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

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

Thayer Scudder

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March 2, 2004

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INTERNATIONAL ENVIRONMENTAL AND SOCIAL  
PANEL OF EXPERTS**

**For the Nam Theun 2 Hydro Project  
Lao People's Democratic Republic**

**March 2, 2004**

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## LIST OF RECOMMENDATIONS

### 1. Population

- That participatory family planning in the context of health and livelihood improvement must be an NT2 priority issue.

### 2. Capacity Building

- That special GOL / Company / Donor / NGO attention should be paid to training a cadre of recent university graduates as specialists to deal with the environmental and social issues associated with NT2 and other hydro and major development projects, and who become permanent staff of appropriate government agencies.
- That appropriate students in their final year at the various faculties of the National University of Laos should be selected to do their thesis projects on biodiversity and socio-cultural topics relevant to the conservation and development of the NPA.

### 3. After the End of the Concession Period

- That it is not too early to consider in the Concession Agreement such issues as funding for the WMPA, for the Reservoir Management Authority, for on-going operation and maintenance of infrastructure, and for initiation of new development opportunities following the completion of the 25 year Concession Period.

### 4. Movement of Households

- That an adaptive management approach be taken to the movement of households between the NPA, the Nakai Plateau and the XBF river basin.

### 5. Access:

- That improved access should be provided to appropriate villages in the NPA (NNT NBCA), but only with the following stipulations:
- Any access should only be from the Nakai Plateau. The former road from the Bolikhamxai Province to Ban Navang should be converted to a foot path.
- Any access tracks should be designed for two-wheel tractors with trailers, and should be no wider than necessary for passage of a single tractor with trailer. They must not be designed to allow four-wheel vehicles
- The WMPA should conduct a survey to determine the true needs for access and develop a master plan for access tracks including necessary controls, keeping such tracks at an absolute minimum; and any track construction should conform to that plan and should be approved by the WMPA. There should be no more ad hoc construction of tracks or roads.
- There must be monitoring of tractor and other use of the tracks to assure that they are not used as conduits to exploit the biodiversity of the area. Among other things this will require that check points be established near

the Plateau end of any tracks.

- Tracks in the NPA must not link with Vietnamese roads at the border.

#### **6. Trade in Wildlife and NTFPs**

- To avoid aggravated losses of biodiversity from trade, alternatives for the use of wildlife and scarce NTFPs in trade for trade goods should be developed, and plans for effective management of resources and controls over the increased trade be made by WMPA, before additional access is developed.

#### **7. Patrolling**

- That WMPA establish a comprehensive patrolling system with a strong central authority responsible for monitoring, coordinating and directing the system;
- That the patrols involve village-based patrols supported by well led and motivated military, probably involving Lao Army personnel at the international border and provincial or district military personnel elsewhere. Effective monitoring of the patrol system is essential;
- That the guard post system specified in the SEMFOP be expanded to provide adequate coverage of the international and internal Lao borders of the NPA;
- That the number of NPA guards in the SEMFOP be increased to around 400, with an appropriate increase in the patrolling budget.

#### **8. Transborder Conservation**

- That the Lao Military make a concerted and sustained effort to stop the incursions from across the border;
- That there be renewed efforts at appropriate Government levels to achieve cooperation on transborder conservation;
- That the NPA should become a World Heritage Site, and that, if possible, the World Heritage status be for an international site covering both sides of the border.

#### **9. Monitoring by Satellite Imagery**

- That in addition to other monitoring activities, WMPA monitor the NPA annually using satellite images to identify new track construction, logging, changes in agricultural clearing and other aspects of land use.

#### **10. Commercial Gold Mining**

- That no commercial mining be allowed in the NPA, and that it be discouraged in areas immediately adjacent to it.

#### **11. Prime Minister's Decree on Commercial Extractive Activities in the NPA**

- That H.E. the Prime Minister issue a Decree expressly, specifically and unambiguously forbidding logging and mining in the NPA and Corridors.

**12. WMPA and the Corridors**

- That SEMFOP-1 should assign responsibility for management of the Corridors to WMPA.

**13. The need for Flexibility in SEMFOP Funding**

- That the POE supports the recommendation of the IAG on budgetary issues such as the need to remove fixed caps on budget items.

**14. Linkage Between Conservation and Development Activities**

- That conservation and development activities in the NPA be linked and integrated, not pursued separately.

**15. Saola Conservation and Establishment of a Conservation Research Station**

- That the Saola Action Plan for the NPA area be updated, translated into Lao, and implemented; and that a Saola Conservation and Research Field Station be established in the upper Nam Pheo basin.

**16. Technical Assistance Priorities for the WMPA**

- That the Technical Assistance (TA) for the key WMPA Executive Secretariat positions be obtained without delay, and that higher priority be afforded TA for conservation/wildlife ecologist TA.

**17. Recent Consolidation of Vietic Households**

- Having recommended in its 1997 report that such resettlement of Vietic foragers be stopped and that remaining families should have the option of returning to their spirit territories, the POE was very concerned to learn not only that GOL had continued to resettle such families into consolidated villages but had moved 10 into the same village where previously resettled Vietic households had died. The POE recommends that James Chamberlain be asked to visit the affected families as soon as possible in both Ban Nakadok and Ban Nathon, as well as any other villages where Vietic foragers have been recently resettled, in order to assess the circumstances surrounding their current lives and to make recommendations for improving their future, including the possibility – which the POE favors -- of their returning to their previous spirit territories.

**18. Shifting Cultivation**

- That no attempt should be made to alter rotational shifting cultivation or reduce the length of the fallow period until a thorough participatory study of existing systems has been completed.

**19. The NNT/PHP Corridor**

- The Khamkeut District Governor recommends that resettlement planning for all Khamkeut households in Ban Sop Hia and Ban Nan Mian begin this year. The POE endorses that recommendation for three reasons. The first relates to the need to follow-up the resettlement of the Pilot Village with

further resettlement as soon as possible so as to maintain momentum and to show the 17 Nakai Plateau villages that resettlement is ongoing. The second relates to the District Governor's belief that progress on the ground with the SDP irrigation project is a necessary condition for the willingness of those involved to return to Khamkeut District. The third is to eliminate their destructive impact on the corridor and the adjacent NPA as soon as possible.

- The POE recommends that the WMPA, which the POE believes is the most threatened by the Khamkeut households, discuss ways in which a portion of their 2004 budget - less than 10 percent of which has been allocated by the Company - can be used to initiate the necessary activities.

#### **20. The Route 8b Construction Camp**

- That households without paddy in Ban Phonsaart should be resettled, including the possibility of incorporating them within the SDP irrigation project planned for the Khamkeut households currently living in Ban Sop Hia and Ban Nam Niam.

#### **21. The NT2 Reservoir**

- That special attention should be paid to incorporating the 17 resettled villages and Nakai District within the future management structure for the NT2 reservoir.

#### **22. Legal Protection for Resettler Village Control of Livelihood Options**

- That legal ownership documents for house plots and gardens contain appropriate restrictions on sale to either immigrants or other villagers and that further thought be given to enforceable mechanisms for protecting the use rights of all households to their livelihood components.
- The POE recommends that a Decree from the Prime Minister restricts reservoir fishing to the 17 resettler villages and mandates an 'open' marketing system.
- That the Prime Minister's Degree on the Nakai Village Forest Association be strengthened to strengthen resettler rights in regard to possible joint ventures with private sector and other partners.

#### **23. Topographical Surveys**

- That the final selection of village sites for the remaining 14 villages (for two of the 17 Nakai Plateau villages do not require removal) NOT be made until after appropriate topographical surveys (including the necessary soil surveys) have been completed. Otherwise there is a risk that the desire to consolidate villages so as to improve social services will leave households without adequate garden land for themselves and their children.

#### **24. A Vietic Village**

- That Vietic speakers have the option of their own Vietic Village. This recommendation applies especially to Ahoe living in Ban Sop Hia, Ban Nam Nian and Ban Nakai Tai who together constitute over 50 households.

**25. Elephants and Humans**

- That WMPA facilitate the research conducted by the WCS into reducing human-elephant conflicts, and act promptly to implement the results.

**26. The Need for Closer Company, GOL, Donor and International NGO Cooperation.**

- That while the POE believes that the World Bank's Safety Net requirements do not apply to the Nam Kathang/Gnom, the Concession Agreement should state that the Company will be obligated to release 15 cumecs/second should GOL request such a release.

**27. Development Requirements for Meeting NTPC Mitigation and Compensation Obligations**

- That because the POE believes that the Company continues to underestimate the magnitude of Project impacts on affected communities, the POE recommends that the Company be prepared to implement a wider range of livelihood options at the community and household levels than is currently suggested in the XBF Strategy Paper - options that will need to include development to realize the Company's mitigation and compensation obligations. An example relates to households, currently estimated at nine, that must be physically relocated along the 27 km channel through the Gnommalath plain. To restore their livelihood it is not sufficient to merely compensate them in cash for loss of assets; otherwise they may end up worse off. An example of a developmental approach for meeting compensation obligations would be to ensure that those resettled would receive irrigated land within the Gnommalath community irrigation project which can be extended with non-project donor assistance through the use of turbinated waters from the 27 km. channel.

## INTRODUCTION

### **The Panel, Its Role, and Previous Missions**

This is the seventh report of the International Environmental and Social Panel of Experts (POE or the Panel) for the Nam Theun 2 (NT2) Project in the Lao People's Democratic Republic.<sup>1</sup> The Panel's previous reports covered visits to Laos in January and February 1997, July 1997, January 1998, January 1999, January 2001, and January, 2003. An Interim Report was prepared in March 2002.

The Panel's primary responsibility is to provide independent review of, and guidance on, the treatment of environmental and social issues associated with the NT2 Project.<sup>2</sup> The Panel's findings and recommendations are submitted directly to the Ministry of Industry and Handicrafts of the Lao PDR, and thereafter are to be made available for distribution to the World Bank, other cooperating organizations and the public. The Panel is free to make its own determination on which environmental and social issues it should focus. Its area of responsibility includes the entire Nam Theun basin from the border of Vietnam to the Mekong River, the Nakai-Nam Theun National Biodiversity Conservation Area (NNT-NBCA) which includes the NT2 project catchment area, inter-basin transfers from the Nam Theun to the Xe Bang Fai and Nam Hinboun river basins, the NT2 transmission line, and whatever enhancement and other projects are impacted upon by water releases from the Nam Theun reservoir. The Panel is also obligated to assess the extent to which planning for the NT2 project meets relevant World Bank safety net guidelines including those for environment, indigenous people, and resettlement with development.

### **Summary of Panel Activities**

Since the 6th visit in January 2003 Panel members have represented the POE at meetings with World Bank staff at the World Bank and elsewhere in Washington D.C., and meetings and Workshop on NT2 at the U.S. Congress in Washington, D.C. They have also read and commented on a series of NT2 Project reports and documents. Documents dealt with during 2003-4 included the Draft Environmental Assessment and Management Plan (EAMP) of March, 2003 and October 2003, the Draft Social Development Plan (SDP) of December 15, 2003, the Draft Revision C of the Xe Bang Fai Strategy Paper of 17 November, 2003, and the Draft Social and Environment Management Framework and 1<sup>st</sup> Operational Plan (SEMFOP) of December, 2003.

For this 7<sup>th</sup> Mission the Panel members arrived in Vientiane on February 14,

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<sup>1</sup> The members of the Panel of Experts are:  
T.Scudder, California Institute of Technology, USA  
L.M.Talbot, George Mason University, Virginia, USA

<sup>2</sup> The Terms of Reference for the POE are under Annex 1 of the First Report of the Panel, February, 1997.

2004. The objectives of this visit were to participate in the review of safeguard documentation with the Government of Laos (GOL), Asian Development Bank (ADB), French International Development Agency (AFD), World Bank (WB), International Advisory Group (IAG) , and the Nam Theun Power Company (NTPC); to examine developments which have taken place since the Panel's last visits; to examine the track recently constructed into the NBCA with support from the DUDCP project; and to examine the potential impacts on the NBCA of the concentration of villages in the north-west buffer zone.

Following their departure from Vientiane on March 2<sup>nd</sup> they participated in a one week joint mission in Vietnam led by the World Bank at the invitation of the Forest Protection Department of Vietnam. The objectives of the mission to Vietnam were to meet with officials and NGOs in Hanoi and Ha Tinh, to make field visits to the Vu Quang National Park and the Trai Tru Protection Forest and to consult relevant individuals in the areas visited, to learn about the problems which the Vietnamese protected areas have confronted and how they have dealt with issues such as wildlife poaching, cross-border trade, unsustainable impacts on protected areas by people in the peripheral zones and in the protected areas themselves. An additional purpose was to provide the opportunity for officials of the WMPA to establish direct relationships with relevant Vietnamese conservation officials. It is anticipated that the lessons learned in Vietnam could be applicable in Lao also.

In Laos, February 14 through 20 were spent in meetings in Vientiane with officials and staff of GOL, ADB, AFD, WB, NTPC and the IAG, primarily to review in detail the current drafts of the safeguard documents, including the SDP, SEMFOP, and EAMP. Meetings were also held with the H.E. the Deputy Prime Minister, H.E. the Minister of Industry and Handicrafts, and with resident experts.

Following the 7 days of intensive meetings, 7 days (February 21 through 27) were spent in the field during which the following locations were visited.

- Nakai Plateau; Ban Phonsavang Pilot Resettlement Village (formerly Ban Sailom Pilot Village); and Nakai Town for meetings with the District Governor and other district officials.

- Survey by foot of the recently constructed track partially supported by the DUDCP project, spending nights camping at Ban Houay Sarn Village on the Nam Pheo, and in the NTPC Guest House at Nakai.

- Drive to Lak Sao via Thakhek, meeting with the Deputy Governor of Khammouane Province in Thakhek and with the District Governor of Khamkeut District in Lak Sao.

- Three days of surveys by vehicle and on foot examining the potential impacts on the NNT NBCA from the activities of the population in the villages in the Buffer Zone in the northwest between the valley of the Nam Kata and the NBCA boundary. In

addition to the areas around Ban Namouang, Ban Nakadok and Ban Nong Mek villages, visits were made to the gold mining activities near Ban Nakadok, the Ban Navang road up to the NPA border, Route 8B to Ban Pak Katan, the construction camp site near Ban Phonsaart, and the quarry site at Phou Phako. Nights were spent camping at Ban Namouang and in Lak Sao.

After returning to Vientiane on February 27, the Panel spent the following three days in meetings and report preparation with a final wrap-up meeting with GOL.

### **Organization of this Report**

The POE's past reports have been written to be stand-alone documents, providing extensive analysis and descriptions of the project, its national and global significance, and the environmental and social issues involved. Previous POE reports have also reviewed actions taken on its earlier recommendations. The Panel believes that at this stage in development of the project it would be more useful to present a briefer report focusing only on high priority recommendations. For more complete descriptions and overview of the project readers are referred to previous POE Reports, especially Report #6.

Further, during the first week of the present mission in the course of the intensive discussions of the safeguard documents and plans, the Panel has expressed its views and conclusions on those documents and plans extensively and in detail. The POE believes that rather than reiterating all the same material, this report will only focus on a limited number of issues that the Panel considers of highest importance at this time.

Following a brief Overview, this report is organized in sections 2 through 6 by geographic area of the NT2 Project. Section 7 deals with continuing activities of the POE. Section 8 gives references, and Annex 1 lists abbreviations, acronyms and glossary.

### **Acknowledgments - Appreciation**

The Panel met with GOL officials at Central, Provincial and District levels, WB, ADB, AFD, non-governmental organizations (NGO), NTPC and other local personnel, as well as with villagers in the areas visited. We wish to acknowledge with gratitude the information, advice and assistance, as well as the warm welcome that we received from everyone to whom we talked. Special thanks are due to H.E. the Minister of the Ministry of Industry and Handicrafts and to the Nam Theun 2 GOL Office, and especially to Dr. Maydom Chanthanasinh, Phalim Daravong, and Bounsalong Southidara.

The Panel benefited from the opportunity to work closely with the members of the IAG, David McDowell, Emil Salim, and Convener Dick de Zeeuw.

We are particularly grateful for the organization and arrangements made by the GOL NT2 Office, to H.E. the Deputy Prime Minister, Khammouane Province Deputy Governor and the Governors of Khamkeuth and Nakai Districts who received our mission, to local district and village officials who enabled the Panel to make the field

visits, and to Jean Dulac and the staff of the Company, especially Company adviser Loy Chansavath, who organized the field visits. Thanks to these fine arrangements it was possible for the Panel to see and accomplish so much in a short time.

## **1. OVERVIEW**

### **1.1 The POE Views on NT2**

The Panel continues to reiterate its strong support for the NT2 Project<sup>3</sup>. As the Panel has noted previously, the NT2 Project sets new high standards for resettlement and environmental issues and the POE believes that if it is executed as planned NT2 will be a model of global significance. Moreover, we remain convinced that if the NT2 Project is not carried out as planned, the effect will be to increase rather than decrease rural poverty, and to seriously degrade the globally recognized biodiversity values of the NNT NBCA.

Especially gratifying is the extent to which the Project has become a multipurpose project for national development in which emphasis on poverty alleviation has begun to focus not just on specific projects but on their coordination and integration. Development initiatives proposed for the Xe Bang Fai River Basin illustrate this trend. The October 2003 World Bank Scoping Mission for the NT2 Rural Livelihoods Project presents an initial overview of the area's potential and current development activities along with the need for coordination between GOL at village, district and provincial levels, the donor community, NGOs and the NT2 Developer (the Company) and the need to fill gaps in current activities and planning. The POE would like to highlight, in addition to the critical need for capacity building at village, district and provincial levels, several points in the Scoping Mission's report that are applicable to the entire NT2 Project Area.

First is the need for a Basin Management Approach. Second, the Prime Minister's Decree Number 1 of March 2000 and Decree No. 10 of June 2001 on decentralization provide, and we quote from the Scoping Mission, "a good basis for implementing a village based approach to poverty reduction and to improve opportunities for participation." Third, a recommendation of the Scoping Report, is that "provincial and district coordination mechanisms be strengthened such that donor/NGO programs support a common approach to strengthening village and district level capacities to implement decentralized rural development." Fourth is the need to pay much more attention to marketing issues so as to realize the development potential of project zones. Fifth, women's current role in both household production and marketing activities makes their inclusion important in the developing market economy. Sixth, the realization that the double cropping of paddy does not move households beyond subsistence emphasizes the importance of diversifying household and village livelihood systems into higher value cash crops, livestock, forestry and other economic activities.

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<sup>3</sup> Description and background information on the NT2 Project are covered in previous PoE reports and will not be reiterated here.

While all the above points are important, the POE wishes to draw attention to the third point which emphasizes the need for GOL, Donors and NGOs to develop, and of course, implement, a common approach. The POE recommends that the development of the Xe Bang Fai River Basin be considered as a 'Pilot Project' for utilizing such an approach throughout Lao P.D.R.

The POE warmly welcomes the decisions of the ADB and AFG to participate with the WB in the NT2 project. The Panel has been impressed by the level of collaboration and cooperation between the representatives of the three donor agencies in the complex discussions of safeguard documents and other issues during this mission. Among the examples of this collaboration is the joint Aide Memoire prepared by the three institutions, and their stated intention to prepare a joint submission to their respective Boards. Hopefully this example of cooperation between major multilateral and bilateral development institutions will provide a model for other international development activities worldwide. The efforts all sides have made to harmonize their policies and procedures in the interest of efficient and timely attention to the project are exemplary and provide real cause for optimism about the project's eventual success.

At the same time, the POE realizes that success will not be easy and is not assured. Success depends on executing the world-class plans that exist and maintaining that level of execution for the life of the project. Long term success of the NT2 project is also dependent on stabilizing the population, especially in the watershed area. Those considerations, in turn, depend on capacity that is in critically short supply in Laos, as it is in other small developing countries, and on political will that is sustained throughout the project. These considerations are the foundation on which the approach of the POE is based, and they underlie this and all previous POE reports.

## **1.2 Population**

**Recommendation: That participatory family planning in the context of health and livelihood improvements must be a NT2 priority issue**

A rate of population increase in excess of 2.2 percent per annum poses a major threat not only to NPA biodiversity and village livelihoods but also to the Social Development Plan for the Nakai Plateau and the Xe Bang Fai river basin. Family planning in the broader context of health and livelihood improvements is essential.

## **1.3 Capacity Building**

**Recommendation:**

- **That special GOL / Company / Donor / NGO attention should be paid to training a cadre of recent university graduates as specialists to deal with the environmental and social issues associated with NT2 and other hydro and major development projects, and who become permanent staff of appropriate government agencies.**

- **That appropriate students in their final year at the various faculties of the National University of Laos should be selected to do their thesis projects on biodiversity and socio-cultural topics relevant to the conservation and development of the NPA.**

The critical issue of capacity has been emphasized in each POE report. In this report we recommend two ways in which capacity could be built by drawing more on the resources of the University and NGOs currently registered in Lao P.D.R. The first is to develop the capacity of a cadre of government officials to deal with important environmental and social issues associated with such major development projects as hydro. Such a cadre would be available not only to staff such institutions as the NT2 Resettlement Management Unit and the WMPA but also to deal with environmental and social issues associated with future hydro projects. The second is to train students for carrying out the socio-cultural surveys in the NPA which are needed for developing the necessary understanding of the cultures, and especially the indigenous knowledge and livelihood systems, of the 31 enclave villages - knowledge that is essential for participatory stabilization and improvement of livelihood systems and selection of target villages and village catchment units during the phased development of the enclave villages.

The procedure that the Wildlife Conservation Society uses to identify and train students for biodiversity assessment appears to be equally applicable to socio-cultural assessment in the enclave villages. The first step is to request the Faculty of Forestry at the National University of Laos to identify interested fifth year students before they have decided on their thesis topic. Once an appropriate topic is selected three months is spent in the field after appropriate training, and with appropriate financial assistance and supervision, with the final three months of the thesis period spent writing up results.

Presumably there would also be students in the Faculty of Forestry who would be interested in a thesis topic dealing with indigenous knowledge or, more specifically, with non-timber forest products. As for students in the Faculty of Agriculture, presumably there would be some who would be interested in doing theses on the livelihood systems of different enclave villages and ethnic groups. An incentive for all such students would be the opportunity for some to further their education at the Masters Degree level. Khon Kaen University across the Mekong River, for example, has a Center for Research on Pluralism in the Mekong Subregion one of whose faculty members is a Professor of Anthropology, while Mahasarakham University has a PhD program in Lao anthropology. One of the advantages of having such universities near by is that Lao students enrolled could continue their NPA research during school holidays. With degrees in hand, they would also increase the number of qualified personnel for the government to hire for staffing the cadre of social experts dealing with hydro and other major projects that the Panel recommended earlier in this section.

The POE welcomes the recent decision to establish a linguistic research center at Ban Maka in the NPA as the first step toward implementing the type of scientific research stations that villagers suggested to the POE during its January 2003 visit. Should

an effort be made to attract PhD candidates and senior researchers to such stations, as the POE recommends, they could also play an important role in supervising Lao students working on university degrees.

#### **1.4 After the End of the Concession Period**

**Recommendation: It is not too early to consider in the Concession Agreement such issues as funding for the WMPA, for the Reservoir Management Authority, for on-going operation and maintenance of infrastructure, and for initiation of new development opportunities following the completion of the 25 year Concession Period.**

There are various international examples of relevance to the NT2 situation. One, pioneered by China, is eventually to designate a proportion of revenue from the sale of energy (say per kilowatt hour) that will be available for conservation and development activities within the NT2 Project area. Another, being pioneered by Hydro-Quebec in Canada, is to expand ways in which project affected people increasingly become part-owners of the project and project resources. GOL has already initiated such buying into the project in connection with the Nakai Village Forest Association and by restricting the reservoir fishery to the 17 affected villages.

#### **1.5 Movement of Households**

**Recommendation: The POE recommends that an adaptive management approach be taken to the movement of households between the NPA, the Nakai Plateau and the XBF river basin.**

Currently there is a tendency -- understandable granted the responsibilities of different organizations for different NT2 Project Zones - to view the NPA, the NNT/PHP corridor, the NT2 reservoir, the Nakai Plateau, and the XBF as separate areas. The POE's recommendation is that more flexibility is necessary in the interests of conservation and development. An example might involve households in the NPA (Makong in particular) who may wish to move to Gnommalath District once turbinated waters become available for development purposes along the Nam Kathang, the Nam Prit and the Xe Bang Fai. There may well be other cases where movement between zones could contribute positively to the livelihood of those involved and to the Project.

## **2. THE NPA (NNT NBCA)**

### **2.1 Biodiversity and Conservation Issues**

#### **2.1.1. Introduction**

Previous POE reports have described the NNT NBCA (hereafter called NPA) and its globally significant biodiversity, and have emphasized that as the POE's first hand knowledge of the area has expanded with each new field visit, it has become increasingly

impressed with the importance of the area's unique biodiversity values, along with the magnitude of the threats they face.

The Panel applauds the SEMFOP's clear statement that "The primary objective of the Social and Environmental Management Framework and Operational Plan (SEMFOP) is conservation of the Nam Theun 2 watershed."<sup>4</sup> However, on the basis of discussions with some of the GOL officials involved with the NT2, it appears to the POE that not all the GOL personnel share the conservation goals for the NPA. There may need to be a clear and unambiguous high level statement by GOL about the primacy of the conservation goals for the NPA.

The greatest threats to conservation of the NPA come from inappropriate, largely commercial, exploitation of its biodiversity and uncontrolled increase of the human population within the NPA. Biodiversity exploitation takes several forms. Chief among these are transborder poaching and trade in wildlife and other NTFPs, similar incursions across the NPA borders within Laos, particularly on the northwest border near the Nam Kata, and the potential for serious exploitation from uncontrolled access roads or tracks.

While the transborder poaching is a major problem, the demand for wildlife remains very high in Laos. During the present mission the Panel members observed abundant wildlife and wildlife products openly for sale at the roadside market in Ban Dalat Nan Thon. These included live squirrels, various birds and a ferret badger. Animal products include the parts of at least nine different serow (legs, hoofs, skulls with horns, pieces of skin, plastic sacks of gall bladder and other internal parts), dried, fresh and sausage meat from serow, muntjac and sambar, many cooked squirrels and birds, the tail of a Duc Langur, and dead porcupine, palm civets and squirrels.

### 2.1.2 Access

**Recommendation: That improved access should be provided to appropriate villages in the NPA (NNT NBCA), but only with the following stipulations:**

- **Any access only should be from the Nakai Plateau. The former road from the Bolikhamxay Province to Ban Navang should be converted to a foot path.**
- **Any access tracks should be designed for two-wheel tractors with trailers, and should be no wider than necessary for passage of a single tractor with trailer. They must not be designed to allow four-wheel vehicles**
- **The WMPA should conduct a survey to determine the true needs for access and develop a master plan for access tracks including necessary controls, keeping such tracks at an absolute minimum; and any track construction should conform to that plan and should be approved by the WMPA. There should be no more ad hoc construction of tracks or roads.**
- **There must be monitoring of tractor and other use of the tracks to assure that they are not used as conduits to exploit the biodiversity of the area. Among other things this will require that check points be established near**

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<sup>4</sup> SEMFOP December 2003 draft. Section 4.11, page 1

**the Plateau end of any tracks.**

- **Tracks in the NNT NBCA must not link with Vietnamese roads at the border.**

The issue of access was discussed in detail in POE Report #6 but it is probably the most immediate and urgent issue which can determine the success or failure of the conservation status of the NPA. In addition, some new information has become available since last year's report. Consequently the Panel considers that it is necessary to revisit the issue here.

Some improved access will be important for appropriate villages in the NPA. However, the issue is contentious. Some, mostly from outside the NPA, insist that improved access is essential for the welfare of the villagers in the NPA. Others point out that the villagers in the NPA are not in a food deficit situation, and that as a whole they are relatively better off than many, if not most, Lao villagers elsewhere in Laos outside of the NPA. It appears that a major reason for this situation is the lack of road access that protects them and their resources from external exploitation. Among other things this has served to protect the wildlife and other NTFP resources and to a large degree, maintain them for the villagers' use.

Further, there is some question of how important improved access to the outside really is to all those inside the NPA. The DUDCP reported that they asked nearly 100 households in the three DUDCP pilot villages to name their priority needs and top expectations from external assistance. The respondents collectively listed 19 priorities (e.g., "access to draft buffalo", "school") and none mentioned improved access to the outside.<sup>5</sup> However, these pilot villages are not necessarily representative of others in the NPA, especially since one of them, Ban Navong, already is on an access road. Other outsiders have reported that when asked, many villagers in the NPA stated a desire for outside access.

It is clear that the truly global biodiversity value of the NPA is due to the lack of access from the outside, coupled with a low human population with a relatively light impact on the biota of the area—which itself is largely due to the lack of easy access. There is dramatically increasing international concern with the accelerating loss of the world's biodiversity, and consequently increasing efforts directed at its conservation. Study after study has shown that the greatest and most globally widespread single threat to the survival of biodiversity is access, and that roads allowing vehicular travel are by far the most dangerous form of that access. This is a worldwide phenomenon, operating in industrialized nations as well as developing ones, although the impacts are generally much greater in developing nations where legal protections for biodiversity, and the means to enforce them, tend to be less rigorous.

Consequently, the POE recognizes that unless it is extraordinarily well done, provision of access from outside can and almost surely will lead to the demise of the

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<sup>5</sup> Lessons-Learned from the District Upland Development and Conservation Project (DUDCP), Nakai-Nam Theun National Biodiversity Conservation Area, Lao PDR. A report to the World Bank. October, 2003.

globally important biodiversity values of the NPA and undermine a key component of the rationale for the NT2. There is also legitimate question of where and how much such access is really needed by the villagers involved.

Therefore there must be a careful participatory survey/study to determine what access is really needed. Then, on the basis of the results, a comprehensive, integrated access plan for the entire NPA must be developed. Access tracks should be kept to an absolute minimum. Outside access should only be from the Nakai Plateau and accordingly the road from the Bolikhamxay Province to Ban Navang should be converted to a footpath. Effective controls over the use of the access tracks for access to and export of biodiversity from the watershed must be an essential part of the access plan. The plan must be completed and the controls put in place before any access routes are constructed. There must be monitoring of tractor and other use of the tracks to assure that they are not used as conduits to exploit the biodiversity of the area. Among other things this will require that check points be established near the Plateau end of any tracks, where traffic may be recorded and, as in check points elsewhere in the country, where loads may be inspected.

Until the plan and controls are in place there should be no further ad hoc construction of access roads or tracks. As the Panel emphasized in last year's report, the POE is concerned to learn that the World Bank-supported DUDCP project contributed to construction of a road/track from Ban Khon Kaen to Ban Houay Sarn.

The SEMFOP specifies the width of access tracks into and within the NPA at 2.5 meters. The Panel strongly objects to this width. This specification apparently is based on the width of the DUDCP supported track referred to above. During last year's mission the Panel discussed this track with a DUDCP staff member involved with the track who stated that the reason for the 2.5 m. width was "so that two tractors can pass." A high volume of traffic is not anticipated nor should it be, and there is almost always room for a tractor to pull off a narrower track for passing. A track of 2.5 m. width would allow access to trucks. Such a width is totally unnecessary for two wheel tractors with trailers. The maximum width of two wheeled tractors measured by the Panel on this trip was under one meter, and that of the trailers about 1.2 m. The Panel recommends a width not to exceed 1.5 m. which would be easily adequate for tractors and would have the additional benefit of requiring far less labor to construct.

### **2.1.3. Trade in Wildlife and Non Timber Forest Products (NTFPs)**

**Recommendation: To avoid aggravated losses of biodiversity from trade, alternatives for the use of wildlife and scarce NTFPs in trade for trade goods should be developed, and plans for effective management of resources and controls over the increased trade be made by WMPA, before additional access is developed.**

Many of the remote upper villages in the NPA are closer to Vietnamese sources of trade goods than to Lao ones. This trade, involving exchange of trade goods for wildlife and NTFPs, is one of the main current threats to the area's biodiversity. Consequently

one of the reasons for constructing access tracks from the Plateau is to enable these Lao villages to trade with Lao traders instead of Vietnamese ones. The Panel agrees with this rationale, but emphasizes that it is essential that the villagers develop alternative sources of 'currency' for trading. Otherwise the effect is simply to provide wildlife and NTFPs to Lao traders instead of Vietnamese ones, with no benefit to the biodiversity.

Increased trade opportunities brought by improved access will increase the exploitation pressures on the biodiversity involved. Consequently, to avoid aggravated losses of biodiversity, the WMPA must develop plans for strong management of the resources and controls of the increased trade which is sure to come. Such planning and the measures which come from it should be in place before additional tracks are constructed.

#### **2.1.4. Patrolling**

##### **Recommendation:**

- **That WMPA establish a comprehensive patrolling system with a strong central authority responsible for monitoring, coordinating and directing the system;**
- **That the patrols involve village-based patrols supported by well led and motivated military, probably involving Lao Army personnel at the international border and provincial or district military personnel elsewhere. Effective monitoring of patrol activity is essential;**
- **That the guard post system specified in the SEMFOP be expanded to provide coverage of the international and internal Lao borders of the NPA;**
- **That the number of guards in the SEMFOP be increased to around 400, with an appropriate increase in the patrolling budget;**

Experience in protected areas throughout developing countries in Asia (including Laos), Africa and Latin America has shown that the density of guards and patrols is by far the most effective determinant of long term conservation success. Given the nature of the threats to the area's biodiversity, the Panel believes that this finding has particular relevance to the NPA.

The development of a comprehensive, area-wide patrolling system is clearly needed now. This effort involves both village-based patrols and Lao military patrols. The village patrols may use both village militia and other key people from the villages, but probably in all cases it will require additional support from the military (district, provincial or national). This is needed for at least three reasons. There is the possibility that village patrols will encounter heavily armed poaching gangs. The villagers must spend most of their time on livelihood activities. And in addition, large areas of the NPA are distant from villages so adequate patrolling of those areas probably will require primarily military personnel. At least in areas away from the international border the Panel thinks it would be desirable to use district or provincial military, while Lao army personnel probably need to support patrolling on the international border. Military personnel can be effective guards of biodiversity or severe threats to it. Consequently

there is a need to develop strong conservation leadership and motivation in the various types of military personnel who are involved with patrolling in the NPA. Effective monitoring of the patrolling is essential.

Because of the threat of transborder poaching and removal of other NTFPs there is a particularly strong need for adequate military patrols along the international border. The SEMFOP shows patrol posts primarily in village areas, mostly far from the international border. The patrolling plan should be revised to provide for adequate posts and patrols all along the international border, and also to provide adequate coverage along the escarpment adjacent to Route 12, and the northwestern border with the buffer zone. This latter area is important because there are concentrations of Hmong living adjacent to the protected area. The Hmong are renowned for their hunting/poaching abilities and the threat that they pose to the biodiversity of a protected area. However, these abilities may make some of them potentially very effective guards for the NNT NBCA if their honest participation could be enlisted.

In addition to adding more patrol posts, the SEMFOP needs to greatly increase the number of patrols and their budget. The SEMFOP calls for about 148 guards, many part time since they are villagers. Effective patrolling of Asian protected forest areas requires a much higher density of guards. The POE estimates that to have an effective patrol force for the NPA, including the PHP-NNT Corridor, would require a patrolling force of no less than around 400 individuals.

Patrolling the NPA is a very complex endeavor. It involves the Lao military, two provinces and districts with their armies, and a large number of villages with village patrols, dealing with a large area of often-difficult terrain. If this effort is to be successful there needs to be a central authority in the WMPA to monitor, coordinate and direct the patrol activities. This authority needs to be specified in the structure and funding of the WMPA.

### **2.1.5 Transborder Conservation**

#### **Recommendation:**

- **That the Lao Military make a concerted and sustained effort to stop transborder poaching and collection of other NTFPs;**
- **That there be renewed efforts at appropriate Government levels to achieve cooperation on transborder conservation, and that if successful, the results could be presented at the IUCN World Conservation Congress in Bangkok in November, 2004;**
- **That the NPA should become a World Heritage Site, and that, if possible, the World Heritage status should be for an international site covering both sides of the border.**

In each of its previous reports the POE has called attention to the threats to NPA biodiversity posed by cross border poaching and extraction of other NTFPs. The Panel has encountered Vietnamese traders in several of the NPA villages it has visited, and

virtually all villagers and others in or with experience in the NPA have told the Panel of first hand experience with Vietnamese poaching and collecting NTFPs. During this mission, with the exception of one villager who lives far from the border, every single villager the Panel consulted told of encountering such Vietnamese, sometimes in small groups of three to five individuals, but also in very much larger groups. These accounts have been very consistent, as have the observations repeated in virtually all villages the Panel has visited, that after incursions by armed Vietnamese poachers the elephants moved down off the NPA mountains to the Nakai Plateau area, and many other large forms of wildlife disappeared.

There is clearly a need for a concerted and sustained effort by the Lao military to stop illegal activities across the border. In addition there should be renewed negotiations with the Vietnamese at appropriate levels to try to achieve effective transborder conservation efforts. In a workshop on transborder conservation cooperation held February 17, 2004, at the World Bank offices in Vientiane and attended by the POE, it was proposed that the two countries might agree to a Memorandum of Understanding about such cooperation, and that it would be fitting for them to present it to the IUCN World Conservation Congress which will be held in Bangkok in November of this year. The Panel strongly supports this endeavor.

The Panel also reemphasizes its previous recommendations that the NPA should become a World Heritage Site, and further emphasizes the desirability that this status be international, covering both sides of the border. Following the Lao portion of this present mission the POE will visit Vietnam, including areas adjacent to the Lao NPA, and one of the objectives of that visit will be to explore possibilities for international cooperation on conservation.

#### **2.1.6 Monitoring**

**Recommendation: That, in addition to other monitoring activities, WMPA monitor the NPA annually using satellite images to identify new track construction, potential logging, changes in agricultural clearing and other aspects of land use.**

The World Bank logging monitoring missions of 2000 and 2002 have shown that analysis of satellite imagery is an excellent, rapid and inexpensive way to identify changes in land use and vegetative cover in the NPA. Careful analysis of the images can identify and precisely locate logging, new track construction, new agricultural clearing and changes in existing agricultural and vegetative patterns. If necessary the sites identified in the images can then be inspected on the ground. Consequently the Panel believes that in addition to the other forms of monitoring involved with the NT2 Project, WMPA should carry out satellite monitoring of the NPA on an annual basis.

#### **2.1.7 Special Problems from the Northwest Buffer Zone**

**Recommendation: That no commercial mining be allowed in the NPA, and that it be discouraged in areas immediately adjacent to it.**

### **2.1.7.1 Commercial Gold Mining**

Traditional alluvial gold mining by the villagers in the stream valley bottom above Ban Nakadok apparently has been undertaken for a very long time. While such mining is disruptive of the immediate environment, the Panel does not believe it represents a threat to the NPA as such and could be allowed to continue in this area. The Panel notes, however, that such traditional mining causes very substantial erosion and release of sediments, and that if mercury or other pollutants are used in the mining they pose a serious risk to people and biodiversity downstream. The stream on which the Nakadok mining is located flows into a river basin downstream of the NT2 reservoir. However, if such mining were to be carried out in the catchment area for the reservoir, the resultant sedimentation could reduce the capacity of the reservoir.

The POE is very concerned, however, about the threat to the NPA posed by commercial mining. The Panel was informed by the village headman, who had detailed maps, that a Lao-Chinese mining company had surveyed the area and had been awarded the concession to mine the gold in an area of roughly 4 by 1.5 kilometers of the valley bottom immediately above Ban Nakadok. Part of this concession area is within the NPA. In addition a Lao company has surveyed an adjacent area, but it may not be given a concession for actual mining operations. The Lao-Chinese company has a full-sized gold dredge in place prepared to commence operations in the near future. Further, at the start of the hills at the upper end of the valley bottom well into the NPA there are several mining tunnels, two of which show current activity. The nature of this mining and the equipment involved (hydraulic drill, etc.) are clearly commercial, not the traditional mining of the villagers, and this is outside of the Lao-Chinese company's area.

If this commercial mining is profitable it will inevitably create economic and political pressure to open the NPA for additional mining and for access roads. It probably will bring in a labor force. Experience throughout the world shows that commercial mining usually is extremely destructive of protected areas. Further, it appears that the mining concession may have preempted the traditional mining rights of the villagers, and experience elsewhere suggests that such an operation is likely to victimize the more conservative villagers who may make up part of the labor force. Consequently, the POE recommends that commercial mining adjacent to the NPA be discouraged, and that no commercial mining be allowed within the NPA.

An additional important consideration involves heavy metals or chemicals used in the mining processes. Where these are used they often escape into the downstream waters, posing a potentially severe threat to humans and possible threats to biodiversity.

### **2.1.7.2 Hmong Swidden and Encroachments**

The Panel was pleased to observe that the areas of current swidden agriculture were relatively limited, at least relative to the very high percentage of the visible slope areas that have formerly been cultivated and are at present in second growth vegetation.

The POE wishes to congratulate the GOL for limiting the areas of new swidden. However the Panel wants to emphasize the threat that the Hmong cultivators represent – in addition, of course, to their destructively efficient poaching and fishing. For example, along the Ban Navang road south of Ban Nong Maek the area has been declared closed to new swidden. However, the Panel spoke with a Hmong who had a house and was expanding his cultivated area near the road. He said he was from a distant Hmong village. Further southwest there were additional areas of new swidden (some apparently in the NPA), that villagers from Ban Nong Maek told the Panel were done by Hmong in defiance of the rules. The extent of the Hmong incursions in the vicinity of the Ban Navang road is still limited, but unless effective controls are imposed there could be a major problem for the NPA. Farther southwest the Hmong activities, represent a more immediate threat to the biodiversity of the NPA. For example, the Hmong in Ban Phonsaart are only about three km. from both the main NPA and the NPA-PHP Corridor. Since its first visit to the area in 1997 the POE has observed the rapid expansion of the Hmong settlements along the edge of the Corridor. Hmong issues are discussed further below.

#### **2.1.8 Prime Minister’s Decree on Commercial Logging and Mining in the NPA**

**Recommendation: That H.E. the Prime Minister issue a Decree expressly, specifically and unambiguously forbidding logging and mining in the NPA and Corridors.**

The POE recognizes that logging and some other activities in the general area of NT2 have been mentioned, at least generally, in previous pieces of policy and legislation. Prime Ministerial Decree 164 (Establishment of National Protected Areas) of October 29, 1993, prohibits commercial activities such as mining, logging and road construction, unless forestry officials or the GOL give approval. That “unless” clause represents a major loophole. There are always powerful economic and political demands to open such a protected area to commercial interests. In view of the magnitude of the potential impacts to the NPA from such activities, the Panel feels that there is a need for a Prime Minister’s Decree. The decree should specifically and unambiguously forbid commercial logging and mining in the NPA and Corridors.

#### **2.1.9 WMPA and the Corridors**

**Recommendation: That SEMFOP-1 should assign responsibility for management of the Corridors to WMPA.**

SEMFOP is largely silent on the responsibility for management and protection of the NNT-PHP and NNT-HNN Corridors. These are integral parts of the protected area system and their management and protection needs to be coordinated with that of the NPA. Consequently the Panel believes that WMPA should be assigned responsibility for them.

### **2.1.10 Need for Flexibility in SEMFOP Funding**

**Recommendation: The POE supports the recommendation of the IAG on budgetary issues such as the need to remove fixed caps on budget items.**

The Draft Concession Agreement<sup>6</sup> specifies fixed limits to Company funding of SEMFOP activities. The Panel feels that some limitations are needed, but agrees with the IAG recommendations on budgetary matters including the recommendation that fixed caps are unrealistic and should be removed.

### **2.1.11 Linkage Between Conservation and Development Activities**

**Recommendation: That conservation and development activities in the NPA be linked and integrated, not pursued separately.**

In section 2.2.6 of its Sixth Report the POE emphasized the importance of linking environment and development activities, both to mutually strengthen them and to avoid conflicts between them. Experience with the DUDCP project has emphasized the continuing and urgent need for this by showing how development and conservation activities can conflict with each other. Two examples are the DUDCP's contribution to constructing ad hoc track access (discussed elsewhere in this report) and its proposal to introduce exotic fish (which the POE strongly opposes). The Panel wishes to strongly reemphasize that as the development and conservation activities in the NPA begin, it is essential that they be linked and well integrated.

### **2.1.12 Saola Conservation and Establishment of a Conservation Research Station**

**Recommendation: That the Saola Action Plan for the NPA area be updated and translated into Lao, and implemented; and that a Saola Conservation and Research Field Station be established in the upper Nam Pheo basin.**

An international Saola workshop was held in Vietnam 27-29 February, 2004. The objective was to compile current information on this rare species and its conservation. Among the conclusions was that the species is gravely threatened and likely to become extinct, and that if it does survive, the NPA is one of the two places where this might happen.

There is clearly little time left for effective conservation action. The POE recommends that the Saola Conservation Plan for the NT2 area be updated, translated into Lao, and implemented. To help accomplish this the Panel also recommends that a small field station be established for conservation and research into the Saola, and, as appropriate, associated biodiversity. It appears that a good location would be in the upper Nam Pheo basin. This is one of the areas where Saola are most accessible, and there are several villages which could provide assistance to the station and receive benefits from it.

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<sup>6</sup> Nam Theun 2 Hydroelectric Power Project. Concession Agreement – Volume 2A, section 5.4, p. 17.

Ban Nameo, in this area, has already requested such a field station. As noted in the POE's sixth report<sup>7</sup> the village could construct the station which could consist of simple shelter huts but could be expanded later if warranted. Scientists who wished to conduct research on the area's biodiversity could stay at the station, paying a fee to the village which could also provide food, other services and field help for suitable fees. The Panel suggests that in view of the urgency of Saola conservation, initial funds for the establishment of such a station could be sought from outside conservation sources.

### **2.1.13 Technical Assistance Priorities for the WMPA**

**Recommendation: That the Technical Assistance (TA) for the key WMPA Executive Secretariat positions be obtained without delay, and that higher priority be afforded TA for conservation/wildlife ecologist TA.**

The key WMPA Executive Secretariat leadership positions have already been assigned, however the Panel understands that the TAs for most of these key positions are not to be activated until financial closure. The Panel believes that it is very important to have the TAs in place as early as possible in the development of the WMPA. Further, in view of the key importance of conservation, the Panel believes that a higher priority should be afforded a TA position for conservation issues.

## **2.2 Development Issues**

### **2.2.1 Introduction**

The POE dealt at length with NPA development issues in its March 2003 report. All four recommendations remain pertinent. They deal in order with the critical need for participatory family planning, aggregating villages into catchment management units, stabilization of swidden (shifting) cultivation, and constraints to an over-reliance on paddy cultivation.

The POE considers it necessary to revisit two issues dealt with in earlier reports. The first deals with the recent integration of Vietic households from within the NPA into consolidated villages in the peripheral/impact zone in Khamkeut District. The second involves shifting cultivation.

### **2.2.2 Recent Consolidation of Vietic Households**

**Recommendation: Having recommended in its 1997 report that such resettlement of Vietic foragers be stopped and that remaining families should have the option of returning to their spirit territories, the POE was very concerned to learn not only that GOL had continued to resettle such families into consolidated villages but had moved 10 into the same village where previously resettled households had died. The POE recommends that James Chamberlain be asked to visit the affected families as soon as possible in both Ban Nakadok and Ban Nathon, as well as any other villages**

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<sup>7</sup> Section 2.2.6, page 21

**where Vietic foragers have been recently resettled, in order to assess the circumstances surrounding their current lives and to make recommendations for improving their future, including the possibility – which the POE favors -- of their returning to their previous spirit territories.**

During its recent field trip the POE was informed that 34 households of Vietic-speaking foragers (so-called Yellow Leaf People) from the NPA had been resettled by GOL in the consolidated village of Ban Nakadok during 2000 and ten such households had been resettled in Ban Nathon in 2001. A group interviewed in Ban Nakadok informed the POE that prior to their being consolidated they had lived in small, frequently moving, family groups in the NPA. On further questioning they also noted their kinship ties to former Vietic foragers who GOL had resettled over 25 years ago into the consolidated village of Thameung on the Nam Xot. The POE had visited several such Ban Thameung households during a 1997 visit. The majority of those resettled had died while the remainder were impoverished. Worse yet, the POE learned that all eight of the Vietic foraging families that had been moved in the mid-1970s to Ban Nathon had died - the same village to which 10 more families were resettled in 2001.

### **2.2.3 Shifting Cultivation**

**Recommendation: No attempt should be made to alter rotational shifting cultivation or reduce the length of the fallow period until a thorough participatory study of existing systems has been completed.**

Shifting cultivation is probably the most important single component of the diversified production systems of most villages within the NPA. The POE believes that it would be a serious mistake to attempt to alter or phase out shifting cultivation before acceptable replacement activities have been implemented that have been demonstrated to be advantageous to the people and the environment. Over-reliance on paddy cultivation should also be avoided. During the 2002 flood, for example, the peripheral zone village of Namouang lost most of its rainy season paddy crop. Without sufficient alternatives the villagers responded by clearing new land for shifting cultivation on hill sides.

The POE notes confusion among officials as to what is the GOL policy in regard to shifting cultivation. Clarification is especially needed as to the definition of “acceptable shifting cultivation.” Some believe that means rotation must be restricted to a maximum of three plots while others accept rotation among a larger number of plots. The POE believes that longer rotations are necessary within the NPA if soil fertility is to be maintained. Such a rotation will not only maintain and increase crop productivity as fruit trees and other crops are added, but it will also increase biodiversity of plants and animals.

### **3. THE NNT-PHP CORRIDOR AND THE ROUTE 8B CONSTRUCTION CAMP**

#### **3.1 The NNT/PHP Corridor**

**Recommendation:**

- **The Khamkeut District Governor recommends that resettlement planning for all Khamkeut households in Ban Sop Hia and Ban Nan Mian begin this year. The POE endorses that recommendation for three reasons. The first relates to the need to follow-up the resettlement of the Pilot Village with further resettlement as soon as possible so as to maintain momentum and to show the 17 Nakai Plateau villages that resettlement is ongoing. The second relates to the District Governor's belief that progress on the ground with the SDP irrigation project is a necessary condition for the willingness of those involved to return to Khamkeut District. The third is to eliminate their destructive impact on the corridor and the adjacent NPA as soon as possible.**
- **The POE recommends that the WMPA, which the POE believes is the most threatened by the Khamkeut households, discuss ways in which a portion of their 2004 budget - less than 10 percent of which has been allocated by the Company - can be used to initiate the necessary activities.**

There are two villages in the NNT/PHP corridor that will be resettled under the SDP. They are Ban Sop Hia and Ban Nam Nian. The population of both is mixed including a minority of Vietic households and a majority of households from Khamkeut District who moved into the two villages in recent years to serve the logging industry. Their impact on the natural resource base has been destructive, including use of dynamite for fishing. Not being members of Nakai Plateau villages, unlike the Vietic households, they have agreed to return to their area of origin **IF** incorporated within the irrigation project that has been planned for them under the SDP.

Initiating more detailed planning, budgeting and development of infrastructure will require the type of flexibility and coordination that the POE considers essential throughout the NT2 project area. Four agencies are involved. NTPC through the SDP, two GOL districts, and the WMPA which the POE has emphasized should have more administrative and budgetary responsibility for the Corridor than currently included within the SEMFOP-1. The key issue concerns budgeting. Understandably NTPC does not wish to make a major financial commitment before financial close, while GOL has major budgetary constraints.

#### **3.2 The Route 8b Construction Camp**

**Recommendation: Households without paddy in Ban Phonsaart should be resettled, including the possibility of incorporating them within the SDP irrigation project planned for the Khamkeut households currently living in Ban Sop Hia and Ban Nam Niam.**

Close to where a road will be built to the dam site, the construction camp is within 3-5 km from two villages. Within several kilometers of the NPA and the Corridor and furthest from the construction camp site is Ban Parkatan. It is an old Lao Theung village that predates the construction of Route 8B and currently contains 40 households. Two to three kilometers away, and closer to the site proposed for the construction camp, is Ban Phonsaart. It is a Hmong village of 91 households that was built in 1997. Neither village has sufficient paddy land, with Ban Phonsaart having the least.

Both villages are served by a well-maintained 5 class primary school, with five teachers, that was completed in 2001. It also serves Ban Nam Mian (7 km away and within the reservoir basin) and Ban Phonkeo which is also on 8B several kilometers west of the construction camp. Involved in the school's creation, the Khamkeut District Governor sees both Ban Pakkatan and Ban Phonsaart as project affected villages because of their proximity to the construction site camp and to the NPA and the Corridor. He would like to see households without paddy incorporated within the irrigation project proposed for Ban Nam Niam and Ban Sop Hia. That is seen as especially important for the Hmong households whose shifting cultivation is, in practice, difficult to control.

The POE shares the District Governor's concern.

#### **4. THE NT2 RESERVOIR**

**Recommendation: Special attention should be paid to incorporating the 17 resettled villages and Nakai District within the future management structure for the NT2 reservoir.**

Planning for reservoir management has evolved since the previous draft of the SEMFOP-1. Current intentions are to establish a separate Reservoir Management Authority so that the WMPA "will no longer be directly responsible for reservoir management" (6.5.10). Rather it will be the responsibility of the Deputy Director of the Forest and Land Use Planning Division to represent the interests of the WMPA in the management of the reservoir with special emphasis on reservoir zonation/regulations (Figure 6-6). The POE agrees with this approach (see also the POE's March 2003 report).

As SEMFOP-1 notes the exact arrangements for managing the reservoir require further analysis. One issue that needs a clear decision is the exact nature of the boundary between the reservoir and the NPA. Based on an interpretation of PM Decree 193, the boundary will be the northern edge of the reservoir, a position with which the POE agrees. What is not clear is whether or not the boundary fluctuates annually according to whatever full storage level is reached, or is permanently situated at the maximum full storage level of the reservoir. Another issue is budgetary. Where will the funds for the RMA come from? Options range from revenue from a cess on fish sales to revenue from the sale of energy as discussed in the introductory session.

Another key issue that requires further decision-making concerns the relationship between Nakai District, the resettled villages, the Resettlement Management Unit (RMU), NTPC and the WMPA in managing the reservoir. Here it is important to pay close attention to the fact that the district and the resettled villages will still be there after the RMU ceases to exist (at perhaps ten to fifteen years after the commencement of commercial operations), and after the 25 year concession period during which NTPC will be funding the WMPA and participating in the Reservoir Management Authority.

From this year forward efforts should continue to support GOL's decentralization policy so that the district (about 90 percent of which will be incorporated within the Reservoir Management Authority and the WMPA) and the resettled villages can play an increasing role in financing and managing their own affairs.

## **5. THE NAKAI PLATEAU**

### **5.1 Introduction**

The POE commends the Nakai District Governor for taking initiative in resolving conflicts involving past attempts by villages along Route 12 to herd buffalo within the RAP resettlement area and a more recent attempt by villagers from the distal end of Route 12 to form a settlement on the Nakai Plateau.

The POE wishes to reiterate the following passage in its March 2003 report: "The main constraint to livelihood improvement on the Nakai Plateau is further delay in the implementation of the NT2 Project or project implementation without a World Bank financial guarantee. Without a doubt the effects of implementation delays, as well as the overall impact of the project to date, have been to increase the anxieties of affected people and to lower their living standards. The situation was eloquently put to the POE by the representative of the Lao Woman's Union during a meeting at Nakai District Headquarters on January 9, 2003. 'People become poorer as they wait for the project' she said. 'They want to grow fruit trees, but have to wait for the project; they want to open paddy fields but they have to wait for the project.' The solution is to get on with project implementation and specifically with the implementation of the different livelihood options."

The 15 December 2003 Social Development Plan has reached the point of diminishing returns in regard to detailed revisions, not to mention poor use of the time of Company GOL and World Bank staff and their consultants. This statement applies as well to attempts to "fine tune" an assessment of the risks associated with each component of the livelihood model and the model itself. That is because of the wide range of uncertainties that have characterized implementation of dam-induced resettlement throughout the world. One such uncertainty concerns the impact of unexpected events. A recent statistical analysis of 44 large dams found that "major unexpected events had a significant impact on resettlement process outcomes" (Scudder, forthcoming). The NT2 Project already has been affected by several including the Asian downturn in the mid-1990s and the temporary withdrawal of EDF from the Project.

There are, however, three issues that the POE believes warrant more explicit analysis.

## **5.2 Legal Protection for Resettler Village Control of Livelihood Options**

**Recommendation:** The POE recommends

- **that legal ownership documents for house plots and gardens contain appropriate restrictions on sale to either immigrants or other villagers and that further thought be given to enforceable mechanisms for protecting the use rights of all households to their livelihood components.**
- **The POE recommends that a Decree from the Prime Minister restricts reservoir fishing to the 17 resettler villages and mandates an ‘open’ marketing system.**
- **That the Prime Minister’s Degree on the Nakai Village Forest Association be strengthened to strengthen resettler rights in regard to possible joint ventures with private sector and other partners.**

Far too often immigrants with more education, experience, and capital have “captured” the opportunities planned for Project Affected People in connection with dam-induced resettlement. A similar risk applies to more powerful individuals within resettlement villages acquiring the assets of vulnerable neighbors. In the NT2 case that would not only be the home plots and 0.65 hectare gardens of resettlers, but also their fishing rights and rights to participate in community forestry.

## **5.3 Topographical Surveys**

**Recommendation:** That the final selection of village sites for the remaining 14 villages (for two of the 17 Nakai Plateau villages do not require removal) NOT be made until after appropriate topographical surveys (including the necessary soil surveys) have been completed. Otherwise there is a risk that the desire to consolidate villages so as to improve social services will leave households without adequate garden land for themselves and their children.

## **5.4 A Vietic Village**

**Recommendation:** That Vietic speakers have the option of their own Vietic Village. This recommendation applies especially to Aho living in Ban Sop Hia, Ban Nam Nian and Ban Nakai Tai who together constitute over 50 households.

## **5.5 Elephants and Humans**

**Recommendation:** That WMPA facilitate the research conducted by the WCS into reducing human-elephant conflicts, and act promptly to implement the results.

The elephants on the Nakai Plateau periodically raid villagers’ crops and there are

occasional cases of people being wounded or killed in encounters with elephants. The problems have been exacerbated by siting of villages or fields on elephants' travel routes. When the reservoir is filled it will deny elephants' access to about forty percent of the plateau surface, and also deny them several of the salt licks which elephants currently use. Consequently, problems between elephants and humans are certain to increase unless effective measures are taken to avoid them. Consequently the POE was pleased to learn that with initial support from the United States Fish and Wildlife Service, the Wildlife Conservation Society (WCS) is undertaking studies both to determine the numbers and activities of the elephants on the plateau and to explore means that have been used successfully to repel elephants and reduce human/elephant problems. The Panel urges that WMPA facilitate this research and when the results are available, that WMPA without delay takes actions to implement the results.

## **6. THE XE BANG FAI RIVER BASIN**

### **6.1 The Development Potential of the Xe Bang Fai Basin**

The Xe Bang River Basin has significant development potential. This potential has been enhanced by the completion of Route 12 linking Vietnam, Lao P.D.R and Thailand and will be further enhanced in terms of the increased availability of electricity and water that will follow the completion of the NT2 Project. GOL sees this potential and has requested donor assistance in livelihood development of villages throughout the basin. The POE agrees with the World Bank's Rural Livelihoods' Scoping Mission that there is a need now for "a comprehensive review of government programs and projects, including those supported by donors/NGOs to verify geographical coverage, types of support provided and mechanisms for supporting village based development activities."

Existing projects include GOL's Agricultural Development Project and Sustainable Forest Management and Rural Development Project, CARE's EU-funded Food Security Project, SIDA's Lao-Swedish Roads Sector Project II as well as such forthcoming projects as the proposed Rural Electrification Project and the World Bank's Rural Livelihood Project in which the suggested focus is on Gnommalath, Mahaxai, and XBF Districts. Gaps that need to be filled include market linkages, support for "sustainable rural micro-finance" and pilot projects "for effective use of electrical pump irrigation" according to the Rural Livelihoods Scoping Mission.

### **6.2 The Need for Closer Company, GOL, Donor and International NGO Cooperation.**

**Recommendation: While the POE believes that the World Bank's Safety Net requirements do not apply to the Nam Kathang/Gnom, the Concession Agreement should state that the Company will be obligated to release 15 cumecs/second should GOL request such a release.**

The turbined waters that will be released into the Nam Prit, the Nam Kathang/Gnom and the XBF have potential for raising the living standards of affected

communities through carefully designed irrigation. Realization of that potential will require ongoing collaboration. An example relates to the Project being designed to release 15 cubic meters per second of turbinized waters down the Nam Kathang from the regulating reservoir. While such a release has potential for raising the living standards of at least some of the 27 villages involved, it is not a Company responsibility since the project as designed does not impact upon the Nam Kathang. Collaboration is essential, therefore, to ensure that the development potential of that water is utilized.

Such collaboration has begun. The Irrigation Section of Khammouane Province's Departure of Agriculture and Forestry has presented an Investment Plan for Irrigation that includes villages along the Nam Kathang/Gnom while the World Bank is considering the possibility of funding some Nam Kathang irrigation under its proposed Rural Livelihoods Project. It is essential that such collaboration result in design and implementation of a project or projects that use turbinized waters.

### **6.3. Development Requirements for Meeting NTPC Mitigation and Compensation Obligations**

**Recommendation: Because the POE believes that the Company continues to underestimate the magnitude of Project impacts on affected communities, the POE recommends that the Company be prepared to implement a wider range of livelihood options at the community and household levels than is currently suggested in the XBF Strategy Paper - options that will need to include development to realize the Company's mitigation and compensation obligations. An example relates to households, currently estimated at nine, that must be physically relocated along the 27 km channel through the Gnommalath plain. To restore their livelihood it is not sufficient to merely compensate them in cash for loss of assets; otherwise they may end up worse off. An example of a developmental approach for meeting compensation obligations would be to ensure that those resettled would receive irrigated land within the Gnommalath community irrigation project which can be extended with non-project donor assistance through the use of turbinized waters from the 27 km. channel.**

NTPC is to be congratulated for the increasing emphasis that has been paid to project impacts on communities living along the XBF and the lower reaches of its major tributaries. The on-going pre-project bench mark studies of the biology and socio-economics of the existing fishery (the 'CPUE study') that were initiated in 2000 will enable post-project impacts to be more accurately assessed and dealt with. Fisheries are also dealt with in the separate GOL/NTEC 2001 survey (published in December 2002) that included health and socio-economics. Further pre-project 'bench mark' studies dealing with river bank gardens, paddy culture and irrigation, domestic water use, riverside assets, trans-river access, and communications and electrification are to be initiated or completed during 2004.

The November 2003 Xe Bang Fai Strategy Paper has advanced the Company's approach from a reactive to a proactive policy. Taken together these initiatives provide a

model for other projects that involve transbasin transfers. There are, however, some policy inconsistencies that relate to the ability of the Company to compensate for impacts on village livelihoods. The policy of the Company and the 2003 Strategy Paper “remains the same as previously: mitigate the impacts of the Project and compensate the losses of Project Affected People when remaining impacts exist” (page 28). The problem with that policy is that global research on large dams consistently emphasizes that mitigation and compensation alone are unable to restore project-affected livelihoods. That is why, for example, the World Bank’s resettlement policy emphasizes that resettlement projects must be development projects.

There is, of course, a grey area between development that is necessary to achieve the Company’s mitigation and compensation goals and the development that the Government proposes to raise the living standards of Project Affected People. But more discussion is needed concerning the nature of the development initiatives that are necessary to meet the Company’s mitigation and compensation obligations. The necessary thinking for dealing with the ‘grey area’ already is in process in that the Company has agreed to consider as a compensation measure “community selection of desirable livelihood or infrastructure outcomes” (page 13). Those could be considered as development initiatives for achieving mitigation and compensation goals.

## **7. CONTINUING ACTIVITIES OF THE PANEL**

The Panel anticipates or is available for the following activities in the coming year:

- Desk review of revised studies, plans or other documents as requested;
- Consultations and/or presentations with World Bank, Government officials, NGOs, and others;
- Return visit to Lao PDR by one or more of the Panel members if requested to do so by the GOL (e.g. with public consultations, Bank appraisal and/or logging missions);
- Next regular visit of the Panel to Lao PDR at the usual time (probably January) next year.

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## ANNEX

### ANNEX 1: ABBREVIATIONS, ACRONYMS AND GLOSSARY USED IN POE

#### REPORTS

ADB	Asian Development Bank
ADF	French International Development Agency
Ban	Village
Company	Nam Theun 2 Power Company Limited
CPUE	Catch per unit effort
DAFO	District Agriculture and Forestry Office
DUDCP	District Upland Development and Conservation Project of the World Bank
EAMP	Environmental Assessment and Management Plan
EU	European Union
GOL	Government of Lao P.D.R.
IAG	The International Advisory Group for NT2 of the World Bank
IUCN	The World Conservation Union
Lao P.D.R.	The Lao People's Democratic Republic
LIL	
MAF	Ministry of Agriculture and Forestry
Nam	River
NBCA	National Biodiversity Conservation Area (protected areas created by GOL Decree)
NGO	Non-governmental Organization
NNT-NBCA	Nakai-Nam Theun National Biodiversity Conservation Area (a portion of the NT2 Project, most of which is in the water catchment area of the project reservoir) which was created in 1993
NPA	National Protected Area, the name now being used for the NNT-NBCA
NT2	Nam Theun 2 Hydro-electric Project
NTEC	Nam Theun 2 Electricity Consortium
NTFP	Non Timber Forest Products
NTPC	Nam Theun 2 Power Company
NT2-WMPA	Nam Theun 2 Watershed Management and Protection Authority
Panel, POE	The International Environmental and Social Panel of Experts for the NT2
PHP	Phou Hin Poun NBCA
RAP	Resettlement Action Plan
RMU	Reservoir Management Unit
SIDA	Swedish International Development Agency
SDP	Social Development Plan
SEMFOP-1	Social and Environmental Framework and 1 <sup>st</sup> Operational Plan for the Watershed Management and Protection Authority
TA	Technical Assistance (position)
WB	World Bank
WMPA	Watershed Management and Conservation Authority
XBF	Xe Bang Fai