPC has informed the POE that mapping of village boundaries has been completed and that, following discussion with the new District Governor of the Consultant's forthcoming report, the "PLUP process will continue in all sixteen villages." The POE appreciates that decision to be followed by the uninterrupted completion of the PLUP process.

The need for more time can be expected in those of the remaining 14 villages that have a greater mix of ethnic groups and larger numbers of poor households. The same is true in the Northern cluster of villages where pressure on available resources is severe. Hence the continued involvement of the Consultant is necessary as the POE was informed that training of local staff has yet to reach the point where they can be expected to continue the PLUP process alone.

A remaining difficulty concerns project-induced delays in annual reservoir drawdown; hence the PLUP process could not actively involve villagers in the use of draw down areas. Also omitted were the islands within village boundaries which have yet to be registered. The villagers are well aware of their value and want to use them for agriculture and grazing. They also have potential for village-based eco-tourism. Since the demand of outsiders for such islands has already commenced their early registration is essential.

The POE recommends:

20/16 The continued involvement of the Consultant due to the complexity of the ongoing PLUP process, ongoing implementation delays, and the need for further staff training.

The POE recommends:

21/16 That the resettlers have prior rights to islands within their village boundaries.

3.14 Recruitment of a Senior Lao Social Scientist

Both the POE and the Lenders' E & S Team have been recommending that NTPC recruit "as a senior staff member, a well-trained Lao social scientist" (POE Recommendation 8 in its 2009 15th report) for several years to correct a serious senior staff deficiency. With the major shift from construction to development activities now underway, it is not too late – indeed, highly appropriate at this point –to make such an appointment.

The social scientist should report directly to the E&S manager. Terms of Reference would cover all NTPC project zones. He/she would be based in the field. A major responsibility would be to improve the capacity of community development and extension staff to learn from, and work directly with, model farm and other resettler households, and to improve the effectiveness of connections between livelihood team technical proposals, their reception and acceptability by resettlers, as well as to understand the priorities of resettlers so that technical livelihood options may be realistically related to needs and priorities of resettlers. Other responsibilities would include villagers and village development in the recently consolidated Nam Xot village (Nahao), and assessing means for assisting (including, where necessary, recommending research by a specialist) Vietic households wherever resettled on the Nakai Plateau as well as in the Vietic village of Pakatan and other Vietic households in Khamkeut District villages that fall under the Downstream Program.

The POE requires:

- **22/16 That NPPC initiate recruitment of a qualified Lao social scientist as a senior staff member prior to COD or failing that an experienced international specialist linked with a promising Lao social scientist.**

3.15 Marketing

The POE was pleased to meet and discuss marketing issues with Bounthavy Bounmy (national marketing specialist) and Ruedi Luthi (senior marketing adviser) who have become important members of the NTPC livelihood team. As they realize, they have a major task to "catch

up.” If agriculture, livestock management, and non-farm enterprises are to become cash generating occupations, which is the intent of the Social Development Plan and the CA, marketing of produce and products is of equal importance to production. The POE’s concern has been growing, for example, that the commendable increasing emphasis on the cultivation of more vegetables, and a wider range of vegetables, has not been linked heretofore to equal emphasis on how those vegetables are to be marketed and/or processed.

The November 2009 E & S report, for example, notes that 26 tons of compost have been “distributed to 154 farmers for dry season vegetable production.....391 HH have started to grow vegetables in housing plots, DDZ area and in 0.66 ha plots,” and vegetable growing is emphasized in both the Nong Boua pilot irrigation project and the Sop On 24 plot irrigation system.

Insufficient emphasis in the past has been paid to marketing/processing vegetables. The global experience is that the emphasis of developers on vegetable cultivation alone leads to saturation of local markets and decline of prices to the extent that producers are apt to lose the incentive to grow vegetables for sale. In past reports, the POE has referred to the problems that Nong Boua vegetable farmers have had in marketing their crops. The number growing vegetables for sale is far larger today.

4. VIETIC ISSUES

Khamkeut and Nakai District officials, the RMU and NTPC have not provided CA required attention to Vietic communities in spite of the POE, the LTA and the IMA drawing attention to this inadequacy in report after report. In their January 2010 Nakai Resettlement Report the IMA noted, for example, “that no training in ethnic sensitivity [as required by the CA Schedule 4: 9.1.4] has been provided to the implementing agencies so no supplementary training in this issue is found in the training planned.” (Page 82).

4.1 Ahoe Resettlement Issues

The POE visited members of two of the four Vietic households living in New Sop Hia. During our April 2009 visit Vietic elders had told us that they wished to join their spiritual leader (Mae Thao Sone). During our meeting this year, we were told the same thing. But when two members from the four households went to the New Sop Hia headman to make a formal request, they were told by him that such a request could not be made because the project would be unwilling to consider it. Hence when we asked the RMU if a formal request had been made, we were told that none had been received. This behavior on the part of the New Sop Hia headman, and the ignorance of the RMU about the wishes of Vietic households to be settled in a single village, is unacceptable. It is also less likely to have occurred if NTPC staff had included a qualified Lao social scientist.

The POE requires:

- **23/16 That the wishes of the four Vietic Households to join the Vietic community in Nam Nian be implemented, with construction of new houses or transfer of their present ones initiated prior to COD. The POE understands that NTPC is amenable to implementing this request.**

4.2 Pakatan

Pakatan is a PIZ Vietic Village receiving NT2 Project assistance through the Downstream Program’s Khamkeut development program. Honoring its agreement with the World Bank not to undertake further involuntary resettlement within project areas, GOL agreed in April 2009 not to consolidate this culturally distinct village within the Hmong villages of Ponsa-art and Pongkeo.

The POE again visited Pakatan in February 2010. We were pleased to learn that consolidation had not occurred. The villagers told us, however, that District Authorities had told them to rebuild their village on both sides of the road (Route 8) so as to give children closer access to the full primary school in Ponsa-art.

The POE is unsure of the intent of this GOL order. Not only has no major assistance been offered to help the villagers rebuild, but the site selected would still require children to cross a stream that floods during high rainfall periods. The villagers have accepted this order because it would allow them to reduce the crowded nature of the current village due to an expanding population. There is, however, ample room for less expensive and less labor intensive expansion

close to the current and superior village site.

The POE discussed the situation with the Downstream Program which expressed willingness to meet with the villagers to discuss village planning issues and to find a way for their wish to receive funding adequate to build a village hall that would be large enough to contain a two classroom school. This would replace an inadequate village-built school founded by a trained teacher from Pakatan. As for children's access to the Ponsa-art School, the village has sufficient two wheeled tractors with trailers to "taxi" them to school.

The POE recommends:

- **24/16 That the Downstream Program work with the Pakatan villagers on village planning, village hall construction that would include a two class school and finding a solution to access the Ponsa-art full primary school that does not require village resettlement along Route 8.**

5. THE SECOND GENERATION PROBLEM

Ideally livelihood implementation should be well underway before the second generation problem emerges. Unfortunately not only does the second generation problem already exist within the NT2 project, but the various Project agencies appear to be unaware of its threat to achieving livelihood development that better the living standards and livelihood of both first and second generation resettlers. (The first generation includes "...households included in the August 2003 census" while the second generation includes "...the natural growth of those households [including children in registered households who may have formed new families...]" [CA,Schedule 4, 3.2]

Percentages of second generation families in Khon Kaen were approximately 9 percent, in Done 12 percent and in Phonesavang 10 percent. If applied to all 16 resettlement villages second generation families would already exceed 100. The POE expects the second generation problem to be especially serious in the Northern Cluster of villages where the carrying capacity of the natural resource base may already have been exceeded due to GOL consolidation and clustering of too many villages in one area. That is the reason why the POE requested in January 2008 that the resettlement area be increased by adding 2,600 hectares of Nam Malou corridor land and the reservoir drawdown area for resettler use.

PM Decree # 24 (13 February 2008) authorizes rights of use of 2,600 hectares of Nam Malou land to the Village Forestry Association and of approximately 7,900 hectares of drawdown between 525.5 and 538 meters above sea level for resettler agriculture and livestock grazing. Delays continue in adjusting boundaries and determining how the Nam Malou land and drawdown area will be used. The drawdown area, for example, between the Thalang peninsula and the Nam Malou 2600 hectares is still contained within the boundaries of the Corridor between the two National Protection Areas in spite of the fact that the POE intended that those waters and drawdown land be for resettler use. The POE also recommended in 2008 that the VFA, the Livelihood Section and the WMPA form a committee or other mechanism to formalize boundaries and decide how dry land, drawdown area, and water between the Thalang peninsula and the VFA Nam Malou land would be used for resettler benefit. By February 2010 no such dialogue had begun.

The POE requires:

- **25/16 That VFA, the Livelihood Department, the WMPA and the Reservoir Management Secretariat have their first meeting on Nam Malou boundary and use issues before COD.**

6. DOWNSTREAM AREAS

6.1 Introduction

The delays in commencing commercial operations have in a sense provided a period of respite in the areas downstream of the powerhouse and the dam as impacts have been postponed. The project has finally been able to come to grips with the challenge of putting together a comprehensive baseline socio-economic survey of these areas which will provide the basis for measuring impacts and progress (or otherwise) more accurately in the years ahead. That is a significant step forward. The time has also been used to put together competent teams to help manage all downstream programs.

Good progress continues with Resettlement Action Plan (RAP) Closure reports. They are either under formulation (RAP 1 – Khamkeut and RAP 4 –road compensation) or documentation is proceeding for Closure reports (RAP 2 –Nakai, RAP 3 – Gnommalath & Mahaxai, and RAP 5 – Transmission Line). Grievance closure has been completed in RAP 1 and in RAP 4, and is well underway in the other three areas.

6.2 RAP 3

Closure is most delayed in RAP 3 where hundreds of households were affected by land acquisitions for the Power Station and the 27 km channel from the regulating reservoir and other project impacts. Recent socio-economic and health surveys indicate that those most affected were Sangkeo Village and 201 households which lost over 10 percent of their land resources, of which the most important were irrigated rice fields along the channel. RAP 3 Closure should not occur until it is documented that the livelihood incomes of that village and those households have been restored.

The POE requires:

- **26/16 That production assistance be continued until those who have lost over 10% of their land have achieved production targets and had their livelihood incomes restored.**
- **27/16 That the situation in Sangkeo and other downstream villages complaining about inadequate compensation for loss of common property resources be reviewed with further production assistance provided where necessary.**

6.3 Household Consumption and Incomes

The Concession Agreement requires that the livelihoods of Project Affected People in the Downstream Areas be restored “on a sustainable basis”. The Downstream Development Program has not been in place long enough to achieve this ambitious target but it appears to be making progress.

While it is premature to be drawing conclusions from what are very preliminary findings and conclusions it is encouraging that first returns from the socio-economic survey indicate that household consumption is both greater than before the project and greater at this point than a target income incorporating a 4% growth factor. At the same time there is no major increase in debt.

Similarly, total household incomes are greater than before the project and greater than target incomes (plus 4% growth) though it should be noted that if project income is deducted from household incomes they show up as slightly below the target income. Non economic indicators tend to confirm the above broad conclusions. This is reassuring.

6.4 Downstream and Project Lands Health

The results of a recent Downstream Health Survey confirm that this remains one of the most successful elements of the overall program. The health team is establishing systems which will come to be seen as models for the rest of the country. Levels of anemia and intestinal parasite infestation rates, for example, are dropping and the supply of impregnated bed nets has reduced the incidence of malaria to negligible proportions (there were negative results from 37 malaria tests). The nutritional status of children under five remains a concern, though it is better than that on the Plateau and is being actively addressed.

6.5 Integrated Development of the Xe Bang Fai Basin

The POE, starting with its initial 28 February 1997 report, has continually emphasized that NT2 is a multipurpose project as opposed to just a hydro project. Moreover, it is currently Laos' most important national project with important development potential for two major river systems. In its 26 July 1997 second report the POE recommended "that the same sort of imaginative planning done for the Nakai Plateau and the NT2 Conservation Area be more systematically pursued for project-affected areas and peoples between the power station and the Mekong River."

In its 24 January 1999 fourth report the POE "continues to believe that NT2 [XBF] impacts on the natural resources and people remains the least understood environmental and social aspect of the Project". Hence the POE recommendation "that a monitoring program of current fish migrations and fishing activities ... be initiated by the 1999-2000 dry season at the latest." Should monitoring indicate negative impacts of the project, "other sources of protein and other economic activities would be required" and the NT2 Project would have the responsibility for ensuring that such activities as dry season paddy cultivation combined with aquatic resources be increased."

The POE's March 2002 Interim Report dealt specifically with development opportunities along the Xe Bang Fai including cash cropping during the dry season of high value crops associated with "careful marketing studies ... before villagers are encouraged to make major investments." In preparation for boat travel to the XBF/Mekong junction the POE, accompanied by the IAG's David McDowell, visited various GOL departments in Vientiane. During our visit with the Director General of the Department of Irrigation we were surprised to learn that our visit was their first from NT2 personnel. Granted the irrigation potential of the turbined flows for dry season irrigation on one of Laos' most important 'rice basket' river basins, that comment illustrates the extent to which a single-minded hydro orientation was jeopardizing the NT2 project's development potential.

Since the POE's March 2002 visit, interest has increased, though much too slowly, in how the NT2 Project can provide a model for how Laos' many other 'hydro' projects can catalyze a process of downstream development. Complementing the Government's increasing interest in XBF downstream development and NTPC's contribution of additional finance for pre-feasibility studies, the World Bank's October 2003 scoping mission presented "an initial overview of the area's potential and current development activities."

The POE considers the involvement of the international financial institutions essential not just because GOL does not have the financing or capacity to ‘go it alone’ in developing the basin, but also because the POE is convinced that the \$16 million allocated to the XBF is inadequate to meet CA requirements for offsetting adverse project impacts to over 100,000 XBF riparian and hinterland people. It took another seven years, however, for the World Bank to draft its Mekong Integrated Water Resources Management (IWRM) Project Identification Document (PID) which will help focus the Bank’s earlier Khammouane Development Project on the integrated development of the XBF basin by, among other features, adding the one Savannakhet district in the basin to the five Khammouane districts affected by the NT2 project.

The Bank’s IWRM project covers both Laos and Cambodia. In Laos, the XBF is the project’s primary river basin focus, with a second tributary to be selected. A major step in the right direction, a major weakness is that the project does not include institutionalizing the necessary XBF river basin organization nor does it include recruiting an appropriate expert to assess the development potential of the basin before implementation of development activities begin. And though the assistance of other donors is included in the IWRM PID, that offered by ADB and AFD (the Bank’s partners in the NT2 Project) remains inadequate.

The POE recommends:

- **28/16 That the World Bank include within its IWRM PID the establishment of a XBF River Basin Organization and give the XBF basin priority in the implementation of development activities.**
- **29/16 That the World Bank contract a leading expert such as India’s Professor R. Malik “to assess the development potential of the XBF river basin” (Recommendation 3/15 in the POE’s 30 April 2009 Report).**
- **30/16 That the ADB and AFD play a more active role in XBF basin development.**

7. PROJECT COMPLETION CERTIFICATION

The delay in achieving the Commercial Operation Date (COD) has also delayed the linked exercise of certifying that most aspects of the project have been completed. The POE has a role in the latter exercise, being required to satisfy itself that there are no grounds for objecting to certification. The Concession Agreement provides for two levels of certification, some activities being fully completed (C) and others partially completed (P).

The delays have added to the list of activities that will not be completed on time, so the POE is proposing to NTPC and GOL that an amended list be agreed which postpones completion for additional items. These items relate chiefly but not only to the various Livelihood Development Programs until after the commercial operations are in full swing.

The POE regards the certification exercise as an important part of its mandate. We have been of the view throughout the project that “ground-truthing” or verifying the situation by personal inspection is fundamental to our tasks. We will be maintaining that position for the certification exercise and hence will be inspecting most project sites again later this year. As always we will be expecting both parties to the Concession Agreement to meet their obligations in full.
