

# SIXTH IAG REPORT

## WORLD BANK'S HANDLING OF SOCIAL, ENVIRONMENTAL, GOVERNANCE AND FINANCIAL ISSUES IN THE NAM THEUN 2 HYDROPOWER PROJECT

Lao PDR

April 2006



# Table of Contents

## EXECUTIVE SUMMARY

1. INTRODUCTION.....	1
1.1 The road to project implementation.....	2
1.2 Meeting the NT2 challenge.....	5
2. IMPLEMENTATION ISSUES AND CONCERNS.....	7
2.1 The project's financial arrangements.....	7
2.2 The institutional landscape.....	9
2.2.1 Delayed resettlement.....	10
2.2.2 Delayed salvage logging operation.....	13
2.3 Extensive and intensive project monitoring.....	14
2.4 Capacity and capability gap.....	15
2.5 Sustainability of livelihood programs.....	16
2.5.1 Resettlement areas.....	16
2.5.2 Downstream areas.....	17
2.6 Undefined role of women.....	19
2.7 Communication.....	20
3. THE WATERSHED MANAGEMENT AND PROTECTION AUTHORITY: NT2 AND BEYOND.....	20
4. THE CRITICAL ROLE OF THE WORLD BANK OFFICE IN VIENTIANE.....	22
5. NT2 HYDROPOWER PROJECT AS ENGINE OF GROWTH.....	23
SUMMARY OF RECOMMENDATIONS.....	26
ACKNOWLEDGEMENTS.....	29
ACCRONYMS	
SCHEDULE OF 6 <sup>TH</sup> MISSION ACTIVITIES	

## **EXECUTIVE SUMMARY**

The Nam Theun 2 (NT2) Hydropower Project is the largest foreign investment in Lao PDR. The total project cost is US\$1.2 billion and is expected to provide Lao PDR with up to US\$150 million in additional annual revenue. The project is geared primarily to alleviate poverty in a country where the average income level is less than a dollar a day and to conserve the valuable biodiversity, which is claimed to be one of the richest in Southeast Asia.

The International Advisory Group (IAG), which was established in 1997 to advise the World Bank on its handling of the social and environmental issues during the preparation period, has expanded further its oversight functions to include observations about overall progress in implementation, commissioning and operation of the NT2 Project and in the achievement of poverty alleviation and development of Lao PDR on the national and local level. Based on its findings, the IAG gives advise to the World Bank, (WB), the Government of Lao PDR (GoL) and the Nam Theun 2 Power Company (NTPC).

Full-scale construction activities followed after the financial close on 15 June 2005. Prior to this milestone, the IAG has conducted 5 (five) review missions from 1997 to 2005. The first IAG mission after the official commencement of the project was conducted from January 25 to February 4, 2005, wherein the focus was more on the project's financial and management structure, construction work, activities in the Nakai plateau in preparation for its inundation in 2008 and the implementation of the social and environmental plans. The commercial operation of NT2 will be in December 2009.

### **1. The Project's Financial Arrangements**

NT2 is owned by the Nam Theun 2 Power Company (NTPC) that will build-operate-transfer the project free of cost to the Government of Lao (GoL) at the end of a 25-year operation period. NTPC is one of the largest internationally financed independent power producers in Southeast Asia since the 1997 financial crisis. The main shareholders are:

- EDF International, a subsidiary of Electricite de France (35%);
- Lao Holding State Enterprise (LHSE) owned by GoL (25%);
- Electricity Generating Public Company Limited (EGCO) of Thailand (25%);
- Italian-Thai Development Public Company Ltd (ITD) of Thailand (15%).

The total capital cost is US\$ 1.58 billion of which total base project cost is US\$ 1.25 billion plus contingency and ancillary bonding facilities. Shareholders equity is on a pro-rata basis. The GoL's equity is financed by loans, grants and other financing from AFD, ADB, European Investment Bank and the World Bank.

The US\$ senior debt facilities include:

- Political risk guarantees from ADB, WB and MIGA
- Export credit agency support from COFACE of France, EKN of Sweden and GIEK of Norway
- Direct loans from ADB, Nordic Investment Bank, AFD, PROPARGO and Export-Import Bank of Thailand;
- Long terms loans to NTPC by nine international commercial banks (ANZ, BNP Paribas, BOTM, Calton, Fortis Bank, ING, KBC, SG and Standard Chartered); and seven Thai commercial banks (Bangkok Bank, Bank of Ayudhya, KASIKORNBANK, Krung Thai Bank, Siam City Bank, Siam Commercial Bank and Thai Military Bank).

### **Recommendations**

*The playing field in terms of financial experiences, strength and human capacity between the financial institutions and the GoL is not equal which put the GOL in a weak negotiating position vis a vis foreign financial institutions to obtain more advantageous concessions for the Lao people. With such a complex financial structure it is recommended that:*

- 1.) *The World Bank invites shareholders and debt facilitators to coordinate their respective tasks in a financial consortium arrangement in which the World Bank acts as:
 
  - a.) "a coordinating development agent" to synchronize IFI funding for national development of Lao with the NT2 Project;
  - b.) a "bridge" between the interests of foreign partners as "financial facilitators" and sovereignty demands of Lao domestic politics;*
- 2.) *The World Bank provides technical assistance in capacity building and human resource development of GoL, the Department of Finance in particular, in managing these financial arrangements with a specific time schedule to enable GoL to make maximum use of the NT2 Project.*

## 2. Implementation Responsibilities

### 2.1 Project Management

The project is implemented by NTPC within the framework of the Concession Agreement (CA) with GoL. Commercial lenders are contractually involved in the project via a series of financing agreements among the parties.

NTPC has full responsibility to construct on time the power generation facilities for its main customer, which is EGAT. For the timely completion of the scheme, NTPC has passed most of the responsibilities to EDF as the Head Construction Contractor on a fixed date and price turnkey basis.

The GoL and NTPC have a joint responsibility for the proper implementation of the Environment and Social Safeguards. In conjunction with the World Bank, ADB and ADF, an environmental and social safeguards program has been designed and funded as part of the project's budget and is focused on:

- The catchment area of which a large part is within the Nakai-Nam Theun National Protected Area;
- The resettlement area on the Nakai Plateau;
- The downstream areas and Xe Bang Fai plain.

The protected area is being managed by the Watershed Management Protection Authority (WMPA), which has gained significant accomplishments since it was formally created in 2005 under Prime Ministerial Decree 39 of 2005.

The external monitoring of NT2 is very comprehensive and is done by the following internationally recognized and independent panels:

- Lender's Engineer that reports to lender's group;
- International Advisory Group that reports to the World Bank;
- GoL Engineer that reports to Government of Lao;
- Dam Safety Review Panel that reports to GoL and the World Bank;
- Social and Environmental Panel of Experts that reports to GoL;
- Independent Monitoring Agencies that report to GoL.

From July-December 2005, external as well as internal monitoring has taken place practically every week and overburden the project officers and staff with requests for reports and meetings. These has taken away valuable time from their work, especially when the visits are conducted during the dry season when numerous work in the field are at their peak.

The results of these monitoring recommendations can be conflicting when each monitoring group concentrates on their respective responsible angle only and

loose sight on the holistic comprehensive picture as it is the case with salvage logging.

In spite, or perhaps because, of this over extensive and intensive monitoring the resettlement of group villages has been delayed at the risk that if and when the completion of the project does not meet the 2009 deadline, a penalty of US\$ 750,000 a day is to be charged to the contractors.

### **Recommendations**

1. *The Chief Executive Officer of NTPC and the Deputy Prime Minister of GoL are the final decision makers for this Project as stipulated in the Concession Agreement. **It is similarly pertinent that the World Bank assigns a full time manager with the full mandate to represent the World Bank Group in Vientiane that is directly responsible to the President of the World Bank in Washington DC USA.** (This model has been proven effective in the Indonesian case under President McNamara and in Chad case under President Wolfensohn); Together, they will constitute the NT2 Project Top Management (NT2-TM).*
2. *Under the NT2-TM, a full time Chief Executive Officer is assigned to coordinate the inter-agency organization and to report directly and regularly to NT2-TM on common issues that require close coordination. In this context a credible Laotian personality with vast experiences on the NT2 Project implementation and preferably with close connection to the GoL should be designated by the NT2-TM.*
3. *The decision making process needs to be simplified, specifying which can be acted upon by the CEO and which can be decided collectively by the NT2 Project Top Management (NTPC-GoL-WB). The bundling of these forces and the harmonization of efforts are key in narrowing the expectations gap and increases the credibility of the respective institutions*
4. *NTPC, GoL and the World Bank need to agree on a structured and programmed external and internal monitoring plan that minimizes monthly (dry season) visits to allow the NT2 management team to concentrate fully on their work. The final decisions on the implementation of the recommendations by the monitoring groups rest on the shoulders of NTPC and GoL in accordance with the Concessions Agreement.*

## **2.2 The World Bank's Team in Vientiane**

With NT2 now in full implementation, the theater of action is in Vientiane. While the WB has decentralized its operation, the structure remains complex to ensure check and balance and due diligence in all aspects of the work. Everyone is pre-occupied to deliver his best and make the best decision. Given that the project time frame is very tight and expectation for the project outcome is very high, the WB management faced the challenge of striking a balance between delivering timely and high quality outcomes and ensuring transparency.

### ***Recommendations***

- 1. A unified project management structure for NT2 should be set up in Vientiane designed primarily for implementation work. The Washington DC office should have good oversight of what is happening in the project but in this stage of implementation, it should delegate decision to the country office within the framework of the agreed safeguards. This will empower the country office and will make it more credible in the eyes of GoL and NTPC.*
- 2. It is necessary to deepen decentralization in a more meaningful manner by empowering the staff in the field. Within the bounds of existing policies, the bank staff working on NT2 should be given certain room of comfort to make quick decision on the field to expedite actions. The frequency of reporting should be reduced to give them enough space to work instead of a very heavy oversight role currently in place.*

## **2.3 Urgent Issues to be resolved:**

### **Salvage logging operation**

This activity should have started in November 2005 but was delayed primarily due to: (1) differences in the data of the World Bank and the GoL on the estimated volume of logs to be salvaged and (2) the objection of the NTPC to the use of the construction road by the logging trucks since it will delay their schedule and pose greater risk to safety, health and environment. Likewise, it will add up to their repair and maintenance cost. In order to catch up with the salvage logging operations, the GoL would like to construct a 7km road down the plateau and connect it to the Ho Chi Mihn (HCM) Trail. At the time of the mission, there is no concrete decision yet on the road to be used for salvage logging operation.

### **Recommendation**

*Regardless of the difference in the data on the volume of logs, salvage logging operation should start immediately and this necessitates the use of the Ho Chi Mihn trail with the following conditions:*

- *The GoL should guarantee the closure of the road once salvage logging is finished.*
- *NTPC should guarantee that there is no delay on the resettlement from north to south as a result of logging.*
- *WMPA checkpoints should be set up in strategic places.*
- *External independent monitoring preferably by the villagers themselves should be required during the salvage-logging period.*

### **Village resettlement and organizational structure of the Resettlement Committee**

The overall responsibility for social and resettlement components is in the hands of the Deputy Prime Minister that oversees the Resettlement Committee which coordinates with the NTPC Resettlement Office (RO) and manages through hierarchical link the GoL Resettlement Management Unit (RMU). The latter oversees the programs of the provinces of Khammouane, Bolikhamxai and Savannakhet through the District Working Group, which works with the Village Compensation Committees.

Infrastructure construction, livelihood development, Xe Bang Fai Monitoring and Compensation are managed by the NTPC-RO.

GoL's RMU suffers lack of funds, technical skills and office facilities. NTPC-RO controls the funds and is seriously concerned with meeting the resettlement deadline within a limited dry season time frame. The 2005 resettlement program has been delayed because of wet weather, delays in UXO clearance and resettlement of the Group 1 Villages.

It is on the social and environmental side that the speed of development lags behind the construction activities because of its complexity to deal with people and nature. The resettlement of Group 1 Villages, particular Sop Hia and Nam Nian must catch up to face the risk once the coffer dam is closed in June 2006.

### **Recommendations**

1. *It is necessary that NTPC and GoL agree on a time bound annual plan in which:*

- *the first two years is devoted to assure the completion of the resettlement program so as not to delay the completion of the project and therefore avoid paying the penalty of US\$ 750,000 per day of delay;*
  - *during these two years, GoL-RMU personnel are trained by NTPC and those that have passed the tests shall gradually take over the function of NTPC-RO with similar remunerations and facilities;*
  - *in the third year NTPC-RO is merged with GoL-RMU who is then responsible for the completion of the resettlement program with a fixed time schedule.*
2. *NTPC should **involve a social scientist, preferably from Lao** to complement the efforts since **resettlement with development** (the battlecry of the NT2 resettlement program) is not just the physical movement of people and the provision of livelihood opportunities but also involves the **emotional preparation of the resettlers**.*

***The World Bank Country Manager in Vientiane is asked to stimulate this effort.***

### **3. NT2 Project as Engine of Growth**

#### **3.1 Opportunities for local industries**

The project is a multi-sector and multi-purpose venture for the benefit of the whole Lao people. It is at the **center** of the GoL's **National Program for Growth and Poverty Eradication** and can be a powerful engine of Lao's domestic growth through its buying power for equipment, material, etc., some of which are available locally like cement, steel wire, electric wire, paints and wood products.

#### ***Recommendation***

*The World Bank should put in place “a margin of preference of 15%” allowing domestic producers to bid 15% higher than the prevailing international bidding for domestically produced material and goods required for the NT2 Project, with a provision that the “winning factories” are to be engaged in a “productivity increase program” under the technical assistance program promoted by NTPC-GoL-WB in cooperation with international institutions and other countries.*

### 3.2 Capacity and capability gap

Local expertise is very limited in terms of the professional and skilled manpower needs of the project. Hired laborers from Thailand are preferred by NTPC because of their advanced skills. The GoL has limited number of project counterpart staff and some are not assigned full time to their respective units within the NT2 Project set-up, whereas the counterpart staff in NTPC, both foreign and local have the edge in terms of experience and qualification. Their obligation is merely to the NT2 project unlike the GoL staff who have to do other duties within their mother units.

The role of women is not well-defined although at the district and village level women are very active in their own right such as running micro-credit facilities in the villages. Generally, gender equality is not given much concern in the project.

#### **Recommendations**

1. *A comprehensive capacity building program should be put in place, which is also geared to prepare the GoL and the Lao people for the eventual ownership and operation of NT2.*
2. *The World Bank staff engaged in NT2 can play a facilitative and mentoring role. They should assist the GoL in the development of a comprehensive education program from the elementary up to the university level and strengthen the university teaching staff and top students through scholarships abroad to obtain Ph.D. in relevant science and technology courses with the obligation to serve in the country.*
3. *A cooperative arrangement with women organization in Asia should be explored by NTPC-GoL-WB to raise capacity building of women, especially in villages around the watershed and the NT2 National Biodiversity Conservation area and to engage them actively in raising their income while doing conservation work.*
4. *The World Bank should take initiative to enable Grameen leaders from Bangladesh and experts on renewable energy to develop a “Show How Program” in the NT2 Project area (including Xe Bang Fai). Building capacities in these fields throughout the country may reduce also the development gap between NT2 Project affected area and other provinces.*
5. *A “Show-How” technical assistance program in fisheries, animal husbandry, permanent rice cultivation in pilot resettlement areas and down stream Xe Bang Fai should be programmed by NTPC-GoL-WB.*

6. *Crucial is the principle of people's participation in raising livelihood and protecting the environment as the main driving force of making NT2 Project the engine of growth to reach the Millennium Development Goals **for the Lao people and by the Lao people.***

## **6<sup>th</sup> IAG MISSION REPORT**

### **NAM THEUN 2 HYDROPOWER PROJECT**

**January 24 – February 5, 2006**

#### **1. INTRODUCTION**

1. The International Advisory Group (IAG) for the Nam Theun 2 Hydropower Project (or simply NT2) was convened in 1997 by the World Bank (WB) to give an independent assessment on its handling of the environmental and social issues in the then proposed NT2 project and to provide an assessment of risks to the WB posed by its involvement in the project. The five pioneering members were: Dick de Zeeuw (Deputy Chairman of Netherlands Commission for Environmental Impact Assessment in Utrecht), Emil Salim (former Minister of Environment in Indonesia), David McDowell (Director General of IUCN), Meg Taylor (former Ambassador from Papua New Guinea) and Kazuo Takahashi (Director of the International Development Research Institute, Foundation for Advanced Studies in International Development).
2. NT2 triggers the ten environmental and social safeguards policies of the WB. Thus it is inherent on the IAG's mandate to provide advice on compliance with these safeguards and recommends policies, which the WB may consider in the performance of its designated roles in the project. This is very crucial considering the criticisms that the World Bank has received and still continues to receive from non-government organizations (NGOs) on the environmental and social damages brought about by the big dam projects it supported in the past.
3. The IAG takes into account the role and performance of other entities, which may affect the WB's delivery of its tasks or vice versa. Thus, aside from formally advising the WB, it also advises the Government of Lao (GoL) and the Nam Theun 2 Power Company (NTPC). The IAG reports directly to the President of the World Bank Group and has submitted, since its creation in 1997, five (5) mission reports. It is the IAG's modest belief that the recommendations contained therein provided guidance on the policy and operational levels. The IAG also takes cognizance of the very important role of the Panel of Experts (POE) whose findings, recommendations and advice has guided the GoL from the preparation to the implementation phase of NT2. With the commencement of the full implementation of NT2 in the middle of 2005, the World Bank is now on the process of expanding the IAG membership to include experts in Revenue Management and Public Participation and Community Development. The IAG will continue to conduct field visits and issue reports based on their oversight missions.

## 1.1 The road to project implementation

4. As early as the First Mission Report in 1997, the IAG had already spelled out the **fundamental role of the WB in NT2**, namely: a **coordinating role** in capacity building and achieving cross-sectoral coherence and a **helping role** in assisting the GoL address its debt burdens and in seeking additional resources for financing poverty alleviation and conserving the valuable biodiversity of the country. With these challenging and complex roles, the WB was forewarned to gear up for the long haul.
5. Due diligence by the WB staff in handling the environmental and social issues were given due recognition with a call for more consolidated and coherent development plan for the watershed based on the following observations: shortcomings on overall coordination, especially cross-sectoral, environmental management and capacity building, involvement of NGOs and awareness-raising among the project affected persons (PAPs). The preparation of a coherent action plan for livelihood improvement of the PAPs in the primary impact zones (watershed area, Nakai plateau, Gnommalath plain) and in the downstream areas of the Xe Bang Fai basin and Savannakhet plain was also raised. Of immediate concern was for the WB staff to quickly pull together a somewhat fragmented process on the social side by integrating closely the several parallel exercises, since each of them impacts on the others.
6. The second IAG mission occurred in November 1998 at the height of the Asian financial crisis that started in the latter part of 1997. Monetary and fiscal management in Lao PDR broke down due to heavy borrowing from the central bank for large irrigation investments that brought triple digit inflation and deep exchange rate depreciation of domestic currency. Under these circumstances the World Bank did not commit themselves to participate in NT2 unless a stabilization program to tighten monetary and fiscal policies is implemented. In the same light, the GoL and Thailand agreed to delay the development of the project. With this scenario, the IAG expressed its apprehension that if the project were not to proceed, it is likely that Laos economy will languish indefinitely, the opportunity to make a dent on poverty will decline, pressures to go on logging unsustainably will grow and the country's globally important biodiversity heritage in the project area will be irretrievably damaged. In conclusion of their second mission report in December 1998, the IAG viewed NT2 as an attempt on the ground to try to establish new approaches to mitigating environmental and social impacts of building dams. It is also an experiment in a tripartite collaboration among the government of a small developing country, international private sector and inter-governmental organizations. On the final analysis, the IAG pointed out that the stakes in NT2 are high and this fact should be considered as both an argument for caution and as an argument for proceeding to appraisal.
7. By the time of the 3rd mission in 2001, the GoL has made substantial progress in stabilizing its economy. Growth has averaged 6% per annum (1991-2003) and

incidence of poverty is reduced from 46% (1992) to 33% (2003). Inflation has dropped to single digit. Likewise, the needed preparatory plans from the project developers and GoL, including the plan to mitigate the negative environmental and social impacts from the project had taken shape. With these encouraging results, the WB resumed the discussion to join in the NT2 project. The IAG expressed its strong recommendation to the WB for the project to reach the appraisal stage in the very near future, citing its adherence to the guidelines and standards set forth by the World Commission on Dams (WCD). Another consideration is the brewing impatience on the part of the people because of the delays in the final approval and implementation of the project. Thus, the IAG took the initiative of expressing the sentiments of the Lao people to the Vice President of the World Bank, Mr. Jemal-ud-din Kassum and advocated for the setting and promulgation of a time-table for decision making. Succeeding milestones were the signing of the Shareholder Agreement in September 2001, the creation of the Nam Theun 2 Power Company or NTPC under the laws of Lao PDR in September 2002, and the signing of the Concession Agreement in October 2002.

8. By the time of the 4th IAG mission in February 2004, the WB's philosophy shifted towards a greater emphasis on poverty alleviation. The GoL then pursued its priorities with emphasis on growth and poverty reduction. The fourth and fifth mission reports (March 2004 and February 2005, respectively) focused on the credibility and expectations gap that emerged and likely to emerge as a result of the delays in delivering the output expected by the affected villagers from NTPC and GoL, as well as unmet expectations among the NTPC, the GoL and the World Bank. The IAG forewarned these institutions that **the risk of one agency going slower than the others will grow once financial closure occurs and full implementation sets in.** While waiting for the approval from the World Bank Group's Board of Directors to provide the needed financial support to NT2, the IAG saw it fit to identify preparatory measures that must be done in the interim to ameliorate these gaps at the watershed (protection of the biological integrity), the plateau (resettlement and livelihood) and the downstream areas of the Xe Bang Fai (more comprehensive impact assessment and a more focused approach on the development of livelihood opportunities from the use of the turbinated water).
9. The IAGs final assessment of NT2 prior to the WB's final decision were as follows:
  - The NT2 Hydropower Project represents the most promising development package for Laos at this stage in its evolution. The net environmental, economic and social benefits substantially outweigh the downside costs.
  - NT2 will contribute to the Gross Domestic Product (GDP) of Laos by a cumulative total of 3.2% over the 25 year concession period. As the project is 75% privately owned, its construction will only marginally affect the national public debt service ratio. The contractual arrangements

minimize the GOL's exposure to the risks associated with cost overruns, delays and contractor claims.

- The net revenues will significantly contribute to Lao PDR's economic growth.
- The component of the power generated that will be distributed locally will bring significant development advantages to the central provinces of the country. It will in turn, stimulate economic growth in this part of the country.
- All impacted communities will benefit in several ways from the project. This will include new villages, new houses, all-weather roads, clean water supply, irrigation schemes, improved education, health and other community facilities. In addition, livelihood schemes will improve income-earning capacities and education and vocational training will open up new opportunities to both youth and adult.
- A range of measures will, wherever possible, directly mitigate environmental impacts. There will be irreparable losses of land and habitats to the reservoir and other features. But these losses will be more than offset by the financial and technical assistance for the management of the 4,000 km<sup>2</sup> Nakai-Nam Theun National Biodiversity Conservation Area (NNT NBCA), which is one of the few remaining centers of biodiversity in Southeast Asia. The watershed already suffers from over-exploitation of wildlife and natural resources. The improved management will reduce hunting, encourage alternatives to shifting cultivation and introduce management programs for endangered wildlife species. As stated in the NT2's Environmental Assessment and Management Plan (EAMP), the project will contribute a total of US\$31.5 million to the management and conservation of the NNT NBCA, contributing in this way to the conservation of internationally important biodiversity.
- It is intended that everyone affected by the project will be better off than before the project. The resettlement program will relocate most villages within a short distance of their original location. All villages will remain in their traditional natural and cultural environment in the Nakai Plateau.

10. The IAG expressed its view that the array of plans conform broadly with the requirements of the World Bank's safeguard policies and in some respects are more advanced than the existing ones. Three safeguards documents were produced, namely the Environmental and Assessment Plan (EAMP), the Social Development Plan (SDP) and the Social and Environmental Framework of Operations (SEMFOP). Their effective implementation will be a crucial factor in helping ensure that the poor of Laos is the final beneficiary of the project. To the credit of the GoL, NTPC and WB, NT2 has evolved from a mere hydropower

project to a multi-sectoral project of multiple benefits to the Lao people. Because of its strategic geography, **Laos is abundant in water resource, such that it is fitting to consider water as the oil of Laos.** Added to this natural wealth is the distinctly rich biodiversity in large areas of the country. With special reference to NT2, the conservation of biodiversity in the watershed is the key offset to the inundation of the Nakai plateau. With the painstaking and diligent preparation since the Mekong Secretariat identified the hydropower potential of the Nam Theun River in the 1970s, a shift from planning and safety net construction to implementation is warranted. In so far as the WB is concerned, the IAG recommended for a shift in focus from Washington DC, Paris, Manila and Vientiane to Thakek and Nakai.

11. On 31 March 2005, the World Bank's Board of Directors approved the Nam Theun 2 Hydroelectric Project. Financial closure occurred on 15 June 2005, which allowed the NTPC to move into full scale construction activities. The cornerstone laying was done on 27 November 2005 in Nakai District.

## **1.2 Meeting the NT2 Challenge**

12. NT2 has the distinction of having a number of "firsts":
- Largest ever foreign investment in Lao PDR geared towards poverty alleviation and biodiversity conservation;
  - The world's largest private sector cross-border power project financing;
  - The largest private sector hydroelectric project financing;
  - One of the largest internationally financed independent power producer in Southeast Asia since the 1997 financial crisis.

**NT2 has evolved into a flagship project of the GoL and an engine for growth and development of Lao and its people.**

13. A lot of things are at stake including the reputation of the World Bank in supporting a dam project in the midst of a world-class biodiversity reserve in Southeast Asia and the criticisms of the NGO community (regional and international) in supporting this type of development project. The latter stems from the record failure in addressing the social concerns especially when a significant number of resident population in the affected area needs to be resettled. The NTPC is answerable to its shareholders with the challenging task of ensuring that all the goods are delivered in 2009 in time for operation and generation of revenues. The GoL has the biggest stake in the project, it is answerable to the Lao people including the future generation, to deliver the promised socio-economic and environmental benefits from NT2.
14. The gap between the promised benefits of a dam and the actual outcomes is one of the biggest issues raised by the World Commission on Dams. This could be

considered as the biggest challenge in NT2 project implementation since it involves, first and foremost, the people. This is where trust and confidence are built among the project implementers, the funding institutions and the project affected persons. The narrower the gap, the more successful the project becomes and vice versa.

15. Eight months since the official implementation of NT2, the IAG, now consisting only of two members, Dick de Zeeuw (convenor) and Emil Salim (member) embarked on its 6th mission from January 24 to February 5, 2006 primarily to perform its first oversight function during full construction activities since the financial close in June 2005. Technical assistance was provided by Adelina C. Santos-Borja.
16. The IAG expressed its reservations on the effective implementation of the plans which seemed to be shared by Mr. James D. Wolfenson, the immediate past president of the World Bank, when he stated: "*The project was quite complex and would pose some serious implementation challenges to the Government of Lao PDR, the private sector developers, and the other supporters, including the World Bank.*" In this context, the IAG focused on the issues related to construction works, activities in the Nakai plateau in preparation for its inundation and on how the impressive social and environmental plans are being implemented. A more "on the ground" activities were undertaken within the first week of the mission, while the second week was devoted to meetings with different government, inter-government and non-government institutions in Vientiane of which the agenda were drawn up from the information gathered in the field.
17. The first activity was the meeting held on 25 January at the Provincial Government building in Thakek. In attendance were the IAG, POE, representatives from the World Bank, the Government of Lao (GoL) and NTPC executives and key staff. The Minister of Industry and Handicraft, HE Onneua Phommanchan, led the GOL delegation consisting of key officials from the Ministry, Provincial and District Governors and Deputy Governors and local officials.
18. Minister Onneua reported on the GoL's accomplishments since the last mission of the IAG and POE in 2005, while the local officials of the Provinces of Khammouane, Bolikhamsay and Savannakhet gave more detailed updates on activities in the field, the constraints they encountered and the issues and concerns that cropped up in the course of doing their assigned tasks. The NTPC likewise gave a report on the status of construction and resettlement activities and the accompanying constraints, issues and concerns. The seriousness of both parties in adhering to the time schedule and in meeting the set deadlines were admirable such that recommendations to overcome the constraints were brought out for the attention of the IAG, POE and the World Bank. The information gathered from this meeting was the basis for finalizing the mission

schedule in terms of site visits, consultations and focused meetings with the villagers, resettlers, GoL at the national, provincial, district and village levels, NTPC and their head contractor, the executives of pertinent local, national and international agencies.

19. The activities included site visits, interviews and meetings with people in the affected villages, the GoL and NTPC. The interaction of the IAG with the villagers and the local officials (provincial, district and village heads) in Khammouane and Bolikhamsay provided the necessary details that substantiate the agenda of the meetings held with the Ministers, Deputy Ministers and officials in the different government agencies based in Vientiane as well as with the high ranking officials of the World Bank and ADB, and the CEO and key officials of NTPC.
20. Particular concerns were on coordination, communication, capacity building, and participation among the different stakeholders, namely the Lao people, GoL, NTPC and WB. Inherent with these are the decision-making process, delineation of responsibilities and accountability among these key entities and the level of integration and synchronization of their respective activities, all of which are indicators of good governance. The IAG, with its current limitation in terms of membership, did not pursue intensively the revenue management aspect of the NT2 project, which is an important key in achieving its objectives on poverty alleviation and development of the Lao economy. This will be tackled more intensively in the next mission with the inclusion of a Revenue Management Advisor in the IAG.

## **2. IMPLEMENTATION ISSUES AND CONCERNS**

### **2.1 The Project's financial arrangements**

21. The hydropower power project is owned by NTPC that will build-operate-transfer the project free of cost to the Government of Lao at the end of a 25-year operation period. NTPC's shareholders, that contribute equity on a pro-rata basis are:
  - EDF International, a subsidiary of Electricite de France (35%);
  - Lao Holding State Enterprise (LHSE) owned by GoL (25%);
  - Electricity Generating Public Company Limited (EGCO) of Thailand (25%);
  - Italian-Thai Development Public Company Ltd (ITD) of Thailand (15%).

Total capital cost is US\$ 1.58 billion of which the total base project cost is US\$ 1.25 billion plus contingency and ancillary bonding facilities.

22. The equity of Lao through LHSE is financed by loans, grants and other financing from the Agence Francaise de Development (AFD), the Asian Development Bank (ADB), the European Investment Bank (EIB) and the World Bank (WB). The US\$ senior debt facilities include:
- Political risk guarantees from ADB, WB and MIGA
  - Export credit agency support from COFACE of France, EKN of Sweden and GIEK of Norway
  - Direct loans from ADB, Nordic Investment Bank, AFD, PROPARCO and Export-Import Bank of Thailand
  - Long terms loans to NTPC by nine international commercial banks ( ANZ, BNP Paribas, BOTM, Calton, Fortis Bank, ING, KBC, SG and Standard Chartered) and seven Thai commercial banks (Bangkok Bank, Bank of Ayudhya, KASIKORNBANK, Krung Thai Bank, Siam City Bank, Siam Commercial Bank and Thai Military Bank)
23. The playing field in terms of financial experiences, strength and human capacity between the financial institutions and the GoL is not equal which put the GOL in a weak negotiating position vis a vis foreign financial institutions to obtain more advantageous concessions for the Lao people.

### ***Recommendations***

24. *With such a complex financial structure it is recommended that:*
- i) *The World Bank invites shareholders and debt facilitators to coordinate their respective tasks in a financial consortium arrangement in which the World Bank acts as:*
    - a. *“Coordinating development agent” to synchronize IFI funding for national development of Lao with the NT2 Project;*
    - b. *to serve as a “bridge” between the interests of foreign partners as “financial facilitators” and sovereignty demands of Lao domestic politics;*
  - ii) *The World Bank provide technical assistance in capacity building and human resource development of GoL, the Department of Finance in particular, in managing these financial arrangements with a specific time schedule to enable GoL to make maximum use of the NT2 Project.*

## 2.2 The institutional landscape

25. The major organizations whose roles are very crucial in the implementation of the project are: the GoL (from the national to the village level), NTPC (in behalf of its shareholders) and the WB (in behalf of the other IFIs). The GoL and NTPC are covered by the Concession Agreement signed on 3 October 2002 in terms of project ownership, construction, resettlement activities and compliance to the environmental and social safeguards policies and directives of the WB. The WB provided the necessary funds to implement mitigating measures on the negative impacts to the environment and the people through the Nam Theun Social and Environment Project (NTSEP). Thus, where there is NTSEP, there is WB and this calls for the involvement of the staff in monitoring activities assigned to NTPC and the GoL at almost every step of the way to ensure compliance to the safeguards requirements.
26. NTPC has a full responsibility vis-à-vis its main customer EGAT for the construction on time of the power generation facilities. For the timely completion of the scheme, NTPC has passed most of the responsibilities to EDF through the Head Construction Contractor (HCC) on a fixed date and fixed price turnkey basis.
27. While the key players generally share the same objectives in so far as NT2 is concerned, each has its own stake and program of activities to perform its mandate, each has a schedule to follow and each is covered by their respective internal rules and regulations.
28. Among the organizations, it is only NTPC that has a focused set of manpower for the project, i.e., from the Chief Executive Officer (CEO) in Vientiane down to the office in Nakai District. Final decision-making rests on the shoulders of the CEO. The GoL set-up involves different ministries and officials from the national to the village levels, which aside from their assigned tasks in NT2, has other duties and responsibilities in their mother units. Likewise, because of manpower limitation, the GoL cannot provide a full staff complement to the project. The decision making process involves a lot of the Government Executives in Vientiane. Much as there is a high level of commitment to the project from the GoL, the decision making process involves different high ranking officials such that arriving at a concrete decision is a big challenge and takes a lot of time. Similarly with the World Bank, a country office was set up in Vientiane, with the main office in Washington DC and the regional office in Bangkok exercising management function and technical support from experts in different disciplines. The decision making process also involves a lot of senior executives in the organization.
29. The current institutional arrangements presented broadly above have resulted to unsynchronized activities, which in turn have great implications on the way the

project is now being implemented. In particular are the delays in resettlement and salvage logging which were the two most serious implementation issues that surfaced during the mission.

### 2.2.1 Delayed resettlement

30. From the meeting in Thakek and the site visits where the IAG interacted with the PAPs in their respective villages, the warning issued by the IAG in their first mission in 1997 that the **“the risk of one agency going slower than the others will grow once financial closure occurs and full implementation sets in”** has now materialized. **Construction, resettlement and salvage logging activities occur at different speed.** The NTPC is directly in charge of construction, NTPC and GoL are the direct implementers of the resettlement and social development measures and the GoL is directly responsible for salvaging logging operations.
31. Civil works and earthmoving activities and physical construction are progressing as planned. The HCC holds office in the Residence Nam Theun, which also consist of housing units complete with basic amenities for the employees. There are however delays in some of the construction work. The contractor has come out with a catch up plan to avoid the penalty of US\$750,000 per day of delay in the scheduled completion of the project in 2009. At the current speed of construction, the inundation of the plateau will go on as scheduled starting from May to December 2008. A striking observation in the construction site is the ever-persistent cloud of dust due to busy traffic.
32. In 2004, the IAG made a brave forecast that resettlement may well prove to be one of the most successful aspects of NT2. At the rate things are going on the ground, this forecast is now being challenged. The NTPC and the GoL have jointly agreed to adhere with the social safeguards requirements of the both the World Bank and the Asian Development Bank. Institutional arrangements specific to this concern has been set up. The overall responsibility for social and resettlement components is in the hands of the Deputy Prime Minister that oversee the Resettlement Committee which coordinates with the NTPC Resettlement Office (RO) and manages through hierarchical link the GoL Resettlement Management Unit (RMU). The latter oversees the programs of the provinces of Khammouane, Bolikhamxai and Savannakhet through the District Working Group, which works with the Village Compensation Committees. Infrastructure construction, livelihood development, Xe Bang Fai Monitoring and Compensation is managed by the *NTPC-RO who also controls the budget.*
33. GoL's RMU suffers lack of funds, technical skills and office facilities. NTPC-RO controls the funds and is seriously concerned with meeting the resettlement deadline within a limited dry season time frame. **It is on the social and environmental side that the speed of development lags behind the construction activities, because of its complexity to deal with people and**

**nature.** Resettlement of the Group 1 villages, particularly Sop Hia and Nam Nian is scheduled in November 2005 but was delayed due to a number of reasons: (a) bad weather conditions in the last rainy season, (b) the stringent procurement requirements of the WB for the housing contractors and (c) the slow pace of Unexploded Ordinance (UXO) clearance. The latter requires skilled personnel, which are limited in number. However, the NTPC gave assurance that should there be flooding as a result of the closure of the coffer dam in June 2006, the affected villages will be compensated and their houses will be temporarily relocated to some higher parts of the village. Another key factor is the dependence of the RMU on NTPC for fund disbursement.

### **Recommendations**

#### **i) Streamline the NT2 Team**

34. *The complex setup of the key players necessitated the IAG to look into the institutions and people both horizontally and vertically. Each one is so focused on its own concern to meet the deadline. No one oversees how all the activities are going on to find out which is lagging behind or which is moving faster or which activity is dependent on other's input before it can proceed, and do some fine tuning or adjustments for a synchronized work. Likened to an orchestra, there should be a conductor so the musicians can play beautiful music together.*
35. *The Chief Executive Officer of NTPC and the Deputy Prime Minister of GoL are the final decision makers for NT2 as stipulated in the Concession Agreement. It is similarly pertinent that the World Bank assigns a full time manager with the full mandate to represent the World Bank Group in Vientiane that is directly responsible to the President of the World Bank. (This model has been proven effective in the Indonesian case under President McNamara and in Chad case under President Wolfensohn). Together, they will constitute the NT2 Project Top Management (NT2-TM).*
36. *Under the NT2-TM, a full time Chief Executive Officer (CEO) should be assigned to coordinate the inter-agency organization and to report directly and regularly to the NT2-PTM on common issues that require close coordination. In this context a credible Laotian personality with vast experiences on NT2 Project implementation and preferably with close connection to the GoL should be designated by the NT2.*
37. *The decision making process needs to be streamlined, specifying which can be acted upon by the CEO and which can be decided collectively by the NT2-TM (NTPC-GoL-WB). The bundling of these forces and the harmonization of efforts are key in narrowing the expectations gap and increase the credibility of the respective institutions.*

38. *There exist a very limited manpower complement from all levels of the GoL to the NT2 Project Team. Most of the assigned personnel are also doing other work in their mother units in the government. The divided attention, over-stretched responsibilities and lower compensation compared to the counterpart staff in NTPC can affect the quality of their work. This needs to be remedied by choosing a few of the best and dedicated personnel specifically for NT2, free them of their other responsibilities, and provide the necessary “on the job” training as incentives for career advancement.*
39. *With particular reference to the Resettlement Committee, the lack of full time personnel from the GoL necessitated the Resettlement Office of NTPC to counter-balance the deficiency until the Resettlement Management Unit of the GoL is fully staffed and functioning. This set up should not exist long since it might create disharmony between the two units. The RMU might feel that their role is ignored and thus, will not be inspired to do the job. It is worth considering to integrate the RO and the RMU into one unit for a more centralized action both in coming out with policies and decisions. Because of the initial lack of capacity and experience by the Lao on resettlement, the World Bank, with its vast experience on relocation, can play a facilitative and mentoring role. However, in terms of interacting directly with the resettlers to know their needs and check their conditions, the GoL counterpart in the district and village levels are in a better position to handle the work. The **involvement of a social scientist**, preferably from Lao, will complement the efforts since resettlement with development (the battlecry of the NT2 resettlement program) is not just the physical movement of people and the provision of livelihood opportunities but also involves the **emotional preparation of the resettlers**.*
40. *In similar manner and for the same purpose, the integration of the Environmental Management Office of NTPC and the Environmental Management Unit of the GoL is also recommended. By working together, with guidance from the World Bank whenever necessary, manpower and financial resources are maximized and in the process, the capacity of the Lao people assigned in the EMU is built. Further restructuring maybe done once the desired capacity and number of staff are reached.*

**ii) Prepare and agree on a time-bounded plan for resettlement**

41. *It is necessary that NTPC and GoL agree on a time-bounded annual plan in which:*
- a. *the first two years is devoted to assure the completion of the resettlement program so as not to delay the completion of the project and therefore avoid paying the penalty of US\$ 750,000 per day of delay;*

- b. *during these two years, GoL-RMU personnel are trained by NTPC and those that have passed the tests shall gradually take over the function of NTPC-RO with similar remunerations and facilities;*
- c. *in the third year NTPC-RO is merged with GoL-RMU who is then responsible for the completion of the resettlement program with a fixed time schedule.*

**42. The World Bank Country Manager in Vientiane is asked to stimulate this effort.**

**2.2.2 Delayed salvage logging operation**

- 43. This issue was one of the most contentious during the mission. NTPC does not want to share the project road since it will delay their construction schedule and pose greater risk to safety, health and environment. Likewise, it will add up to the repair and maintenance cost. On the other hand, the GoL would like to start salvage logging activities since the logs will bring in revenue to the government. The operation should have started in November 2005 with a target removal of 300,000 m<sup>3</sup> of logs and end in 2008 before the inundation of the plateau.
- 44. There is serious apprehension on the part of the GoL that since the inundation of the plateau is not contingent to the clearing of the area, their very important source of revenue might just be put under water if they did not meet their schedule. Another serious concern is the negative impact on the water quality of the reservoir by the left-over biomass which would result to the accumulation of organic matter at the bottom. Two options were presented, Option 1 is the construction of an approximately 50 km new road east of the plateau with access from Ban Nam Niam to Nam Malou and Option 2 is the construction of a 7 km road down the plateau and into the Ho Chi Mihn (HCM) trail. The latter has been closed for so many years and would need rehabilitation work to support the trucks that will haul the salvaged logs. Between the two, the GoL wants Option 2 for two reasons, short preparation and rehabilitation work, less road construction expenses and faster transport of logs. The main criticism for using the HCM trail is the big threat to the NBCA since the road is within the periphery. It will open access to the reserve and open the opportunities for poaching and illegal logging.
- 45. There is also a disparity on the data of the GoL and the World Bank on the volume of logs to be salvaged. While the GoL-commissioned study came out with 700,000 m<sup>3</sup> of mixed wood stock, the World Bank expert did another study and came out only with about 200,000 m<sup>3</sup> with a recommendation to pilot the removal of 15,000 m<sup>3</sup> for this year. A brewing argument by the GoL is that there seems to be no end in conducting studies and that the World Bank does not trust their results.

### ***Recommendations***

46. Regardless of the difference in the data on the volume of logs, the most plausible alternative is Option 2, and therefore it is recommended based on the following conditions:
- *The GoL should guarantee the closure of the road once salvage logging is finished*
  - *NTPC should guarantee that there is no delay on the resettlement from north to south as a result of logging*
  - *WMPA checkpoints should be set up in strategic places*
  - *External independent monitoring preferably by the villagers themselves should be required during the salvage- logging period.*

### **2.3 Extensive and intensive project monitoring**

47. A comprehensive external monitoring structure consists of the following internationally recognized and independent groups:
- Lender's Engineer that reports to lender's group
  - International Advisory Group that reports to the World Bank
  - GoL Engineer that reports to Government of Lao
  - Dam Safety Review Panel that reports to GoL and the World Bank
  - Social and Environmental Panel of Experts that reports to GoL
  - Independent Monitoring Agencies that report to GoL
48. From July-December 2005, external as well as internal monitoring has taken place practically every week and overburden the project officers and staff with requests for reports and meetings. These has taken away valuable time from their work, especially when the visits are conducted during the dry season when numerous work in the field are at their peak.
49. The recommendations from the different monitors can be conflicting when each monitoring group concentrates only on their respective concerns and loose sight on the holistic picture, as it was the case with salvage logging.
50. In spite, or perhaps because, of this over extensive and intensive monitoring, the resettlement of Group 1 villages has been delayed at the risk that if and when the completion of the project does not meet the deadline of 2009 a penalty of US\$ 750,000 a day is to be charged to the contractors.

### **Recommendation**

51. *NTPC, GoL and WB need to agree on a structured and programmed external and internal monitoring plan that minimizes monthly (dry season) visits to allow management to concentrate fully on their work. The final decisions on the implementation of the recommendations by the monitoring groups rest on the shoulders of the WB and on NTPC and GoL in accordance with the Concessions Agreement.*

### **2.4 Capacity and capability gap**

52. NTPC's capacity building efforts in the Social Development Plan are designed primarily for implementing the resettlement plan and livelihood training. A program for training the staff of the RMU was also designed but due to manpower limitation, the GoL was not able to provide the required number of personnel to do full time work. The prospect of recruiting recent graduates from the University is very encouraging for the Lao students who will have the opportunity to be employed and trained in social development. Lao people hired by NTPC benefits from the hands-on training courtesy of the staff of the company.

### **Recommendations**

53. *A more comprehensive capacity building program should be put in place in preparation for the eventual ownership and operation of NT2 by the GoL. Likewise, with the vast flowing waters in Lao PDR, there can be more hydropower projects in the near future. The rich biodiversity of Lao opens a lot of opportunities in using their biological resources wisely with good economic returns. Capacity building which does not happen overnight, should then be in line with these prospects and a two-tiered approach is proposed:*
- *Short term – specific needs of NT2 during construction and resettlement. Includes formal training and the “learning by doing approach” both in construction skills and livelihood development, biodiversity conservation and environmental management, community development, developmental communication, etc,*
  - *Long term – skills and expertise with the eventual transfer of NT2 to GoL after 25 years of operation by NTPC. This may be in the field of civil engineering, environmental science and management, natural resource use and development including prospects on biotechnology, management of private infrastructure, revenue management, communication, etc.*

54. *Skills training for alternative livelihood such as aquaculture is already well-developed in neighboring Asean countries such as Thailand. Thai experts can come to Thakek or in the resettlement areas to provide hands-on training. Aside from minimizing the language barrier, this practical approach also minimizes expenses on consultants.*
55. *The GoL through its Ministry of Education should identify the future needs of NT2 and develop the necessary curriculum. The World Bank should assist the GoL in the development of a comprehensive education program from the elementary up to the university level and strengthen the university teaching staff and top students through scholarships abroad to obtain Ph.D. in relevant science and technology with the obligation to serve in the country.*
56. *The GoL should not rely completely on foreign money. It should start exploring its own backyard in terms of supporting its capacity building program. They can consider allocating some money from the sale of salvaged logs for this purpose.*

## **2.5 Sustainability of livelihood programs**

### **2.5.1 Resettlement areas**

57. The resettlement areas comply with village desires: near the future reservoir, near an all weather road, near their present locations, near the forest and near the land that can be used for growing rice. Sustainable agriculture is to be promoted but some questions come to mind. When discussing with the villagers on their desires where to be resettled, has there been enough emphasis on the fact that sustainable agriculture is not possible without inputs? Where they informed that alternative more fertile sites downstream could also be seriously considered as resettlement sites?
58. The old alluvial soils found mainly within the agricultural resettlement area are classified predominantly as aerisols, strongly weathered with low base saturation. The soils are podsollic with development of lateritic horizons and are in general heavily leached and infertile. Organic matter content, pH and cation exchange capacities are all low, as are the major nutrient availabilities, particularly phosphate. Increasing organic matter levels, cation exchange capacity and liming are the pre-conditions for cropping these soils and for acceptable responses to organic fertilization. The soils are highly susceptible to erosion.
59. The percolation losses on the soils in the resettlement sites will be a significant part of the water requirements for irrigation of paddy rice and many other crops. The percolation rates are much higher than the normal ones of 1-3 mm per day of fertile soils such as in the Mekong Plains.

60. Sustainable agriculture in this type of soil is not possible without appropriate cropping systems and fertility management. This is manifested on how the demonstration farm operated by the volunteer families is being maintained, i.e., receiving a lot of support from NTPC in terms of efficient water supply and delivery system through water hose, fertilizers, feeds and other farm implements.
61. Compared with 3 years ago, there was practically no increase in crop diversification neither in the experimental farm and the nursery. The nursery showed even a small number of crops. The main emphasis was in pineapple. This is understandable because the crop is acid-tolerant. However, certain new initiatives are worth mentioning such as the addition of livestock farming including fish culture in ponds, grafting of fruit bearing trees and mushroom culture.

### **Recommendations**

62. *Detailed and timely soil surveys are essential. Low input farming on the soils in the resettlement areas will not be rewarding. Only acid-tolerant cash crops such as pineapple, cashew and rubber may be grown with some success. If sedentary farming is to be practiced, adapted and diversified cropping systems with complete fertilization and careful management are required. The soils will be suitable for production of annual rain-fed and irrigated field crops only after liming and adequate organic input. NTPC should provide extension services to encourage and guide the villagers to try experimenting on other cash crops.*
63. *At this stage, support and assistance leading to a real improvement of the viability of an agricultural livelihood system that secures a steady increase of agricultural sustainable production is needed. Continued technical support for crop production, improved animal health care, participatory farmer-led extension service, diversification, agricultural education and training, access to markets and micro-credits should be provided at a time frame reasonable enough to capacitate the villagers to do things on their own. The assistance of donor agencies should be explored to ensure the sustainability of agricultural production after NTPC's support is gone.*
64. *The development of credit system should be encouraged. In fact it is already in place in some villages and is run by women. The marketing program for farm produce should be developed to prevent over-supply in the villages.*

### **2.5.2 Downstream areas**

65. NTPC and the GoL have embarked on a US\$ 16 million program to mitigate the impacts on livelihood of increased water flows in the Xe Bang Fai (XBF) and to maximize the benefits that will be gained from the abundant water downstream. This includes a compensation package mostly due to the loss of the riverbank

vegetable gardens and impacts on fisheries and the installation of irrigation facilities for rice and vegetable farming.

66. Livelihood demonstration farm integrating fish culture to rice farming is already in the pilot stage at Na Wang Village in Nong Bok district. Although the main livelihood in this part of the XBF is fishing, the villagers are open to the idea of maximizing the use of the increased water volume from the XBF for irrigation purposes. There is an on-going consultation with the different villages and some have already come into a compensation agreement with NTPC. The implementation of the Downstream Program is scheduled to start in May 2006.
67. **Facing considerable risk due to riverbank erosion is the 2000 year-old temple in Na Vang Neua village in Nong Bok District.** The cultural heritage significance of the temple is hard to quantify in terms of monetary benefits. Engineering technology can facilitate the transfer of the temple buildings in another area but the significance of the place and its cultural value could not be taken away by any technology no matter how advanced it is.

### **Recommendations**

68. *The Ministry of Irrigation, the Ministry of Agriculture and Forestry and other GoL units that deal with fishery, irrigation and livelihood shall have an active role in the formulation of the program as well as in its implementation. As recommended earlier, there should be a focal representative from each of these ministries who is accountable to the officials in Vientiane.*
69. *The IAG expresses caution on depending too much on foreign consultants for developing the livelihood program. As stated in the section on capacity building, the Lao can benefit from the experience and expertise of neighboring Asean countries in the field of integrated farming (rice and aquaculture) using the practical “show how” approach. In terms of structural measures to protect the riverbanks. The expertise of foreign consultants who have considerable knowledge and wide experience on hydraulic engineering is very beneficial to the Lao. Special attention should be given to the preservation, as technically and culturally sound as possible, to the 2000 year-old temple in Na Vang Neua.*
70. *The commitment and seriousness of the NTPC and the GoL in livelihood development (whether as alternative livelihood or improvement of the present livelihood) should also be done in the upstream areas, particularly in the Peripheral Impact Zone (PIZ) of the NBCA to minimize if not totally eliminate the pressure on biodiversity by the people who used to depend on wildlife and other natural resources in the forest for livelihood.*

## 2.6 Undefined role of women

71. As early as the 2nd report, the IAG had recognized the important role of women exemplified by the involvement of the Lao Women's Union (LWU) in public consultation and public participation. They have greatly facilitated the involvement of women in the discussions on resettlement and the basic needs of the community. True to the dictum "mother knows best," the IAG urged the implementing agencies to respond to the issues raised by women.
72. It is very encouraging that the LWU has a representative in the RMU. Her leadership and facilitative role shone during the visit to the different villages. It was also during these visits that the IAG was exposed to the impressive role of women in the community and in the family. A credit union in Sop On is being managed by an all women-group. In the Ban Dom village, women of varying ages, with some of their children in tow, are engaged in collecting resin.
73. The role of women in NT2 is not defined nor highlighted although NTPC has a Gender Officer among the roster of its staff. In the company's draft semi-annual progress report for the period July to December 2005, it was just mentioned that an International Gender Specialist has been recruited to direct and supervise their Gender Officer. It was good to see a note in the organizational structure of the WMPA that all units will set and abide by annual Gender Balanced Target (SEMFOP-1).

### **Recommendations**

74. *The hiring of an International Gender Specialist by NTPC is a clear indication of the seriousness of the company on gender concerns, thus there is a need to present their gender development program in the succeeding reports. The NTPC can bank on the capacity of the LWU to complement the expertise of their gender specialist. The spirit of working together facilitates learning from both sides. The international expert will learn from the cultural and traditional role of Lao men and women and the Lao, in turn, will benefit from the more formal approach of dealing with gender issues.*
75. *The annual Gender Balanced Target of WMPA needs to be presented, but more than this is the capacity building program for women including the gender sensitive benefits and opportunities in the workplace. LWU is not represented in the WMPA Board. While it may take time to amend the composition of the Board, what could be done in the interim is the recognition of the advisory role of the LWU.*
76. *The skills developed by the LWU in the village level in running a micro-credit enterprise should be enhanced. The development of a livelihood cooperative should be pursued since NTPC will not be forever present to provide all the*

*assistance and inputs to run the vegetable and livestock farms. The contribution of women should also be sought in developing other livelihood such as the promotion of weaving and silk culture.*

77. *A cooperative arrangement with women organization in Asia should be explored by NTPC-GoL-WB to raise capacity building of women, especially in villages around the watershed and the NT2 NBCA to engage them actively in raising their income while engaging themselves in conservation work.*

## **2.7 Communication**

78. A key element to effective coordination is efficient communication. The GoL, NTPC and WB should have a clear understanding and appreciation of their respective internal requirements in order to find ways of harmonizing them. This is a very challenging task considering the different nature of these organizations in terms of mandate and operations and compromises may be inevitable in dealing with some of the issues.
79. What has been missing in the project scenario is a conscientious effort to ensure efficient conveyance of information between the Lao and the foreigners (NTPC and World Bank staff and consultants). Although a considerable number of Lao speaks English and French, a lot of them still resort to talking in their native tongue where they are most at ease. The intent and content of the message are sometimes lost during translation and at certain instances, resulted to misunderstanding.

### ***Recommendation***

80. *Engage a Lao communication and participation expert to facilitate the flow of information and exchange of ideas between the Lao and the foreigners engaged in the project, and make sure that information from Nakai will reach Vientiane (and vice versa) in an accurate and timely manner. A communication and participation specialist, preferably one who speaks Lao should be tasked to attend to this concern and ensure the right conveyance of information and messages.*

## **3. THE WATERSHED MANAGEMENT PROTECTION AUTHORITY: NT2 AND BEYOND**

81. Guided by the SEMFOP-1, the WMPA is now a stable organized unit and is legally supported by Prime Ministerial Decree 39 of 2005 with guaranteed funding support from NTPC. The services of international experts are

undoubtedly, indispensable in the early years of operation of the WMPA and as the organization evolves, other international experts of different discipline maybe needed. At present, there is good collaboration between the WMPA and the Wildlife Conservation Society (WCS) as well as with other conservation societies in other parts of the world. The dedication of the local executives and staff, the involvement of the villagers, and the assistance from foreign experts has enabled the WMPA to make a head way in performing its function and in delivering impressive outputs. The engagement of the villagers with corresponding training is in line with the recommendation made by the IAG in its 5th report. Such involvement is a key element in highlighting their stewardship role on the environment. Worthy of recognition is the WMPA's move to encourage the school children to take interest in the local plants.

### **Recommendations**

82. *The involvement of school children should be pursued and sustained with the purpose of serving as a catalyst to develop an Environmental Education Program. This initiative could spill to other schools in the project areas. Necessarily, the Ministry of Education should adopt the Environmental Education Program at the national level.*
83. *Collaboration with international NGOs dealing with biodiversity conservation should be sustained. They should consider creating a Lao chapter if none is existing yet and use the opportunity of making the almost 4,000 km<sup>2</sup> NBCA as its primary area of concern. This will be a good stepping-stone in promoting biodiversity conservation in the whole country. While the results of scientific investigation is indispensable in coming out with effective biodiversity conservation programs, the WMPA, in consideration of budget allocation, should develop a research agenda and prioritize those that have direct bearing on their needs to come out with informed decisions. The contribution of international consultants, as previously stated, is very important in this stage of augmenting the information baseline. A mechanism should be put in place wherein the international expert will always have a local counterpart to ensure transfer of knowledge once the engagement is finished. This should be part of the performance evaluation of the international expert.*
84. *The IAG still consider their recommendation in 1998 that with the existing condition and preparedness of the Lao, an authority covering the Nam Theun watershed will suffice at the moment. As the WMPA evolves, the GoL, NTPC, WB and other donor institutions should also start setting their eyes on the management of the reservoir and the potential uses of the water for fisheries and recreation. It would be best to start planning early and decide on the most appropriate approach, i.e. a reservoir basin approach which is nothing different to a lake basin approach, a separation of authority between conservation and environmental protection and resource use and development, or a separation of*

*authority on environmental protection and management between the watershed and the reservoir. These options and some, should be carefully studied keeping in mind that NTPC's financial support is time-bounded There are already working models in Asia and as part of capacity building and capacity enhancement program, the officers and staff of the WMPA should be given the opportunity to go out of Lao and learn from their Asian neighbors.*

#### **4. THE CRITICAL ROLE OF THE WORLD BANK OFFICE IN VIENTIANE**

85. It is worth repeating the IAG's call to action in the 4th report (2004), that is, for the World Bank to shift its focus from Washington DC, Paris, Bangkok, Manila and Vientiane to Thakek and Nakai. With NT2 now in full implementation, the theater of action is in Vientiane.
86. One of the main assets of the World Bank is the enormous expertise available from all disciplines which is also spread throughout the offices out of Washington DC. While the WB has decentralized its operation, the structure remains complex to ensure check and balance and due diligence in all aspects of the work. Everyone is pre-occupied to deliver his best and make the best decision.
87. Given that the project time frame is very tight and expectation for the project outcome is very high, the WB management faced the challenge of striking a balance between delivering timely outcome and ensure transparency and high quality of results.

#### ***Recommendations***

88. *The Washington DC office should have good oversight of what is happening in the project but in this stage of project implementation, it should delegate decision to the country office within the framework of the agreed safeguards. This will empower the country office and will make it more credible in the eyes of GoL and NTPC. Down the line and again within the bounds of existing WB policies, the managers need to provide certain room of comfort for the bank team working on NT2 to make quick decision on the field to expedite actions. This necessitates the involvement of the right people and the existence of the necessary tools for consensus building and decision-making. Transparency is basic in trust-building although some matters should remain confidential and if warranted, at different hierarchies in the bank. The staff should observe confidentiality in sensitive issues during consensus building. Once a consensus is arrived and a decision has been reached, then the process can be made transparent. The basis for doing so and the activities needed to go forward shall be transparently disclosed both within the bank and with the stakeholders of NT2.*

89. *Despite high quality staff with demonstrably strong commitment and dedication to a successful outcome, the project management arrangements of the Bank run the risk of lack of coordination and reducing the effectiveness of the project team by burdening them with internal demands. Though a significant portion of the bank team working on this project is in the field, it is necessary to deepen decentralization in a more meaningful manner by empowering the staff in the field, reducing the frequency of reporting, and giving them enough space to work instead of a very heavy oversight currently in place.*
90. *A unified project management structure for NT2 should be set up in Vientiane designed primarily for implementation work. Flexibility maybe called for as long as it is within the confines of the WB rules and procedures and in the end, makes the WB more responsive.*
91. *In consideration of the existing capacity of the Lao people in embarking in a big project such as the NT2, the facilitative and mentoring role of the WB is warranted. The WB should sense its obligation to empower the Lao people and shift as soon as feasible the responsibility to them, for after all, the Lao people are the masters of their nation's destiny.*

## **5. NT2 HYDROPOWER PROJECT AS ENGINE OF GROWTH**

92. The IAG remains true to its conviction that NT2 should be viewed not as an enclave venture but rather as a multi-sector and multi-purpose venture for the benefit of the whole Lao people. NT2, as stated in previous reports, is an engine for the growth and development of Lao with the main purpose of alleviating poverty and conserving its rich biodiversity. The call to further indigenize the project remains, that is to foster a greater sense of ownership of the project in its many aspects among the people and institutions of Laos. It should also spur the obligation of the World Bank, including IFC, to provide technical assistance to raise the quality, productivity and management of the Laos' domestic producers and laborers, as part of the common goal to transform NT2 as the engine of national growth.
93. Other Lao business enterprise should be given a chance to participate in the project. A lot of construction materials for the project are produced locally. At present there are two cement factories with annual capacity of 200,000 ton. In Khammouane Province another cement factory will be completed by the end of 2006 with annual capacity of 800,000 ton.
94. Steel wire manufacturing companies are located in Vientiane Capital, Bolikhamxay, Khammouane and Savannakhet Province, that meet the standard issues by Science, Technology and Environment Agency. Electric wire is

manufactured in Vientiane Capital and Savannakhet Province while paints are manufactured in Vientiane Capital. Wood Products, wood processing and furniture factories are located in Khammouane Province.

95. The project involves large financial resources, employing high paid foreigners and producing hydroelectric power of which a small fraction are sold in Laos. Gaps in financial remunerations and energy availability among the people of Laos will be soon visible and may raise apprehension within the country. It is therefore important to put emphasis also on Laos's domestic financial system and energy development system that reach the people of Lao. The GoL can gain from the experiences of Asian models that have been successfully developed in Bangladesh and India. The former has been successful in developing the Grameen Bank combined with the telecommunication network of Grameen Shakty, which solar energy for hand-phones and portable lap-tops. The Indian Ministry of Renewable Energy has developed efficient energy sources from solar, micro-hydro and biomass at the rural and urban areas.

### **Recommendations**

96. *The World Bank should put in place “a margin of preference of 15%” allowing domestic producers to bid 15% higher than the prevailing international bidding for domestically produced material and goods required for the NT2 Project, with a provision that the “winning factories” are to be engaged in a “productivity increase program” under the technical assistance program promoted by NTPC-GoL-WB in cooperation with international institutions and other countries.*
97. *According to NTPC the quality of cement in Lao does not conform to international standards. This should be taken as a wake up call by GoL and the private sector to start upgrading the local products due to the very big potential of Lao to have other big infrastructure projects on the water sector*
98. *In line with this, skills in construction work should also be developed and improved. At present, NTPC preferred laborers from Thailand because of their advanced skills. The government should start putting in place a manpower development and skills training center preferably in every district with foreign donor assistance.*
99. *The World Bank should take initiative to enable Grameen leaders from Bangladesh and experts on renewable energy to develop a “Show How Program” in the NT2 Project area (including Xe Bang Fai). Building capacities in these fields throughout the country may reduce also the development gap between NT2 Project affected area and other provinces.*
100. *The basic element of success is in the horizon, namely, the dedication and sincerity of the respective organizations to honor their responsibilities and*

*perform their tasks. With better coordination, open communication, mutual respect, dedicated people, and sufficient financial support, it will be easy for the GoL, NTPC and the WB to put their acts together. The bundling of these forces could keep the NT2 engine running efficiently until such time that NT2 can be rightly called a venture to reach the Millennium Development Goals **“FOR THE LAO PEOPLE AND BY THE LAO PEOPLE.”***

<b>SUMMARY OF RECOMMENDATIONS</b>	
<b>Project Management</b>	<b>Responsible Institution</b>
1. The World Bank to act as a “coordinating development agent” to synchronize IFI funding in NT2 and to serve as a “bridge” between the interests of foreign partners and sovereignty demands of Lao domestic politics	WB
2. Assign a full time Chief Executive Officer (CEO) to do coordination work and to report directly and regularly to the top NT2 Project Team (Deputy Prime Minister, CEO of NTPC and World Bank Country Manager) on common issues that require close coordination.	GoL, NTPC, WB
3. Empower the WB Country Office in Vientiane and delegate authority for timely decision and actions.	WB
4. Assign a full time manager with the full mandate to represent the World Bank Group in Vientiane and is directly responsible to the President of the World Bank Group.	WB
5. Set up a unified project management structure for NT2 in Vientiane that is designed primarily for implementation work.	WB
6. Initiate action on the institutional and management structure for the watershed and the future Nakai reservoir.	GoL, WMPA
7. Put in place “a margin of preference of 15%,” allowing domestic producers to bid 15% higher than the prevailing international bidding for domestically produced material and goods required for the NT2 Project, with a provision that the “winning factories” are to be engaged in a “productivity increase program” under the technical assistance program promoted by NTPC-GoL-World Bank in cooperation with international institutions and other countries.	GoL, NTPC, WB
8. Engage a Lao communication group to facilitate the flow of information and communication of ideas between the Lao and the foreigners involved in the project.	GoL, NTPC

<b>Implementation</b>	
9. Prepare and agree on a time-bounded plan for resettlement.	GoL, NTPC
10. Involve a social scientist, preferably from Lao to complement resettlement efforts.	NTPC
11. Start immediately salvage logging operation using a portion of the Ho Chi Mihn trail subject to the following conditions: a. Guarantee the closure of the road once salvage logging is finished. b. Guarantee that there is no delay on resettlement from north to south c. Set up checkpoints in strategic places. d. Conduct external independent monitoring during the salvage logging period	GoL GoL GoL, NTPC WMPA External monitors with participation of villagers
12. Prepare and adhere to a structured and programmed external and internal monitoring plan that minimizes monthly (dry season) visits to allow NT2 Project Team to concentrate fully on their respective work.	GoL, NTPC, WB
13. Provide financial and technical assistance to ensure a viable agricultural livelihood system.	NTPC
14. Develop an agriculture-based livelihood program as well as program on alternative sources of livelihood.	NTPC, Ministry of Irrigation, Ministry of Agriculture and Forestry and other GoL units that deal with fishery, irrigation and livelihood.
15. Encourage the development of credit system in villages as well as livelihood cooperatives	GoL
16. Develop a Gender and Development (GAD) Program with active involvement of the Lao Women's Union (LWU).	NTPC, GoL, LWU
<b>Capacity Building</b>	
17. Provide technical assistance in capacity building and human resource development of GoL, particularly the	WB, Donor Agencies

Department of Finance in managing financial arrangements with the different IFIs and donor agencies.	
18. Train GoL-RMU personnel to gradually take over the function of NTPC-RO.	NTPC
19. Promote environmental education both in the local (project area) and national level.	GoL - Ministry of Education
20. Pursue and sustain collaboration work with international NGOs dealing with biodiversity conservation.	WMPA
21. Put in place a mechanism wherein the international consultant will always have a local counterpart to ensure transfer of knowledge once the engagement of the consultant is finished.	GoL, WMPA
22. Develop skills training program and put up skills training center in different districts.	NTPC, GoL
23. Develop livelihood-training program preferably using the “demonstration or show-how” approach.	NTPC, GoL
24. Put in place a comprehensive capacity building program in preparation for the eventual ownership and operation of NT2 by the Lao government.	NTPC, WB

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### **Government of Lao (GoL)**

HE Onneua Phommachanh, Minister, Ministry of Industry and Handicraft  
 HE Dr. Ty Phommasack, Vice Minister, Ministry of Agriculture and Forestry  
 HE Somdy Douangoy, Vice Minister of Finance  
 Mr. Soukata Vichit, Director General, Department of Environment  
 Mr. Sychath Boutsakitirat, Head of Negotiation and Contract Management Division, Lao National Committee for Energy, BOS  
 Dr. Somboune Manolom, General Manager, Lao Holding State Enterprise  
 Xaypaseuth Phomsoupha, Chief, Bureau of Secretariat, Lao National Committee for Energy  
 Gov. Khambai Damlath, Khammoune Province  
 Gov. Lamsamay, Bolikhamsay Province  
 Sivixay Soukkharath, Director, Department of Industry and Handicraft, Khammouane Province  
 Maniveng Phetoudom, Deputy Head, RMU  
 Khamphay Phengphaengmuang, Head of STEO  
 Phoma Phanthalangsy, Director, Department of Agriculture and Forestry, Khammouane Province  
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 Khammouane Province, Member, RMU  
 Mr. Kuanta – head of Communications Office, Khammouane Province  
 Mr. Sisuan – Road engineer  
 Hoy Phomvisouk – Manager, RMU  
 Souksavath Lathachak, Nakai District Governor  
 Mr. No, Konken village head  
 Kham Khensavong, Sop On village head

### **Nam Theun 2 Power Company (NTPC)**

Bernard Tribollet, Chief Executive Officer  
 Christophe Maurel, Chief Operating Officer  
 Jean Foerster, Social and Environmental Director  
 John M. Harrison, Construction Director  
 Francois Obein, Environmental Manager  
 Roel Schouten, Consultant, Fisheries and Downstream Program

Singkhom Phonvisay, E & S GoL Relation Manager  
Pat Dye, GoL Support Team Manager  
Phalim Daravong, GoL Officer  
Loy Chansavat, Advisor

### **Head Contractor**

Alain Pellequer, Construction Manager, NT2-EDF  
Aude Astier, Environmental Engineer  
Bernard Yon, Project Director, Head of the Environmental Sector,  
SOGREAH

.....and the other project engineers and staff

### **World Bank**

Ian C. Porter, Country Director for Cambodia, Lao PDR, Malaysia,  
Myanmar and Thailand  
Mohinder P. Gulati, Lead Energy Specialist, Energy and Mining Sector,  
EAP Region  
Patchamuthu Illangovan, Country Manager, Lao PDR  
Manida Unkulvasapaul, Senior Environmental Specialist  
Kimberly Versak, Communications Officer  
Stephen Ling, Environment Specialist

.....and the administrative and technical staff

### **Asian Development Bank**

James A. Nugent, Country Director  
Edvard M. Baardsen, Senior Infrastructure Specialist

### **Panel Of Experts**

Thayer Scudder  
Lee Talbot  
David McDowell

### **Consultant**

James R. Chamberlain, Social Assessment and Policy

**WCS**

Arlyne Johnson, Program Co-Director  
Michael Hedemark, Program Co-Director  
Simon Hedges

**IUCN**

Latsamay Sylavong, Lao Programme Manager

**WMPA Officers, Staff and Consultants**

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## ACRONYMS

CEO	-	Chief Executive Officer
EAMP	-	Environmental Assessment and Management Plan
EMO	-	Environmental Management Office
EMU	-	Environmental Management Unit
GDP	-	Gross Domestic Product
GoL	-	Government of Lao
HCC	-	Head Construction Contractor
HCM	-	Ho Chi Mihn
IAG	-	International Advisory Group
LWU	-	Lao Women's Union
NBCA	-	National Biodiversity Conservation Area
NGO	-	Non-Governmental Organization
NNT-NBCA	-	Nakai-Nam Theun National Biodiversity Conservation Area
NT2	-	Nam Theun 2 Hydropower Project
NT2-TM	-	Nam Theun 2 Hydropower Project Top Management
NTPC	-	Nam Theun 2 Power Company
NTSEP	-	Nam Theun Social and Environment Project .
MAF	-	Ministry of Agriculture and Forestry
MIH	-	Ministry of Industry and Handicraft
PAPS	-	Projected Affected Persons
PIZ	-	Peripheral Impact Zone
POE	-	Panel of Experts
RO	-	Resettlement Office
RMU	-	Resettlement Management Unit
SDP	-	Social Development Plan
SEMFOP	-	Social and Environmental Framework Operation Plan
STEO	-	Science Technology and Environment Office
UXO	-	Unexploded Ordinance
WB	-	World Bank
WCD	-	World Commission on Dams
WCS	-	Wildlife Conservation Society
WMPA	-	Watershed Management Protection Authority
XBF	-	Xe Bang Fai

## **Lao PDR**

### **Nam Theun 2 Hydroelectric Project**

#### **Sixth International Advisory Group Mission**

##### ***Schedule of Activities***

**January 24 – February 5, 2006**

##### **IAG Mission Participants**

Dick de Zeeuw, Convenor of the IAG  
Emil Salim, Member of IAG  
Lennie C. Santos-Borja (Consultant to IAG)

##### **Date and Activities**

###### **January 24 Tuesday**

- Arrival of de Zeeuw, Salim and Santos-Borja in Bangkok
- Air travel to Nakhon Phanom
- Travel to Thakek by crossing the Mekong River
- Arrival in Thakek
- Dinner with GoL representatives headed by the Minister of Industry and Handicraft, HE Minister Onneua Phommachanh, NTPC led by the Chief Executive Officer, Bernard Tribollet, and the World Bank represented by Manida Unkulvasapaul and Stephen Ling

###### **January 25 Wednesday**

- Meeting with the GoL headed by HE Onneua Phommachanh, Minister, Ministry of Industry and Handicraft, NTPC, WB and POE
- Meeting with the Resettlement Management Unit

###### **January 26 Thursday**

- Meeting with the CEO Bernard Tribollet, NTPC
- Travel to downstream and Upstream Xe Bang Fai
- Ocular inspection and interview with the villagers in
  - Na Vang Neua village
  - Na Wang village
  - Som Saat village
  - Keng Pe village

### **January 27 Friday**

- Meeting with the Head Contractor in Residence Nam Theun at Ban Gnommalat
- Site visits
  - Regulating dam
  - Intake channel
  - Power house
  - Pilot village
- Basi ceremony at Nakai District

### **January 28 Saturday**

- Site Visit to the villages that will be resettled
  - Ban Konken
  - Ban Sop On
- Visit to the dam site
- Travel to Lak Sao via the new dam site road that connects to Km 20
- Dinner meeting with the Governor Lamsamay of Bolikhamsay

### **January 29 Sunday**

- Meeting at the WMPA Office
- Visit to the checkpoints of WMPA
- Travel to Vientiane
- Dinner meeting with Mr. Loy and Mr. Dam of NTPC

### **January 30 Monday**

- Separate meetings with the following:
  - HE Dr. Ty Phommasack, Vice Minister, Ministry of Agriculture and Forestry
  - Bernard Tribollet, CEO and Christophe Maurel, COO, NTPC
  - HE Onneua Phommachanh, Minister, Ministry of Industry and Handicraft
  - HE Somdy Douangoy, Vice Minister of Finance
  - Xaypaseuth Phomsoupha, Chief, Bureau of Secretariat, Lao National Committee for Energy and Sychath Boutsakitirat, Head of Negotiation and Contract Management Division, Lao National Committee for Energy, BOS
  - Dr. Somboune Manolom, General Manager, Lao Holding State Enterprise
- Departure of Emil Salim

### **January 31 Tuesday**

- IAG meeting at the WB office to discuss findings and observations and finalize the schedule of activities in Vientiane
- Data collection
- Meeting with James A. Nugent, Country Director and Edvard M. Baardsen, Senior Infrastructure Specialist, ADB

### **February 1 Wednesday**

- Meeting with Arlyne Johnson, Michael Hedemark, and Simon Hedges of WCS
- Meeting with Mr. Soukata Vichit, Director General, Department of Environment
- Focused group discussion of Dick de Zeeuw, Lennie Santos-Borja and Manida Unkulvasapul

### **February 2 Thursday**

- Separate meetings with the following:
  - Patchamuthu Illangovan, Country Manager, Lao PDR
  - Mohinder Gulati, Lead Energy Specialist, Energy and Mining Sector, EAP Region
  - Bernard Tribollet, CEO, NTPC
  - Latsamay Sylavong, Lao Programme Manager IUCN
- Report writing

### **February 3 Friday**

- Debriefing of Ian Porter, Country Director, World Bank , with the following:
  - Patchamuthu Illangovan, Country Manager, Lao PDR
  - Mohinder P. Gulati, Lead Energy Specialist, Energy and Mining Sector, EAP Region
  - Manida Unkulvasapaul, Senior Environmental Specialist
  - Kimberly Versak, Communications Officer
- Report writing

**February 4 Saturday**

- Meeting with Patchamuthu Illangovan and Mohinder P. Gulati
- Report writing, informal discussions with POE and wrap up meeting of IAG with inputs from Emil Salim (through email).

**February 5 Sunday**

- Wrap up meeting of Dick de Zeeuw and Lennie Santos-Borja
- Departure from Vientiane