

Environment and Social Monitoring Report

Monthly Progress Report
May-December 2006 (2/4)

LAO PDR: GMS Nam Theun 2 Hydroelectric Project

Prepared by the Environment and Social Division of Nam Theun 2 Power Company, Ltd.

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Nam Theun 2 Power Company Ltd.

Nam Theun 2 Hydro-Electric Project

**Monthly Progress Report
covering activity in July 2006**

Part C : Environmental & Social Report

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General Overview

1 General Overview

Procurement:

In July, Several NOLs have been received from World Bank, further to the amendment of the NTSEP Project Agreement.

In the meantime, procurements have been mainly, but not only focusing on the construction of the wooden houses for the resettled people of Village Group 2, the implementation of the downstream programme, the procurement of the Independent Monitoring on behalf of the GOL, the procurement process for the environmental programmes (elephants, terrestrial animals, wetlands...).

Project lands:

- Resettlement Action Plans (RAP): RAPs were completed by June 20th and made available for comments on the NTPC website
- Transmission Line: procedures for Land Access and Final Compensation for LPA 57, in Savannakhet Province continued, for the Districts of Xe Bangfai, Xaibouli and Kaysone Phomvihanh with the preparation of LAST¹ forms. DCWG Mahaxai was consulted for the preparation of compensation forms for PAPs affected by the transmission line.
- Nakai, Gnommalat / Downstream Channel: Removal of infrastructure in LPA 26a was assessed and removal of obstacles along new road Zone D. Provisional Compensation for 2006 for LPA 33, 35, 36, 1a and 6a were prepared and submitted.; Provisional compensation for PAPs in LPA 38c-AR1 was paid. The UXO clearing progressed and will be completed by the beginning of August.
- Livelihood restoration: Implementation of livelihood restoration options continued with strong emphasis on NTFPs. All prepared contracts have been signed and implementation with training and field activities started. A total of 35.000 seedlings of Jatropha were prepared and planted.
- .Gnommalat : consultation on land reallocation (4 villages in Gnommalat District)

Public Health:

- Infrastructure: rehabilitation works at 2 Health Centers and 2 District Hospitals are completed. The renovation works of Laksao district hospital are delayed regarding the delay to import the Onduline sheets and actual rainy conditions. The works are planned to be completed in October.
- Equipment: the third ambulance received; the fourth ambulance is on order.
- Training, capacity building: Peer leaders training conducted in Gnommalat and Mahaxai. Biochemistry training conducted in Thakhek.
- Supervision: Routine supervision of the health center staff's activities was conducted during the month. Monthly checkups for service women were held in District hospitals of Gnommalat and Mahaxai.
- Under water and sanitation program for camp followers a consulting advice was obtained and inter district meetings held and a workshop conducted in July. A program has been drafted for chlorination of shallow well water for use in the restaurants in Nakai and Gnommalat. Provincial water and sanitation section is working on the proposal.

¹ LAST: Land Asset Survey Team

Nakai Plateau resettlementInfrastructure:

- Extra topographic survey and mapping: The contract for the extra survey work required at Area 13 for the Ban Thalang irrigated agriculture area has been suspended because of the heavy rains in July. This survey will recommence as soon as weather conditions permit; the delay does not significantly affect the planned resettlement program as Ban Thalang is one of the last villages scheduled to be relocated.
- UXO search and clearance: The contractor has maintained good progress during the month despite the heavy rains. They have completed the four northern VG1 full resettlement areas and as much of Area 13 housing area for Ban Thalang as is currently possible. The remainder of Area 13 (agricultural areas and remaining housing area) will need to be surveyed prior to recommencement of UXO clearance. The contractor has also completed Area 22 for Ban Khone Khen. There is an ongoing contract for UXO community awareness and on-call roving response teams with the contractor. In July the roving unit disposed of 136 UXO items around four villages. The communications channels between villagers and the response team have been established in all villages and are working very well, with any finds of suspicious items in community areas being quickly reported.
- Timber houses: The construction of timber houses in Area 16 (Pilot Village) for 8 families resettling from Ban Keng Gnao is complete. The contractors awarded the timber houses construction contracts at areas 17 Bouama, 18 Phonsavang and 19 Sop On have mobilized and have started the construction works. The 3 contracts for the northern villages of Sop Ma Sop Hia, Nong Boua Kham and Sop Phene have not yet started due to necessary additional preparation works on the site (site clearance, access etc.). It is expected that the beginning of the coming dry season will be the most appropriate time to commence construction of these permanent houses.
- Roads and tracks: Road construction was limited because of the heavy rains.
 - The construction of access roads to and within the three southern VG1 resettlement areas is about 82% complete. Some more tracks have been added to the contract works.
 - The construction of the Southern Resettlement Road is about 30% complete.
 - The construction of the access tracks to and within the four northern VG1 resettlement areas is about 53% complete.
 - It is expected that the above mentioned roads will be completed early next dry season, and that efforts for the remainder of the wet season will be directed towards maintaining priority access only.
- Irrigation: The contract for the construction of the irrigation area extension at the Pilot Village for the Keng Gnao resettlers was suspended because of the heavy rains.
- Villages Layout: The preparation of preliminary resettlement village and agricultural layouts for the VG2 villages is continuing by NTPC personnel in consultation with villagers.
- Electricity: A contract for the electrification of the 8 new houses at the Pilot Village is complete and will be signed in August. The design of the resettlement village electrification systems is underway and complete for five villages.

Livelihood Plans:

Forestry:

- Achievement of sawn wood production target difficult.
- To improve VFA management and strengthen capacity building the GoL and NTPC agreed to introduce temporary regulations to allow NTPC to more directly control operations: appointment of an NTPC salaried to the position of General Manager in July.
- first large charcoal production demonstration kiln constructed produced 3.2 tons of charcoal in its first month of operation
- Implementation of a combine agro-forestry program (forage species planted in the forestry plantation). Training done by Pronae (Programme National Agroecologie).

Agriculture / Livestock:

- Pilot village and demonstration farm activities continue to be focused more on the villages to be resettled,

Downstream Program:

- Training in development management activities for VDCC's have been carried out. The VDCC's have opened bank accounts in 21 pilot villages and also in additional fish catch monitoring villages.
- Fish catch monitoring is in full operation. Services of an IT services firm for data entry have been hired.
- Interviews were held with candidates for new positions in the downstream team and are presently in the selection process following NTSEP procedures.
- Integration of the comments received from IFIs on Downstream Implementation Plan. Final Implementation Plan expected by September.

Environment:

- Water quality sampling (25-29 July) and analysis
- Continued procurement activities for the Elephant Program including (i) Interim HEC Monitoring; and (ii) Elephant Program Phase II.
- Advertisement for Expression of Interest for the Terrestrial Program.
- Review of proposals for the Wetlands Program.
- Production of the Final Report for the baseline survey for fish and aquatic species in upstream and downstream rivers (Wildlife Program Element B).
- Finalization of the EMU TA Inception Report.

Monitoring:

- The resettlement advisor team has carried out a monitoring mission of livelihood aspects of the Pilot village. The team also provided training to NTPC and DWG in data collection and analysis.

1.1 Staffing NTPC, GOL (EMU, RMU, DWG) and Partners

○ NTPC E&SD Staffing

Legend:

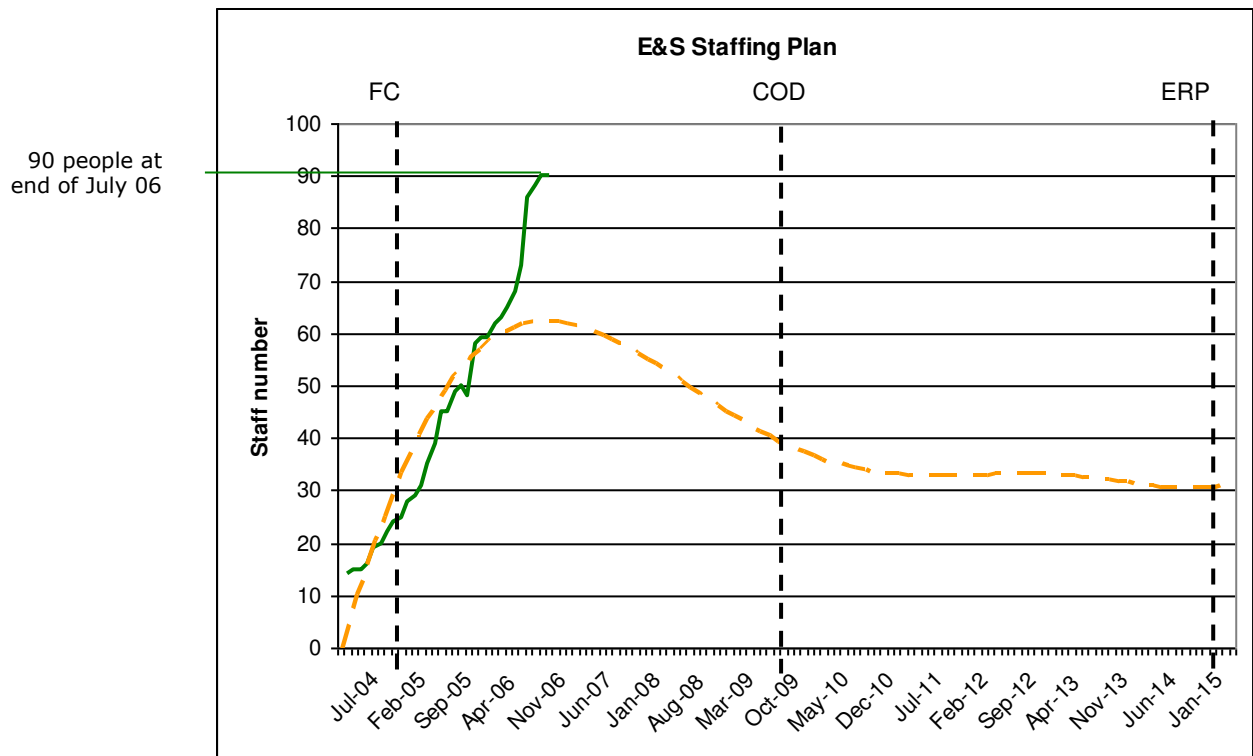
Scheduled staffing plan

Actual staff recruitment

FC = Financial Close

COD = Commercial Operation Date

ERP = End of Resettlement Period



In addition to NTPC staff, individual consultants are working full/part time with NTPC teams

The construction of the Nakai Residential Complex in Oudomsouk for use by the NTPC E&S team is on-going (complex of 54 rooms/studios/apartments and 6 villas).

Villas for staff



- **EMU Staffing**

No change from previous report.

- **RMU and DWG Staffing**

No change from previous report.

- **Partners**

No change from previous report.

1.2 Unanticipated Project Impacts

No change from previous report.

1.3 Additional Plans and PIP updating

- **PIP / AIP**

Final version of AIP 2006-2007 has been posted by 28th of July 2006.

- **Additional Plans**

Resettlement Actions Plans (5 RAPs): all RAPs were completed on June 20th and posted on the NTPC secured website for review by IFI on June 28th.

RAP 5 however is being finalized, following the final design of each of the 32 sections of the Transmissions Lines progressively provided by the HC.

1.4 Grievance procedure

During the month of July 2006, two more complaints in Gnommalat: one claimed for more compensation and another one claimed for checking and more compensation, after checking, there were the mistakes derived from the previous compilation for compensation.

- In summary, for Gnommalat: 9 PAPs waiting being paid, 25 PAPs not understood have been informed back by DGC's the 1st week of July 2006, 15 PAP's requested for additional compensation, not yet requisitioned for compensation and 2 more claims for additional compensation.
- For Nakai: 14 PAPs of misunderstanding not yet informed back, commitment to do during August 2006, 16 PAPs requested for final cash compensation not yet done, hope to do August 2006, commitment to complete the checking and requisition for 23 PAPs additional compensation, to communicate with NTPC infrastructure Nakai in dealing with the wells of 90 households request and to inform District Authority to interface the PAP and Contractor to solve the damage issue.

1.5 Communication

The second semi – annual progress report has been submitted to lenders in May. NTPC has received comments and is presently updating it before resubmission to ICA.

The Revised Proposed Annual Implementation Plan (for period 1 June 06 to 31 May 07) has been posted on the Secure Website on 28 July 2006.

1.6 Procurement

In July, some long awaited NOLs have been received further to the amendment of the NTSEP Project Agreement:

- NOL for the use of NAMSAT for water supply and sanitation,
- NOL for the use of contracting firm for UXO,
- NOL for POE

In the meantime, procurements have been mainly, but not only focusing on:

- the procurement process for the construction of the wooden houses for the resettled people of Village Group 2,
- the procurement process for the implementation of the downstream programme,
- the procurement process for the procurement of the Independent Monitoring on behalf of the GOL,
- the procurement process for the environmental programmes (elephants, terrestrial animals, wetlands...).

Social Activities

**Physical Cultural Resources, Project Lands,
Camp Followers**

2 Social Activities

2.1 Physical Cultural Resources, Project Lands, Camp Followers

2.1.1 Physical and Cultural Surveys & Salvage

DMA and IoCR accompanied the World Bank during a site visit specifically focused on PCR issues. The findings of the WB mission have still to be submitted to NTPC but the initial feedback was mainly positive. A summary of the WB findings will be presented in the next monthly progress report.

During July 2006 the IoCR conducted consultations and compensations measures for the cemetery and temple sites of those villages entering transitional resettlement phase during the second and third quarters of 2006. The IoCR also provided consultation and compensation measures for the cemetery and temples sites of some of the villages entering resettlement at a later stage. Activities included (i) identification of a new cemetery site in community forest in the vicinity of their new village; (ii) opening up of the new cemetery site with a ceremony and UXO clearance prior to use; (iii) an appeasement ceremony performed at the old cemetery sites; and (iv) ceremonies for the old temple sites and relocation of Buddha images to the new village.

UXO clearance at the new cemetery sites is currently ongoing. The cemetery sites at Ban Khone Khen and Ka Oy still require consultation and compensation measures. A summary of activities is provided below:

Village	PCR Site ID	PCR type	Date of Re-consultation	Activities	Date
Sop Hia	NTPC/IN/100/1	Cemetery	1,11/7/2006	Ceremonies at the three old cemetery sites.	15/7/2006
Nam Nian	NTPC/IN/100/4	Cemetery		Identification of new cemetery site	
	NTPC/IN/100/5	Cemetery		Ceremony at the new cemetery site	
Sop Phene	NTPC/IN100/13	Cemetery	21/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site	24/7/2006
Hat Khampane	NTPC/IN100/15	Cemetery	2/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site. A Buddhist ceremony was performed by monks to pay respect and establish the new cemetery	5/7/2006
	No ID ²	Spirit	1/7/2006	Ceremony to make an offering to respect and bid farewell to the site spirit.	4/7/2006
Boua Ma	NTPC/IN100/18	Cemetery	2/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site. A Buddhist ceremony was performed by monks to pay respect and establish the new cemetery	5/7/2006
Keng Gnao	NTPC/IN100/23	Cemetery	2/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site. A Buddhist ceremony was performed by monks to respect and establish the new cemetery	5/7/2006
	NTPC/IN100/24	Abandoned temple	14/7/2006	Ceremony to provide an offering to respect and bid farewell to the abandoned temple site.	14/7/2006
Bouama	NTPC/IN100/25	Cemetery	4/7/2006	Ceremony at the old cemetery sites	6/7/2006
	NTPC/IN100/26	Cemetery		Identification of new cemetery site Ceremony at the new cemetery site	
	NTPC/IN100/27	Abandoned temple	4/7/2006	A Buddhist ceremony was conducted by monks at the old temple site then the Buddha images and Nha Than Phouvong's ashes were relocated to a new temporary temple structure at the new village.	7/7/2006
Phonsavang	NTPC/IN100/28	Cemetery	8/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site	10/7/2006
	NTPC/IN100/29	Temple	8/7/2006	A Buddhist ceremony was conducted by monks at the old temple site then the Buddha	9/7/2006

² Additional site identified during consultation

				images and Nha Than Chan Khot's stupa ashes were relocated to a new temporary temple at the new village.	
Sop On	NTPC/IN100/34	Cemetery	12,13/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site	14/7/2006
	NTPC/IN100/36	Abandoned temple	12,13/7/2006	Offering ceremony was conducted to bid farewell to the abandoned temple site. This ceremony has to be conducted in the new village because of access constraints.	14/7/2006
Done	NTPC/IN100/42	Cemetery	25/7/2006	Offering ceremonies were conducted to bid farewell to the spirits of the old sites cemetery at Nong Ko Bok and Sai Houay Done. The villagers then selected Ong Seo and Khok Mak Ken cemeteries to be their new cemetery site.	27/7/2006
	NTPC/IN100/43				
	NTPC/IN100/44				
	NTPC/IN100/45				
	NTPC/IN100/59	Abandoned temple	25/7/2006	Because of access constraints the appeasement ceremony has been scheduled for the beginning of the dry season when the waters recedes. Villagers are currently focused on relocation activities.	To be conducted
Nongbouakham	NTPC/IN100/59	Cemetery	8/7/2006	Ceremony at the old cemetery site. Identification of new cemetery site Ceremony at the new cemetery site	20/7/2006
	NTPC/IN100/60	Cemetery			

In response to an issue raised by the villagers of Ban Thamphuang during the monthly PCR consultation-based monitoring in June 2006, the IoCR conducted a consultation and an appeasement ceremony for a spirit site (PCR/ADJ/38/15) located at the cave Thamphuang. Spoil disposal site DT13 will be established close to the entrance of the cave and therefore an appeasement ceremony was conducted prior to any activities which may disturb the spirit.

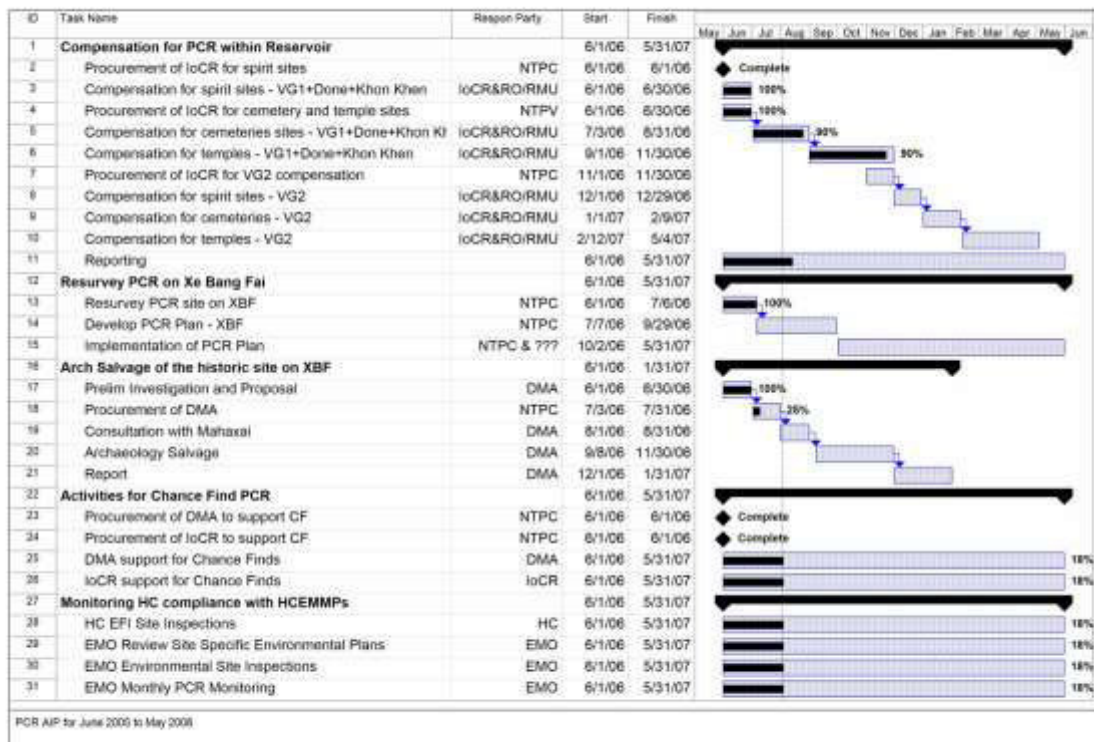
In response to the HC notification of a modification in the alignment of the 500 kV Transmission Line, the IoCR conducted a consultation in Ban Phachoumkhong. The villagers requested support for the ceremonies for the relocation of two stupa sites. However, given the amount of surface water in the area, the villagers requested to postpone relocation activities until the waters recede. In the meantime, the villagers have indicated that UXO clearance activities or vegetation clearance for the alignment of the transmission Line can commence even though the stupas have not been relocated yet.

The DMA have been requested to submit proposals for (i) archeological salvage of historic kiln site on the banks of the Xe Bangfai; and (ii) provision of PCR training to EMO Inspectors, HC and CC Inspectors and UXO Clearance team leaders.

On 18 July 2006, the monthly PCR monitoring was undertaken by the EMO. The PCR monitoring continues to focus on PCR sites located in the vicinity of the Downstream Channel. The following table presents the villages and their PCR included in the PCR monitoring.

Village	PCR ID	PCR Type	Issue
Phathoung	PCR/ADJ/38/17	Cemetery	No issue
	PCR/ADJ/38/18	Temple	No issue
Ban Kengsavang	PCR/ADJ/38/19	Historic	No issue

PCR Schedule:



Ceremony for the relocation of Buddha images from the old Phonsavang to the new village (left). The ceremony for the old and new cemetery sites at Ban Sop Hia and Nam Nian (right)



Ceremony for the new cemetery site for Hat Khamphane, Sop Ma and Keng Gnau (left). The farewell ceremony for the abandoned temple at old Ban Keng Gnau (right)

2.1.2 Project Lands

Main events in July:

- Resettlement Action Plans (RAP): All RAPs were completed on June 20th and posted for review by IFI on the secured NTPC website. RAP 5 however is being finalized, following the final design of each of the 32 sections of the Transmissions Lines progressively provided by the HC.
- Transmission Line: compensation procedures for Land Access and final compensation for LPA 57, in Savannakhet Province continued. Final compensation procedures for 37 towers out of 88 towers in Xaibouli District were completed for 82 PAPs. In Xe Bangfai District the final compensation for 26 towers out of 55 was completed for 36 PAPs.
- Nakai, Gnommalat / Downstream Channel: Provisional Compensation for disposal areas DT3 and DT5 were paid; Calculations for provisional compensation for 2006 for LPAs 1a, 6a, 33, 35, 36 were completed and submitted for approval and payment.
- Livelihood restoration: the implementation of livelihood restoration program was continued with a stronger emphasis on NTFPs; contract for orchid preservation and development was signed but beginning of implementation will start only by end of July; nursery operation for *Jatropha* is expanding and first 2000 seedlings were planted in Mahaxai; contract for improvement of rattan and bamboo was negotiated and will be implemented in July; production of new Taro varieties for export were negotiated and first seed multiplication will start in August; contract for horticulture development was completed and the first implementation phase will start in July.
- Gnommalat: land reallocation for 27 PAPs continued. UXO clearing is in progress. Contract for topographic survey is in preparation.

○ Baseline Studies

The collection of Baseline Study data is complete.

○ Meetings & Consultations

NTPC/HC "Access to Land" coordination meetings continue to be held to coordinate activities and address specific land access issues. 2 meetings were held in July, focusing on (i) transmission line construction schedule and vegetation clearing and (ii) issues related to road 12 and 8b.

Downstream Channel – likely modifications required to Downstream Channel spoil/borrow areas, as a result of insufficient, suitable borrow material for construction; final report is delayed due to heavy rain; and Transmission Lines – consultations with the provincial and district representatives as well as villagers. About 71 infrastructure assets were finally identified for relocation.

○ Provisional Compensation

Provisional compensation was completed for PAPs in LPA 38a. The provisional compensation for 2006 for seriously affected people was prepared and submitted for approval. 8 PAPs in LPA 1a; 2 PAPs in LPA 6a; 34 PAPs in LPA 33; 80 PAPs in LPA 35 and 18 PAPs in LPA 36 with a total value of 280 Mill. Kip.

Resettlement Actions Plans (RAPs):

See section above.

Oudomsouk Urban Planning Resettlement Action Plan:

No significant activity in July.

Livelihood restoration

The overall livelihood restoration options based on consultations with PAPs and communities were described earlier and all arranged contracts for implementation are now signed and in the process of implementation.

The rice improvement program started in May, for 148 PAPs, in Gnommalat (87) and Mahaxai (61), out of the 160 farmers who participated at the training at Thasano Rice Research Station between March 26th and April 4th. Progress of implementation is closely supervised by DCWG officers in a very satisfactory way. Demonstration fields appear very promising

A land area of around 44 ha was identified near Gnommalat for redistribution to PAPs which have lost their entire productive land. The land allocation for the 27 PAPs was agreed and signed by all parties in May. Contract for UXO clearing was signed and operation started in June and was close to completion by the end of July.

Aquaculture programs (existing fishponds): 10 PAPs participate in the improvement of their fish ponds. Implementation continued in July.

Contracts for improvements for large livestock and small livestock were signed and first activities for implementation started.

NTFPs: the nursery (1,000 m² at DAFO office in Gnommalat) produced 35,000 seedlings of *Jatropha* and will complete transplanting by mid-August. An additional activity for the expansion of rattan and bamboo production was launched by the PL office and training arranged for 15 PAPs at the Forest Research Center in Vientiane. 4000 rattan seedlings were sent to Gnommalat for transplanting and 400 seedlings of new bamboo varieties.

The contract for orchid development for commercial purpose (2 units for Nakai, 2 for Gnommalat and 2 for Mahaxai) was signed but can only start with the implementation at the beginning of August.

The contract for horticulture development was completed and the specialist has started his assignment.

The training of 68 PAPs in non-agricultural based skills started at the Khammouane Vocational Training Center.

- **Handover of lands to Head Contractor**

No Project Lands were required to be handed over to the HC under the Head Construction Contract (HCC) during this month.

2.1.3 Camp Followers

- **Population Management: Monitoring of labor and population movement:**

This activity is placed under direct control of RMU since January 2006.

- **Human Trafficking Control**

This activity is placed under direct control of RMU since January 2006.

- **Infrastructure Development**

No changes from previous report.

- **Public Health**

A consulting advice was obtained from an expert from Hinboun dam project and inter district meetings held and a workshop conducted during 5-7th July. A program has been drafted for chlorination of shallow well water for use in the restaurants in Nakai and Gnommalat. Provincial water and sanitation section is working on the proposal.

Water Quality monitoring of domestic water supply:

Under the Camp Followers Health Program, the EMO is monitoring faecal coliform contamination in domestic water supply of restaurants in Nakai and Gnommalat District. The presence of faecal coliform indicates contamination from human or animal faeces.

The EMO will continue to sample for faecal coliform analysis at five restaurants in Nakai District and ten restaurants in Gnommalat District on a seasonal basis to assess whether activities under the Camp Followers Health Program are contributing to improvements in the quality of domestic water supply.

No faecal coliform analysis was scheduled for July 2006. The next sampling event is scheduled for August 2006. The results from the last sampling event are presented below.

On 27 May and 30 June 2006 the EMO via the WQMAP conducted faecal coliform analyses of the domestic water supply for five restaurants in Nakai District and ten restaurants in Gnommalat District, respectively.

With the exception of PH5, the faecal coliform level exceeded the Lao standard for drinking water of zero at all restaurants. The elevated faecal coliform levels recorded in these restaurants indicate a high pathogen load which poses a high risk to human health. These restaurants that exceed the Lao standard should continue to avoid direct consumption of the water and boil the water prior to washing vegetables and cooking pots.

Site No.	Groundwater Supply	Water Use				Faecal Coliforms (FC/100 mL)	Lao WQ Standard for Drinking Water	
		Drinking	Cooking	Washing Veg	Washing pots			
Nakai District								
PH1	Lined, covered well	X	X	✓	✓	80	0	
PH2	Lined, covered well	X	X	✓	✓	6		
PH3	Unlined, semi-covered well	X	X	✓	✓	192		
PH4	Unlined, uncovered well	X	X	✓	✓	164		
PH5	Unlined, uncovered well	X	✓	✓	✓	0		
Gnommalat District								
PH6	Unlined, uncovered well in a rice paddy surrounded by standing water and animal excreta. ~ 3m deep.	X	X	✓	✓	32		
PH7	Unlined, covered well. ~5m deep.	X	X	X	✓	39		
PH8	Lined, covered well. ~10m deep.	X	X	✓	✓	25		
PH9	Nam Gnom	X	X	X	✓	48		
PH10	Restaurant has modified its groundwater supply from Tham Phouang cave to a well located at the rear of the restaurant.	X	X	✓	✓	8		
PH11	Lined, semi-covered well. ~9m deep.	X	X	✓	✓	5		
PH12	Lined PVC Pipe for pumping GW. ~6m deep.	X	X	✓	✓	69		
PH13	Unlined, uncovered well. ~6m deep.	X	X	✓	✓	24		
PH14	Unlined, uncovered well.~7m deep	X	X	✓	✓	27		
PH15	Lined, covered well. ~10m deep.	X	X	✓	✓	18		

The district authorities have been advised to implement measures to stop using this water for washing vegetables and other food items that can be consumed raw and for washing hands and dishes.

This problem will be closely monitored and measures will be discussed to save the public from the dangers of consuming contaminated raw foods.

Peer leaders training among service women and restaurant owners was conducted in Khamkeut district from 21st – 24th June in Lak Sao. 12 service women and 10 restaurant owners attended the meeting. The training for other districts is being planned.

Figure: Locations of Groundwater Quality Sampling Stations for the Public Health Program, Nakai and Gnommalat Districts



STIs and its control: No changes from previous report.

- Traffic Safety and Regulations

Development of regulations / Review and strengthening of regulations: No change.

Road Safety: No change.

- Social Security and capacity building for local agencies

Support and technical assistance for District Police Offices: No changes from previous report.

Establish Intersectoral Task Force on Population management and security: No changes.

Social Activities

Health Programs

2.2 Public Health Regional and Resettlement Programs

Following major activities were undertaken during May 2006:

Upgrading health infrastructure:

- The rehabilitation works of Kendaeng, Nadou, Mahaxai and Nakai Health Center and District Hospital are completed. Provisional inspections have been done on July 10/11 2006.
- Laksao roof renovation works are delayed because of the delay in supply of roofing material (Onduline sheets). Expected to arrive mid-July. Works could be completed in October.
- Contract has been awarded to the best bidder for the construction of the Gnommalat District hospital. Construction will start soon after the rainy season. Final date of start to be reviewed with the contractors in September 2006.
- The bidding process for the 2 health centers in the resettlement areas for Ban Done and Nongbouakham will start jointly with the other community buildings.

Equipment:

- The third procured ambulance has arrived and will be handed over to Nakai District Hospital on 9th August in Thakhek. Last ambulance for the Provincial Hospital, Thakhek is expected in the country by mid-September.
- Suppliers of medical equipment Lot I, III and IV have asked for extension of the delivery date because of delays in obtaining some equipment from Europe. NTPC's procurement section is corresponding with the suppliers for best alternatives. Part of the equipment may be shipped earlier. We have requested the suppliers to ship X-ray machine only in January 2007 because of the construction of Gnommalat hospital.

Training, capacity building:

- Peer leaders training among service women and restaurant owners were conducted in Gnommalat and Mahaxai districts on 17th-21st and 25th-28th July respectively. Attendance at Gnommalat was 26 service women and 21 in Mahaxai.
- Biochemistry training to use new equipment was conducted in Provincial Hospital, Thakhek on 15th-16th July.
- Following Essential Obstetric Care training meeting in June, materials for instructions for managing major complications and the use of new Obstetric Register were implemented during the month for a trial period.
- Long-term training for X-ray and Ultrasound are in progress for Gnommalat District Hospital in Vientiane and will continue until October 06.
- Monthly meetings were held in three districts on 3rd-4th July. Access to Khamkheut was not possible due to broken bridge and flooding on the day of monthly meeting in Laksao and had to be cancelled. Monthly meeting in Khamkheut was held on 26th July which was a combined meeting for July and August.

Supervision:

- Routine supervision of the health center staff's activities was conducted during the month
- Monthly checkups for service women were held in District hospitals of Gnommalat and Mahaxai attended by 25 and 19 service women respectively.

Surveillance and Monitoring:

- Maintained the updates of the Public Health section of the NTPC website.
- To date hand washing facility with tap is available in 11 (37%) in Gnommalat and 5 (31%) in Nakai districts.

Resettlement Program:

- Combined analysis of the data has been completed and standard command file prepared for future first level analysis. This will allow consistent analysis of the data enabling easy comparisons in different villages as well as within the village over time.
- The Nongboua village health checks report has been updated in view of comments received and further developed into a Lao report for easy reading and understanding by district health staff and the development staff working in the village, as well as those villagers who can read. The report will be made available for general use by early September.
- Monthly MCH clinic for Nongboua village was conducted on 7th July

Other activities

- Two Institut Pasteur officials visited MoH and NTPC health program. Extensive visit of health program activities and sites were made. Useful discussions were held on future collaboration of NTPC/HPMU with the Institute.
- One patient was referred to provincial hospital during the month under Equity Fund from Resettlement villages for treatment.

Abbreviations used in this section:

DCD	District Community Development
DH	District Hospital
DHO	District Health Office
HC	Health Center
HPMD	Health Properties Management Division
ICHC	Integrated Community Health Center
IFMT	Institut Francophone pour la Medecine Tropicale
MCH	Maternal and Child Health
MOH	Ministry of Health
ORPP	Outbreak Response Preparedness Plan
PH	Provincial Hospital
PHO	Provincial Health Office
HPMU	Health Program Management Unit
UNPFA	United Nations Population Fund
VHC	Village Health Committee
VHV	Village Health Volunteers
WHO	World Health Organization

Public Health Infrastructure & Equipment, vehicles			
Buildings	Progress during the month	Progress to date	
Consultancy services for preparation of bidding document		100%	Delayed consultancy with Ministry of Health leading to delayed start infrastructure programs
Khammouane Provincial Hospital		100%	Only refurbishment of emergency ward. The balance according to hospital needs is transferred to medical equipment and ambulance
District Hospital	5%	50%	<p>Refurbishment works in Nakai, Mahaxai and Khamkeut hospitals have been completed in July 2006.</p> <p>Renovation works of the roof for the Khamkeut District hospital are behind the schedule because lateness in providing roof sheets.</p> <p>District Hospital new construction will start in October and likely to be completed before next rainy season. Initial expenses are for land clearance and transformer for GMLT DH.</p>
Health Center	0%	50%	<p>Refurbishment work for Nadou and Kengdaeng Health Centers have been completed in July 2006. Khetphid and Nasok HCs and Nongbouakham Integrated Community Health Center (IHC) - in Resettlement Health Program - new construction will start in October. (Note: Two additional IHCs belonging to health program are under Infrastructure budget)</p>
Infrastructure maintenance			Most of the infrastructure maintenance will be required after 2008 onwards.

Medical & Other Equipment	Progress during the month	Progress to date	
Medical and Lab Equipment			
Consultancy for preparation of bidding document		100%	Delayed consultancy with Ministry of Health leading to delayed procurement program
Medical Equipment (KMN Provincial Hospital, 4 District Hospitals and 6 Health Centers)	3%		Lot II items have been distributed to 4 district hospitals (DHs)
			Lot I, III and IV being shipped to Laos by successful bidder. Expected to arrive in 2-3 months (includes big items like X-Ray and Ultrasound), for 4 DHs and KMN PH
			In addition, some biochemistry and laboratory equipment is on order as well. Further supply of medical equipment will be assessed according to need after completion of the construction work.
Ambulance Equipment and other sur-charges			One ambulance has been equipped with the emergency equipment and three sets of emergency equipment have arrived in Vientiane. Additional cost relates to vehicle insurance and essential accessories.
STIs Program			Develop STI services at provincial and district levels, including introductory workshops. (This item originally was budgeted under medical equipment hence in this section)
Peer education			Peer education program - service women, restaurant/bar/guesthouse owners - Ongoing
Non-Medical Equipment			
Photocopier	99%	1%	One for each DHO and the Khammouane PHO
Computers & printers	59%	41%	Two sets to each district health office and two sets to Khammouane Provincial Health Office
Audio-visual equipment (television and DVD player)	22%	78%	One set of television and DVD player to district health offices and health centers for health education program. Additional BCC equipment will be provided in 2006-07
Fridge, water cooler, LCD projector, fax and other items	12%	88%	One set to each district health office and district hospital and a fridge to Khammouane Provincial Health Office.
Hospital beds (Khamkeut)	54%	45%	30 steel beds with mattresses to Khamkeut District Hospital
Hospital furniture (KMN Provincial Hospital, 4 District Hospitals and 6 HCs)			Hospital furniture will be provided according to the need after completion of refurbishments and new construction work
Bed Nets, including impregnation	70%	30%	2,875 nets for 21 villages of Mahaxai, 3,011 nets for 35 villages of Gnommalat, 3,234 nets for 15 villages of Nakai and 2,364 nets for 15 villages of Khamkeut. Nets will be supplied regularly during the life of the project. Vector control measures/equipment will be provided according to need.
Other package non-medical equipment			Other package of non-medical equipment will be provided according to the need after completion of refurbishment and new construction work
Road safety communication			This money will be spent in conjunction with overall road safety program in NTPC project areas.
Vehicles			
Motorbikes	20%	70%	12 motorbikes (6 from project and 6 donated by NTPC) distributed to DHOs and HCs. Plans of replacement mid project.
4WD Pickups	79%	21%	Four 4WD pickups procured and distributed one each to Nakai, Mahaxai, Gnommalat Districts and one to Khammouane Provincial Health Office. Vehicle use policy has been developed in conjunction with the GOL for exclusive use of health work.

Medical & Other Equipment	Progress during the month	Progress to date	
Ambulances	119%	-19%	Two ambulances have been handed over to Khamkeut and Gnommalat Districts. The third ambulance has arrived and is planned to be handed over to Nakai district on 9 th August. Forth ambulance was ordered after a request from Provincial Hospital for replacement of the old one. Expected to arrive by mid-September 2006.

Public Health Program - including awareness programmes			
Supplies - Drugs, kits, forms and manuals.	Progress during the month	Progress to date	
Drug and Medical Supply			
KMN Provincial Hospital	62%	38%	Drug revolving fund for emergency and STI Program
District Hospital	17%	83%	Drug revolving fund for four districts
Health Center	21%	79%	Drug revolving fund for four health centers
Community level (Village Drug Revolving Fund)	59%	41%	Drug revolving fund for 68 villages.
Community level (TBA kits)	33%	67%	Traditional Birth Attendant kits to 96 trained TBAs
Office and Vehicle Operating cost			Operating costs have been transferred to 4 DHs/DHOs and KMN PH/PHO 2 time per year, including health centers.
KMN PH/PHO	8%	92%	
DHs/DHOs	2%	98%	
HCS	3%	97%	
Others (training materials, printing forms, etc. ...)		94%	Including BCC materials
Health Education and Awareness Program	Progress during the month	Progress to date	
STIs including HIV/AIDS	5%		<p>Apart from regular health education program in health facilities, special health education and awareness activities are organized on special events such as World AIDS Day and boat racing festival.</p> <p>Substantial numbers of people from the community attend these public events - 22 public event sessions were held in four districts and in Thakhek since September 2005 to date.</p> <p>Separate session was held for, GOL, NTPC and RMU staff</p> <p>Special focus was also given to construction contract staff during the new house construction in the resettlement areas.</p>
Operating cost for PCCA/DCCA			PCCA and DCCAs are responsible for carrying out education and awareness activities in the area of STIs including HIV/AIDS. Their capacity is limited but slowly improving. It is important to support them in this program for sustainability.
Relocation/medicinal plants			Initial work was carried out. Further studies will be carried out in conjunction with National Traditional Medicinal Research Center after resettle population move into their permanent housing.
Consultancy fees (Road safety, PHC, psychosocial, etc.)			This money will be spent in conjunction with overall road safety program in NTPC project areas.

Strengthening Human Resource in Public Health			
Supervision and Monitoring	Progress during the month	Progress to date	
Incentive			Incentive were distributed two times to provincial, district and health center in all project target areas, while only one time were provided to village health workers since they were trained in the past few months. Discussions are being held to find ways to link these incentives in future to performance.
Field visits for supervision and support			Resettlement Health Program - bi-weekly visits to all resettlement sites for review of environmental and health situations, including emergency care for any patients.
			Regional Health Program - through integrated outreach program consisting of health center, district health, provincial health and HPMU staff visiting health centers and villages.
Integrated Outreach Program			Integrated outreach work consist of more comprehensive health education and awareness on a number of health topics such as maternal and child health, STIs including HIV/AIDS, malaria, diarrhea, respiratory infections, hygiene and sanitation, road safety
Strengthening Health Service Delivery			Regular review of service delivery to district hospitals and health centers by district health staff.
			Referral system for emergency patients has been developed and is linked to quarterly review and training program.
			Emergency obstetric care referral system is also developed and will be reviewed quarterly
			Maternal and Child Health service is being organized at monthly intervals for resettled populations. This will be followed by all health centers in their respective villages.

Training	Progress during the month	Progress to date	
Community level	6%	94%	Seven TBA training sessions (96 participants), seven VHV training sessions (101 participants) and seven VHC training sessions (66 participants). Periodical training and refresher program will continue throughout the life of the project.
Health Center, District and Provincial levels	20%	80%	<p>Five training sessions including three TOT (MCH, STI, TBA and peer educator) (102 participants)</p> <p>Training sessions for all level of health workers will be repeated at periodical intervals depending on the subject matter.</p> <p>Laboratory services training is planned for June-July 2006</p> <p>STI Program - Peer educator training in 4 districts</p>
Long Term	31%		<p>Two long term training session, namely emergency medicine and ICHC of three months (9 participants) and one month (two participants) respectively. Khamkeut District still to have emergency training.</p> <p>Long term training for X-Ray and Ultrasound will be conducted in August onwards.</p>
Study Tours		90%	All district hospital and health center staff were taken for study tours to Integrated Community Health Center (ICHC) in Vangvieng and Taleo (59 participants)
Workshop on how to identify psychosocial/drug abuse problems			It requires different methodology to assess the situation. The focus group discussions in future will reflect on this social problem if it exists in the communities
On the job training			This activity is incorporated with on the job training during supervision and support.

Meetings	Progress during the month	Progress to date	
Create Outbreak Detection and Response Preparedness Unit		100%	Monthly meetings are held in each district and Khammouane Provincial Health Office. These meetings provide an opportunity for educational updates on conceptual and methodological aspect of health service delivery along with the achievements and future plan
Meetings at provincial and district levels	9%		Implementation of the National Avian Influenza awareness program in conjunction with the provinces (Khammouane, Bolikhamxay and Savannakhet)
Quarterly meeting at HC (VHVs, HCs)			Regular meetings at provincial and district levels
Health education materials and activities - design and production	2%		Plans to start in the next quarter
Develop the procedures for the referral system			Support under health education program for all health facilities in the project areas.
Zonal Health Committee Meeting (4 x per year for each ICHC; and for DH)			Referral system methodology to be developed and training conducted in Jun-Jul 06
Adapt ICHC accounting and management system			It will be implemented once the ICHC is in place
			New system will not be introduced. Instead, GOL system similar to other areas in the province will be implemented

Public Health Monitoring and Surveillance	Progress during the month	Progress to date	
Task force meeting			To be redefined as the present definition is difficult to define.
Routine data collection/HIS			Routine data collection and collation. (Note: considerable backlog to be completed)
Outbreak Response Preparedness	100%		Report published and distributed in English.
Outbreak Response Operational	10%		Translation of English report and distribution, followed by training workshops.
Scientific support			Scientific support and areas of support are being redefined. Possibility of getting assistance from additional sources.
Existing data analysis 2004	100%		
Midterm survey	0%		Will be carried out in 2008-09, with planning starting in mid-2008
Special surveys	5%		One Health checks and survey in Nongboua Village. Others will be carried out in the new resettled villages after 100% completely moved.

Equity Fund	Progress during the month	Progress to date	
5% of total budget			With the fast track resettlement program in operation, there has been an increasing need for emergency provision for individuals. To date six individuals have been referred and paid for treatment in Provincial hospital Thakhek.

Social Activities

Nakai Plateau Resettlement

2.3 Nakai Plateau Resettlement

2.3.1 General

Transitional resettlement of the first eight villages neared completion in July – villagers continued to participate in the clearing of their housing and agricultural plots, collection of building materials for temporary houses, construction of temporary houses, toilets, wells, schools etc. The enthusiasm of the villagers has continued for three months, with the process is being closely monitored and supported by NTPC, District and RMU staff, to ensure that relocation does not proceed without appropriate management (health, schooling, access etc.....). Villagers are organized in units who work as a team to establish the essential infrastructure required prior to moving in to their temporary houses – which are at least of an equivalent standard to their source village houses.

Rice and protein distribution programmes are in place (a mix of fresh and dried meat, eggs and vegetables was determined as appropriate by the NTPC Health team based on nutritional considerations), and basic household “kits” are distributed – these include water containers, washing gear and mosquito nets. District health officials are monitoring all transition families for any signs of ill health requiring treatment, and school uniforms are being provided as required.



Food distribution program at Ban Done

At the end of July 2006, the new villages of Sop On, Phonsavang, Boua Ma, Sop Ma, Sop Hia/Nam Nian (first group), Sop Phene and Sop Ma have been established with all villagers living in their new locations. Approximately 100 of the 142 households of Ban Done, and approximately 20 of the 52 households of Khone Khen, managed to build and relocate to temporary houses on their new plots, despite the heavy rains and particularly difficult access to these villages. Access to Khone Khen was by 4WD truck only, and access to (old) Ban Done was by a combination of 4WD truck, boat and hand tractor for most of July.

NTPC all-purpose truck in action, transporting materials to Ban Done



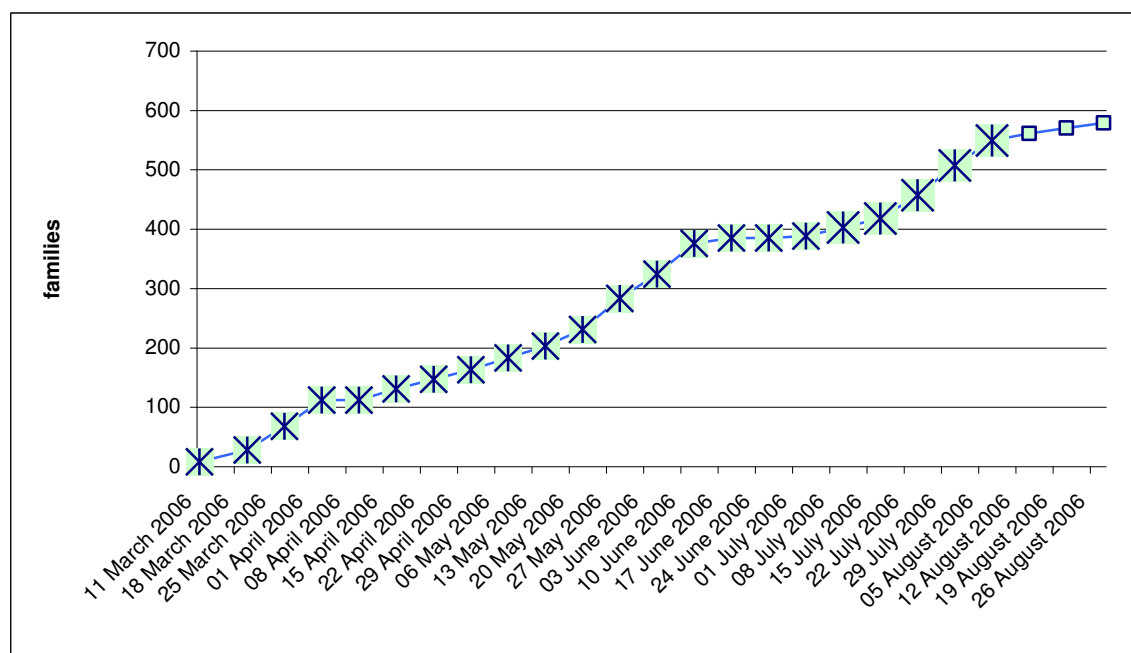
As noted in the previous monthly report. Nong Boua Kham village, originally included as part of VG1, has been tentatively removed from the “transition list”. This is because: (i) there is no significant risk to this village from the cofferdam; (ii) unlike the other transition villages who were situated along the banks of the Nam Theun/Nam On and who have moved to a more accessible location with transition housing equal or better to their original housing and better facilities, Nong

Boua Kham is situated along the national highway north of Oudomsouk. Accessibility and facilities are already good and are unlikely to be improved by transition resettlement. It is planned that Nong Boua Kham will be relocated during the next dry season.

The page includes a table showing how villages have relocated since the start of Transition resettlement, as well as a graph showing the actual cumulative movement of households to date.

Transition Timetable

Week Starting:	Kaeng Yao	Sop On	Ponsavang	Bouama	SopHia Nam Nian (vietic)	Sopma Hadkampan Kaeng Yao	Sophene	Ban Done	Khon Kaen	Total households
Move to Area:	16	19	18	17	8a	8	11	21	22	
11/03/2006	8									8
20/03/2006		20								28
27/03/2006		40								68
03/04/2006		44								112
10/04/2006										112
17/04/2006			19							131
24/04/2006			11	5						147
01/05/2006			11	5						163
08/05/2006				20						183
15/05/2006				20						203
22/05/2006				18	10					231
29/05/2006				6	19	15	12			283
05/06/2006					7	22	12			324
12/06/2006						29	23			376
19/06/2006							9			385
26/06/2006										385
03/07/2006								3		388
10/07/2006								15		403
17/07/2006								15		418
24/07/2006								29	10	457
31/07/2006								40	10	507
07/08/2006								35	7	549
14/08/2006								5	7	561
21/08/2006									9	570
28/08/2006									9	579
Total households	8	104	41	74	36	66	56	142	52	579



As of the end of July 2006 there have been a total of 507 households resettled (approximately 2,530 people) to transition housing. Transition resettlement will continue to move at a controlled rate with some six hundred households expected to be living on their new plots of land and participating in the development of their new homes by the end of August 2006.

Transitional Livelihoods:

Preparation of agricultural land on-going in four new transition villages – Nong Boua, Boua Ma, Phonsavang and Sop On.

Currently 70% of agricultural plots have been cleared at new Sop On, 70% at new Phonsavang, and 5% at new Boua Ma. All the agricultural plots of the 8 Ganeg Yao families that moved to the Pilot Village have been cleared.



Agricultural land at Phonsavang cleared for swidden

Training and assistance in home gardens is on-going and most transition resettlers have productive gardens for home consumption and trade.

The opportunity to supply labor for work associated with UXO clearance and village construction is provided to all villages, in addition to food support in the case of transition resettlers.

There is a full time presence of NTPC and District supervisors and community facilitators in each village.

Village site office at new Sop Hia.



Most NAKAI activity is still focused on implementation of Transition Relocation.



Solar powered radio at Ban Done – part of flood warning / emergency response plan

Two schedules are presented in the following pages:

The first schedule shows the phases of resettlement for the various villages listed in order of potential impact by cofferdam and main dam

The second schedule shows progress of the respective tasks associated with resettlement of the same villages.

			statistical impact in 2006 (cofferdam)		statistical impact in 2007 (part. dam)				2006				2007				2008					
number	village name	hh # (2006)	10%	1%	10%	1%	new area	New area code	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4		
8	Ban Hat Khamphane	23	3	3	3	3	8	N1	preparation of transitional phase	transitional phase			relocation completed		Flood impact by dam partly built	Reservoir impounding						
9	Ban Sop Ma	23	3	3	3	3	8	N1	preparation of transitional phase	transitional phase			relocation completed									
10	Ban Keng Gnao	20	3	3	3	3	8	N1	preparation of transitional phase	transitional phase			relocation completed									
10	Ban Keng Gnao	8	3	3	3	3	16	N2	preparation of transitional phase	transitional phase			relocation completed									
13	Ban Sop On	104	3	3	3	3	19	N3	preparation of transitional phase	transitional phase			relocation completed									
14	Ban Done	142	3	3	3	3	21	N4	preparation of transitional phase	transitional phase			relocation							completed		
15	Ban Khone Khen	52	3	3	3	3	22	N5	preparation of transitional phase	transitional phase			relocation							completed		
5	Ban Sop Phene	56	2	3	3	3	11	N6	preparation of transitional phase	transitional phase			relocation completed									
11	Bouama	74	2	3	3	3	17	N7	preparation of transitional phase	transitional phase			relocation completed									
12	Ban Phonsavang	41	1	3	3	3	18	N8	preparation of transitional phase	transitional phase			relocation completed									
1	Ban Sop Hia	34	1	2	3	3	xx	Nx	relocation of lower hh on upper part of the old village	preparation of transitional phase		transitional phase		relocation						completed		
1	Ban Sop Hia (first group)	30	1	2	3	3	8a	N9		transitional phase			relocation completed									
	Ban Nam Nian (first group)	6	0	0	3	3	8a	N9		transitional phase			relocation completed									
4	Ban Nong Boua Kham	57	1	2	1	2	9	N10		preparation of transitional phase	transitional phase			relocation completed								
3	Ban Thalang	79	0	1	1	2	13	N11			preparation of transitional phase	transitional phase		relocation		completed						
6	Ban Nakai Neua	88	0	1	1	2	1	N12			preparation of transitional phase	transitional phase		relocation		completed						
2	Ban Nam Nian	30	0	0	3	3	xx	Nx			preparation of transitional phase	transitional phase		relocation		completed						
7	Ban Nakai Tai	179	0	0	1	2	2	N13			preparation of transitional phase	transitional phase		relocation		completed						
16	Ka Oy	10	0	0	0	0	19	N3				preparation of transitional phase		transitional phase		relocation completed						
16	Ka Oy	15	0	0	0	0	21	N4				preparation of transitional phase		transitional phase		relocation completed						
17	Ban Oudomsouk / Phon Phan	103+56	0	0	0	1		N14				preparation of transitional phase		transitional phase		relocation completed						

				Transition																													
				Topo survey	Village layout design (Housing)	Village layout design (Agric.)	up Hill relocation	Access track	UXO temp area	Logging temp housig area	drill wells, hand pumps	Temporar y Schools	Temp. toilets	Building Temp. houses	Expected Commencement of Transition Resettlement	Transition Support - food, health, household goods	Target Date - full transition	UXO whole areas	Logging whole area	Road Construct ion	Stump Removal	Clear housing area	House Building	Dismantle house and transport	Water Supply	Electricity	Communit y Buildings	Agric land preparatio n	Other non-farm activites	Irrigation	Target Date - Permanen t Houses Complete		
New area code	new area	village to move in this area	hh # (2006)																														
N1	8	Ban Hat Khamphane	22				NR								May-06		T2/06						C			p	p				T4 / 06.		
N1	8	Ban Sop Ma	23				NR								May-06		T2/06						C			P	P				T4 / 06.		
N1	8	Ban Keng Gnao	21				NR								May-06		T2/06						C			P	P				T4 / 06.		
N2	16	Ban Keng Gnao	8				NR	NR		NR		NR			Mar-06		T2/06		NR	P								NR		P	T3/06		
N3	19	Ban Sop On	104				NR								Mar-06		T2/06									P	P				T4 / 06.		
N3	19	Ka Oy	30				NR										T2/07									P	P				T4 / 07.		
N4	21	Ban Done	142												Jul-06		T3/06														T1 / 07.		
N5	22	Ban Khone Khen	52												Aug-06		T3/06														T1 / 07.		
N6	11	Ban Sop Phene	56				NR								May-06		T2/06						C			P	P				T4 / 06.		
N7	17	Bouama	74				NR								Apr-06		T2/06						C			P	P				T4 / 06.		
N8	18	Ban Phonsavang	41				NR								Apr-06		T2/06						C			P	P				T4 / 06.		
N15	7	Ban Sop Hia	37						C								T4/06	C													T1 / 07.		
N9	8a	Ban Sop Hia (first group)	30												May-06		T2/06						C			P	P				T4/06		
N3	8a	Ban Nam Nian (first group)	6												May-06		T2/06						C			P	P						
N10	9	Ban Nong Boua Kham	57				NR	P		C	P	P	P	P	Nov-06		T3/06		P	P	P	P	C		P	P	P				T1 / 07.		
N11	13	Ban Thalang	73														T1/07														T1 / 07.		
N12	1	Ban Nakai Neua	89														T1/07														T1 / 07.		
N15	7	Ban Nam Nian	25				NR		C								T4/06	C													T1 / 07.		
N13	2	Ban Nakai Tai	190				NR										T1/07														T1 / 07.		
N4	21	Ka Oy	3				NR		C								T3/07	C													T4 / 07.		
N14		Ban Oudomsouk / Phon Phan Pek	103+56				NR		C								T3/07	C													T4 / 07.		
				NR			Not Relevant			P			In procurement			C			Contract signed, mobilization phase						Implementation - On going						Task completed		

2.3.2 Infrastructure

Wet season rainfall has been heavy throughout July and the three road construction contractors made little progress during the month.

○ Topographic survey and mapping of indicative locations

The contract for the survey and mapping of an extra 237 ha near Area 13 for the Ban Thalang irrigated agriculture area was suspended in July because of the heavy rains. The contractor will return to the site to complete the work as soon as the wet season is over and access to the area is possible.

There is still no final resolution to the question of how many (ex Nam Pan) Sop Hia and Nam Nian resettlers will be resettled to the Plateau area and how many will resolve to move to Khamkheut District. These villagers have been tending to change their minds frequently. Consultations with GOL and with resettlers are on-going; it is anticipated that those resettlers whose final choice is to move to the plateau will be relocated to the previously identified Area 7.

○ Finalization of village location – Village layout Design

Village Development Plans: All VG1 layouts have been completed (except for that portion of Sop Hia and Nam Nian that was previously scheduled to move to Nam Pan). The contract the preparation of layouts for the remaining villages is underway as shown in the table below.

Name of the original villages in VG2	New village area	Village layout	Agriculture Layout
Thalang	Area 13	Complete	More survey required
Nakai Tai	Area 2	Finalized after consultations 15 July	After consultations, probably more survey and mapping required north of area identified
Nakai Neua	Area1	Finalized after consultations 14 July	Villages not happy with western boundary shown on draft layouts prepared. Revisions required.
Done	Area 21	Complete	Complete
Khone Khen	Area 22	Complete	Complete

○ UXO search and clearance

Despite the rains, the contractor continued to make good progress during the month. The southernmost Area 22 for Ban Khone Khen has been completed. The contractor has also made good progress in the central Areas 1 and 2 for Nakai Neua and Nakai Tai. Also searched was a 2 ha area for the power line to the VFA offices and sawmill.

The clearance certificates and reports for the northern resettlement areas show that considerable numbers of UXO was found. At Area 13, 586 items were found including 577 bomblets. At Area 11, 91 items were found including 88 bomblets. Significant numbers of UXO are also being found at the central Areas 1 and 2. However there were less bomblets found and more items such as small caliber anti-aircraft ammunition found.

Since November 2005 to date, the contractor has searched and cleared over 800 ha of resettlement area. To the end of July 2006, 1,109 UXO items have been found and destroyed.

The same contractor also has a contract for "Resettlement Area UXO Community Awareness and Emergency Response Teams." In June an awareness survey of the resettlement villages was completed to identify each village's needs. The results of the survey were used to design specific educational materials and the preparation of these is underway. Response forms have been prepared and "drop boxes" provided in which the response forms can be returned.

In July, the response team made seven to four villages to check on reported suspect items. 136 UXO items were found and destroyed, mostly bomblets, but also four rockets, two mortars, four rounds and one igniter. To the end of July, 176 UXO items have been found and destroyed by the response team.

○ Roads and drainage

There are three ongoing road construction contracts. As stated previously, heavy rains have caused minimal earthworks progress on all three contracts during the month. Some progress was made with culvert installations.

Southern Access roads to and within villages:

Progress for the construction of access roads to and within the new villages of Bouama (area 17), Phonsavang (area 18) and Sop On (area 19) increased from about 80% at the end of June to about an estimated 82% by the end of July.

Southern Resettlement Road:

There was minimum progress on the contract for the construction of the Southern Resettlement Road, 11.765 km long. This includes improving drainage work to try and keep the road surface as dry as possible. The construction is about 30% complete.



Southern Resettlement Road no longer suitable for cars, but the buffalos like it

Northern Access roads to and within villages:

The contractor has continued work on the construction of access roads to and within the new villages of Sop Ma (area 8), Vietic Sop Hia (area 8a), Nong Boua Kham (area 9) and Sop Phene (area 11) and has made some progress with culvert installation in Areas 8 and 8A. It is estimated the works are about 50% complete.

○ House Construction

Contracts for the construction of timber houses for VG1 resettlers have been awarded but only three companies have commenced construction. The problem with the delivery of sawn construction wood is improving but not to an extent where the three remaining contractors can be given notice to proceed and this will be delayed to the start of the forthcoming dry season. The delays are due to:

- Original surveys by GOL overestimated the volume of construction hardwood species available;
- VFA sawmill equipment still in procurement;
- Restrictions on transporting logs to/from other sawmills (traffic management concerns)
- Complicated and time consuming procedures (tax exemption, permissions etc.)

Other contracts are planned to start as follows:

<i>Areas and Villages concerned</i>	<i>Contract No.</i>		<i>Start Date</i>
Area 17 for Bouama Area 16 for Keng Gnao	C604	Area 16	20 March 06
		Area 17	19 May 06
Area 18 for Phonsavang	C605		16 May 06
Area 19 for Sop On	C606		21 Apr 06
Area 8 for Sop Ma / Hat Khamphane Area 8A for Sop Hia	C607	Area 8a	deferred to dry season
		Area 8	deferred to dry season
Area 9 for Nong Boua Kham	C608		deferred to dry season
Area 11 for Sop Phene	C609		deferred to dry season

The eight houses for Keng Gnao resettlers at Area 16 are complete. All the three Contractors (at Area 19 (Sop On), 18 (Phonsavang) and 17 (Bouama)) have completed the construction of the work camps and have made progress with foundations and the concrete piers.



House in Keng Gnao

House in new Sop On



○ Community Buildings

Each resettlement village will have a primary and nursery school, village office and meeting hall, market, warehouse and a rice mill and workshop. There will also be two clinics, five seed processing and agricultural storage facilities and five organic fertilizer facilities located at various villages. The sizes of most of the buildings will vary according to village size. Designs have been prepared for most of the Pilot Village community buildings, however many resettlement villages will be larger and more designs are required.

The contract for the preparation of designs, drawings and BoQs with the contractor has progressed and seventeen draft drawing albums and BoQs have been submitted as has an interim progress report. NTPC infrastructure engineers are in the process of checking and commenting on the drawings.

The drawings and Bills of Quantities for the two Health Centers at Ban Done and Ban Nong Boua Kham were completed under a separate contract for the design of Public Health Infrastructure.

○ Domestic Water Supply and Sanitation

As previously reported, resettlement village water supplies is a combination of:

- Rainwater collected from house roofs, via guttering and down-pipes to a 2,000 liters capacity tank; and
- Deep machine drilled boreholes equipped with VLOM (Village Level Oriented maintenance) hand pumps.

Toilet/bathrooms will be installed at every house and there will also be some at the community buildings. The construction of the VG1 resettlers' rainwater collection facilities and latrines has been included with the housing construction contract.

Boreholes with hand pumps: A total of 33 deep boreholes were successfully completed during the months of June and July 2006 with the Champasack Provincial Nam Saat drilling team. This contract was signed in May 2006 for the realization of a total of maximum 109 successful boreholes to cover the needs on the VG1 on-going relocation.

The recapitulative progression for June and July 2006 as well as the summary of the actual performance vs initial plan is attached in the following pages.

JUNE AND JULY 2006 - SUMMARY IMPLEMENTATION REPORT

Drilling Boreholes by Ingersoll Rand ITH5 drilling rig with Air compressor IR VHP 400 - 2 carrier trucks and 1 support truck

Period: June 2006 - 21 Boreholes drilled - 19 productive - 16 equipped - 2 Failures

Item	Description	Ban Sop Ma - Area 8				Ban Sop Phene - Area 11		Ban Sop Hia - Area 8a			Ban Done - Area 21								Ban Khone Kaen - Area 22			
		1	2	3	4	5 (1)	6 (2)	7 (1)	8(2)	9(3)	10(1)	11(2)	12(3)	13(4)	14(5)	15(6)	16(7)	17(8)	18(9)	19(1)	20(2)	21(3)
A	Drilling start date	4-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	15-Jun	16-Jun	17-Jun	19-Jun	20-Jun	21-Jun	21-Jun	23-Jun	24-Jun	26-Jun	27-Jun	28-Jun
B	Pumping test start date	6-Jun	9-Jun	8-Jun	10-Jun	15-Jun	14-Jun	16-Jun	17-Jun	17-Jun	18-Jun	20-Jun	20-Jun	21-Jun	22-Jun	23-Jun		24-Jun	26-Jun	27-Jun	28-Jun	
C	Borehole depth (m)	61.00	40.00	58.00	40.00	43.00	45.00	49.00	40.00	46.00	37.00	46.00	40.00	46.00	46.00	46.00	66.00	40.00	49.00	52.00	52.00	61.00
D	Static Water Level (SWL) (m)	14.77	11.32	11.48	9.57	19.54	18.43	8.11	9.55	12.40	9.76	9.75	10.80	10.50	12.27	7.00	Failure	9.26	7.25	13.02	15.82	Failure
E	Discharge (L/S) as per pumping tests results	0.99	0.45	0.60	0.60	0.99	0.78	0.54	0.78	0.32	0.60	2.50	0.78	0.60	0.60	0.39		0.60	0.32	0.22	0.32	
F	Hand pump type (note: SB for Stand By)	TARA	TARA	TARA	TARA	Afridev	SB	TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA		TARA	TARA	SB	SB	
G	Handpump cylinder depth	20.00	18.00	18.00	18.00	33.00		18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00		18.00	18.00			

Period: July 2006 - 16 Boreholes drilled - 14 productive - 13 equipped - 2 Failures

Item	Description	Ban Boua Ma - Area 17					Ban Sopon - Area 19					Ban Phonesavang - Area 18					Nong Boua - Area 16	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
A	Drilling start date	29-Jun	30-Jun	1-Jul	10-Jul	10-Jul	4-Jul	5-Jul	6-Jul	7-Jul	7-Jul	8-Jul	8-Jul	9-Jul	9-Jul	11-Jul	12-Jul	
B	Pumping test start date		1-Jul		15-Jul	14-Jul	5-Jul	6-Jul	7-Jul	9-Jul	8-Jul	10-Jul	11-Jul	12-Jul	13-Jul	16-Jul	16-Jul	
C	Borehole depth (m)	61.00	31.00	61.00	40.00	37.00	52.00	52.00	34.00	31.00	46.00	31.00	34.00	31.00	40.00	31.00	31.00	
D	Static Water Level (SWL) (m)		8.94		9.74	6.62	12.41	8.90	5.82	4.97	15.35	3.54	2.35	1.82	2.96	2.20	6.45	
E	Discharge (L/S) as per pumping tests results	Failure	0.45	Failure	0.78	0.45	0.78	0.32	2.50	1.23	7.00	0.45	0.45	0.32	0.45	0.45	7.00	
F	Hand pump type (note: SB for Stand By)		TARA		TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA	TARA	SB	
G	Handpump cylinder depth		18.00		18.00	18.00	18.00	18.00	18.00	18.00	18.00	15.00	15.00	15.00	15.00	15.00		

NTPC - Construction of machine drilled boreholes for domestic water supply - For housing and community buildings

RECAPITULATIVE MONITORING DRILLING PERFORMANCE vs GENERAL PLAN OF ACTION

SITUATION ON MONTH OF: JULY 2006

Initial planned quantities likely to be updated according to finalized numbers of resettlers families per area

RECAPITULATIVE TABLE No 1: "Project Lands"					Balance vs plan		Total Completion				
			Initial Plan		Productive	To be equipped	Total BHs drilled	Productive	Equipped	Failures	Failures
			Option average coverage 8 Houses/BH	Already completed and equipped before June 2006	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	% of total drilled
No	New Area	Villages	Total Qty								
1	ODS New Urban area A (Oudomsouk May)	Oudomsouk SD12B PAPs	9	9	0	0	9	9	9	0	0.00
2	ODS New Urban area C (Primary School)	Oudomsouk SD12B PAPs	1	1	0	0	1	1	1	0	0.00
3		Oudomsouk SD12B PAPs - ODS areas 8, 7 and market	5	5	0	0	5	5	5	0	0.00
4		Pon Pan Pek - Intake PAPs	5	5	0	0	5	5	5	0	0.00
5	xxx	Others - ESTIMATE QUANTITY - To be finalized and adjusted during implementation period as per demand.	22	0	22	22	0	0	0	0	
SUB TOTAL Project lands			42	20	22	22	20	20	20	0	0.00

The supply process of imported Afridev VLOM deep well hand pumps has been engaged with the National Center for Environmental Health and Water Supply under a one-year duration Frame Agreement signed in May 2006. The hand pumps are expected being delivered around October 2006.

○ Irrigation Systems

Progress with the contract for the construction of the extension area to the Pilot Village irrigation scheme for the resettlers from Ban Keng Gnao has been suspended because of the rains and the fact that the farmers are growing a wet season rainfed rice crop on the plots. The Contractor is procuring all the pipes and fittings required for the works.

The preparation of irrigated agricultural layouts is part of the resettlement village planning exercise and this has been reported on above.

Permanent irrigation agriculture cannot commence until there are transmission lines are installed to power the irrigation pumps until there is Nakai Reservoir water to pump from (apart from areas 17, 18 and 19, which will have the use of water from the Theun Duane and Houay Malai).

○ Electricity

The Senior Electrical engineer is continuing with the design of the resettlement village electricity layouts. He will continue with this activity in between the supervising installations at various sites particularly for the VFA Sawmill. To date designs have been completed at five villages. A contract for the electrification of the eight houses completed at Area 16 for the Keng Gnao resettlers is complete and will be signed in August.

2.3.3 Nakai Plateau Forestry Development Program

- 1) The forestry livelihood component activities are designed to strengthen of the Nakai Plateau Village Forestry Association (NPVFA) that was formed in June 2003. The goals and objectives of these activities are to allow the Association to implement sustainable forest management and operate a profitable forest industry business to provide additional income to support resettled families and further improve incomes from managed forest resources.
- 2) The Concession Agreement between GoL and NTPC provides the NPVFA, acting on behalf of the resettled communities, with the exclusive utilization rights to the timber and non-timber forest products within a defined resettlement area of approximately 20,000 hectares. Forest management contracts and long term forest management plans have been prepared, approved and signed by the Government of Laos and the Nakai Plateau Village Forestry Association on 2nd August 2005. This involved retyping and remapping of the better quality forest, degraded forest and protection forest zones for inclusion in the plan.
- 3) The management plan includes a calculation and provision for harvesting and sawing 6,000 cu.m. of logs each year for the production of added value timber products. In the initial 3 – year period, 2006 – 2008 it was planned for activities to cover the salvage logging and clearing for housing, irrigation and farming and selling of wood products, including tendering to supply timber for resettlement houses.
- 4) To implement activities NTPC has assisted the NPVFA to obtain various business licenses and commenced procurements of equipment's and services required in May 2005. Most vehicle and logging equipment purchases, office and accommodation buildings have been completed in the first half of 2006. Factory buildings are 90% completed and 50% of processing equipment supplied. Electricity and plant installation is expected to be completed before end August for startup in September 2006. Six Lao and one expatriate advisors were appointed in 2005 and a part time expatriate engaged in 2006 to assist with a larger workload than had originally been planned
- 5) In September 2005 NTPC requested the GoL to supply 33,000 cu.m. of tax free sawn logs from the project reservoir. An area of 2000 ha was indicated by GoL as potentially suitable, but this was later assessed to contain little suitable volume. In December 2005 the tax exemption was approved. NTPC then prepared a harvesting plan based initially on harvesting resettlement areas following UXO clearance operations to permit housing and irrigation development. This plan, based on GoL 100 % inventory surveys, was submitted to GoL in January 2006 to approve salvage harvesting 16,400 cu.m. of hardwood species suitable for construction and 4,900 cu.m. of softwoods (mainly pine).
- 6) The GoL approved the NPVFA, as holder of the cutting rights to undertake the harvesting of trees and sawing of timber under contract to NTPC to permit benefits to be returned to the resettled households. NTPC has undertaken to pay the operating costs of harvesting and sawing timber for project construction and to pay a NPVFA performance fee based on sawn wood volumes delivered to building contractors. Harvesting commenced in January and sawing by local sawmills in the Nakai and Lak 20 areas commenced in March.
- 7) Demonstration and training activities were commenced prior to financial close. These included a furniture training factory, establishing a tree nursery and establishing 17 hectares of non-timber forest product plantations and 50 hectares of enrichment planting. Since financial close other key development activities have included :
 - Establishment of a further 25 hectares of non-timber forest products plantations
 - Forest inventories and reservoir boundary demarcation surveys
 - Demonstrations of charcoal production in kilns at individual family and group level, to be linked to supply of charcoal for activated carbon production and export
 - Pencil wood production for export to Thailand.

Activity	July Result	Total to Date	Target to end July	Total 2006 Target
Logging Production (cu.m.)				
Log volumes harvested	-	22,113	21300	24,720
Volume hardwood harvested.	(-723)	9,377	7,420	19,820
Volume softwood harvested.	(+726)	12,736	3,900	4,900
Construction hardwood (21 species) harvested	(-652)	6,620	9,820	19,820
Non-construction hardwood species harvested	(-71)	2,757	-	-
Construction hardwood logs sawn	408	2,630	9820	9,900
Sawn wood Production (cu.m.)				
Sawmill production	439	1,578	4,900	9,900
Sawn wood delivered to house construction	425	746	3,510	5,975
Log Sales				
Log volume (pine) sold	439	5,743	3,900	4,900
Log volume (pine) not sold	-	6,993	-	-
Log volume non construction species not sold	-	2,757	-	-
Furniture Production				
Units produced (tables , chairs , cupboards, door & window frames	42	628	500	800
Charcoal production				
Kiln Construction - Large	1	1	2	10
Kiln Construction - Medium	4	-	4	20
Charcoal output (tones)	3.2	3.8	6	1000
Brick Production				
Kiln Construction (number)	1	1	1	2
Brick Output (number of bricks)	9000	24,000	30,000	80,000
Plantation				
Weeding – Manual (ha) 2004-05 planting	39.8	84	84	126
Weeding – Chemical (ha) 2004-05 planting	5	5		
Fertilizer – Thermophosphate – Trees only (ha) 2004-05-06 planting	-	44.8	50	50
Fence repairing and improvement (km)	2.1	2.1	3.5	3.5
Soil improvement trials and demonstrations Land prep, fertilizer and grass sowing (ha)	5	9	84	210
Natural regeneration demo - Re-fencing (km)	-	-	3.0	3.0
Natural regeneration demo - Weeding (ha)	-	-	35	35

(-) Values in brackets for wood volumes are adjustments after GoL final checking of log lists in July

Results Comment and Other Significant Events

- 8) The achievement of sawn wood production targets for resettlement housing continues to be low due to difficulties with sawmills :
- BPKPD sawmill at Lak 20 working well below capacity –labor shortages reported
 - BPKPD sawmill at Nakai continuously breaking down
 - Temporary VFA sawmill operated by contractor at Nakai not working at full capacity as 2 vertical resaws not yet installed. These 2 extra saws will be installed in August.
 - Output of Nakai sawmills for NTPC resettlement house timber is presented below
- 9) To improve VFA management of production operations and strengthen capacity building the GoL and NTPC agreed to introduce temporary regulations to allow NTPC to more directly control operations. An NTPC salaried appointment to the position of General Manager commenced duties on 31 July 2006. The General Manager will be reporting to NTPC and a Supervisory Board comprising 5 members from the GoL, 5 members from the NPVFA and 2 non-voting advisory members from NTPC.
- 10) Following the decision at 21 June 2006 meeting (see June report) to transfer logs harvested that were unsuitable for resettlement house construction back to GoL, including logs already sold, some 6,990 cu.m. of pine logs still remain in stock. There is no action yet by GoL to move these logs to buyers and log decay is commencing. NTPC will commence action to spray logs where transport trucks cannot access logs at the VFA sawmill due to the difficult wet season conditions.
- 11) The first large charcoal production demonstration kiln constructed produced 3.2 tons of charcoal in its first month of operation. Expansion of this work to other villages is planned but the wet season conditions restrict progress.
- 12) Brick making is slowed by the wet season conditions preventing drying of bricks prior to baking in the kiln constructed.
- 13) In the plantation activities progress is slow due to a late start and wet season access difficulties to work sites. Key operations should be completed in August. Pronae (Programme National Agroecologie) trained NTPC team for 20 days in the 42 ha plantation for a combine agro-forestry program and weed forage in forestry area.
- 14) At the sawmill site construction of the dry timber store and saw maintenance / storeroom / operations control room was completed. Pouring of the cement floor of sawmill has commenced. A second log loader was delivered and 2 logging winches from Slovakia to fit to tractors was also received. Tenders for construction of the drying kiln rooms at the sawmill have also been received for evaluation of bids and award of contract.



Sawing Timber for Resettlement houses
in temporary sawmill

2.3.4 Nakai Plateau Agricultural and Livestock Development Program

The NTPC teams are now focusing on the transition resettlement villages which is included 9 villages, there will be affected by flood from the closure of coffer dam. Otherwise, the agriculture and livestock team is implemented urgently the temporary vegetable garden for each household, agriculture land clearing, fencing, mushroom production, buffalo relocation buffalo shed construction etc., in order to improve livelihood condition of the resettlers when they are moved to a new location.

During the transition resettlement period, we encourage the resettlers grow the several vegetable as temporary vegetable garden and mushroom cultivation for the house consumption. According to livestock, the resettlers are now continuing to move their own animals (e.g. buffalo and cattle) and we provide the necessary material for the animal shed and also agricultural tools.

○ Transition resettlement villages

Activity	Input / Support	Output / Result	Assessment
1. Establishment of temporary vegetable garden at Sop Phene	<p>Provided vegetable seed as follow: Onion: 3 kg Morning glory: 7 kg Longbean: 4 kg Coriander: 2 kg Cucumber: 3 kg 4,191 kg of organic fertilizer</p> <p>Distributed agricultural tools: Hoe: 36 units Spade: 5 units Knives: 25 units Crowbar: 20 units Watering can: 16 units Net for fencing: 960 m</p>	<p>Completed 55 temporary vegetable gardens for 55 hh in 1,397 m². The temporary vegetable garden of another transition village is going on</p> <p>The distribution of such tool is going on</p>	<p>It is mainly for house consumption and the surplus product can be sold.</p> <p>This tool is used for vegetable garden and for agriculture land clearing</p>
2. Crop seed supply	<p>Vegetable seed were distributed as follow: Chili: 0.2 kg Eggplant: 0.2 kg Onion: 28 kg Morning glory: 24 kg Long bean: 10.8 kg Coriander: 19.5 kg Cucumber: 7.2 kg</p> <p>Field crop were distributed as follow: Feed corn: 8 kg Sweet corn: 13 kg Peanut: 204 kg Upland rice seed: 16 kg</p> <p>Actually, the field crop will grow from the month of July</p>	<p>Vegetable production were produced for house consumption and had surplus product for selling as follow:</p> <p>1. Boua Ma: Morning glory: 87.7 kg Onion: 43.5 kg Coriander: 9.8 kg</p> <p>2. Phonsavang: Morning glory: 43 kg Coriander: 4 kg Onion: 15 kg</p> <p>3. Keng Gnao: Morning glory: 35kg Onion: 5 kg Mint: 6 kg</p> <p>4. Sop On: Morning glory: 78 kg Onion: 35 kg</p>	<p>Tree villages have received some household income from temporary vegetable garden as follow:</p> <p>1. Boua Ma: 406,000 kip 2.. Phonsavang: 1,379,000 k 3. Keng Gnao: 235,500 k</p> <p>Follow up and on-going</p>
3. Agriculture land clearing	This activity is not implemented during the month of July because of		Agriculture land clearing will be done again in the coming dry season 2006-

	raining almost every day		07
4. Agriculture land fencing	Provided 32 rolls of barbed wire and nail to Phonsavang and 130 rolls of barbed wire to Boua Ma.	Agriculture land fencing is completed at Phonsavang about 3,936 m of perimeter and Boua Ms. will be completed in the next two weeks	Follow up
5. Wet season crop cultivation	<p>At Sop On, the rice seed were distributed 302 kg and 215 kg of other field crop seed including vegetable seed. 4,580 kg of organic fertilizer is regularly distributed to apply to their vegetable garden.</p> <p>At Phonsavang, 18 kg of rice seed were distributed and 3.7 kg of several vegetable seed</p> <p>At Keng Gnao, the crop were distributed as follow: Cucumber: 0.6 kg Longbean: 0.5 kg Onion: 5 kg M. glory: 5 kg Coriander: 0.5 kg</p>	<p>At Sop On, the rice is grown in 54.7 ha of area and other crop (peanut and feed corn) 2.5 ha</p> <p>At Phonsavang, the rice is grown is 17.7 ha and peanut 0.6 ha</p> <p>At Keng Gnao the temporary vegetable garden is still continue to grow several vegetable</p>	Follow up to take care the crop during vegetative period
6. Contour bunding		The establishment of contour bunding will done after harvesting time is finished (from the month of October)	On-going
7. Mushroom production	<p>Provided 2,500 bags of sawdust mushroom spores to: Boua Ma: 600 bags (3 hh) Sop Hia: 400 bags (2 hh) Keng Gnao; 1,500 bags (5 hh)</p> <p>Constructed 12 mushroom houses as follow: Boua Ma: 6 M. house Sop Ma: 2 M. house Sop Hia: 2 M. house Phonsavang: 2 M. house</p>	Mushroom is produced by village as follow: Boua Ma: 44.6 kg and earned 232,000 kip Phonsavang: 36.6 kg and earned 55,000 kip Sop On: 102.4 kg and earned 235,000 kip	Mushroom production is one important component of familial food security and very suitable for every household even vulnerable household
8. Buffalo relocation	The resettlers have undertaken themselves for the buffalo relocation and also cattle but the project provided the string and payment for labor.	Sop Ma has relocated 159 buffaloes Sop Phene has relocated 152 buffaloes.	On-going and Follow up
9. Buffalo shed	The project provided the nail and payment for labor but another	The construction of buffalo shed at Sop Ma and Sop Phene is going on.	Due to raining almost every day during July, otherwise the resettlers

	material (e.g. wood) is carried out by resettlers.		could not complete the construction of their buffalo shed.
10. Poultry and pig shed	Supplied the bamboo sheet wall and thatch for roofing but those material are not available at this moment due to ready wet season	Established the poultry shed as follow: Sop Phene: 43 poultry sheds and 20 pig sheds Boua Ma: 21 poultry sheds and 20 pig sheds Sop Ma: 50 poultry sheds and 21 pig sheds Sop Hia: 30 poultry sheds and 1 pig shed	On-going and follow up
11. Animal Vaccination	Supplied the animal vaccine to the resettled village: Hemorrhagic septicemia (HS): 15 bottle New castle M: 85 bottle Swine fever: 53 bottle	Animal were vaccinated: Buffalo: 217 heads Cattle: 13 heads Pig: 78 heads Poultry: 1,445 heads Animal vaccination is done by Village Veterinary volunteer in collaboration with DWG technical staff	On-going and follow up

○ NB-Pilot Village

During this wet season 2006, most villagers like to grow the rice in 12.1 ha of planted area. The several vegetable is growing continuously particularly onion, cucumber and morning glory and also some field crop such as: peanut, feed corn and sweet corn. The vegetable cultivation is going on throughout the wet season.

Activity	Input / Support	Output / Result	Assessment
1. Wet season crop cultivation	Vegetable and field crop seed were distributed to pilot village: <ul style="list-style-type: none"> Cucumber: 5.6 kg Coriander: 5.5 kg Onion: 10 kg Sweet corn: 2 kg M. glory: 3 kg Longbean: 0.2 kg Peanut: 4 kg Spinach: 1 kg 	Vegetable is grown in 0.11 ha. Vegetable cultivation is continuously grown	On-going and follow up
2. Fertilizer production	Supplied raw materials to produce organic fertilizer (e.g. rice husk, animal dung, rice bran etc.)	3 household produced 1140 kg of organic fertilizer themselves at NB-agricultural extension center	Applied to their owner vegetable garden. Each household received 380 kg.
3. Vegetable production	Vegetable cultivation is continuously activity throughout the year and the project also supplied continuously the necessity input to villager (vegetable seed, tools, etc.)	During this month 27 households grown vegetable and the total planted area was 1,894 m ² . The vegetable production is follow: <ul style="list-style-type: none"> Coriander: 24 kg Onion: 366 kg Morning glory: 495 kg Cucumber: 1,080 kg Longbean: 37.5 kg 	The pilot villager earned 2,879,500 kip from vegetable production.
4. Mushroom production	800 bags of sawdust mushroom spores were supplied to 2 households of	Produced 52.4 kg of mushroom, 41.4 kg of which is sold and earned 414,000 kip.	On-going and follow up

	pilot village		
5. Pasture development		4,800 m2 of forage plot for 3 households is completed	Follow up.
6. Establishment of animal vaccine revolving fund	Provided some equipment and vaccine such as: refrigerator, cool box for keeping the vaccine and other necessary material	Setting up specific regulation for management of this revolving fund that it manage directly by villager under monitoring of DAFO	Follow up by DAFO



Handover ceremony of Animal Vaccine Revolving Fund at Pilot Village
Between Head of Pilot Village and Deputy Chief of DAFO

○ NB-Agricultural Extension Centre (Zone I)

The major role and function of the center is to produce organic fertilizer, sawdust mushroom spore and pig, poultry to supply to the resettlement village including pilot village and also provide the crop seed and seedling and technical assistance to the resettlers.

Activity	Input / Support	Output / Result	Assessment
1. Organic Fertilizer production		Produced 7,440 kg of organic fertilizer 1,140 kg of which were distributed to pilot village and 6,300 kg of which distributed to the transition resettlement village. Produced 160 liter of Bio-Extract liquid or Effectiveness Micro-organism (EM).	The target monthly plan of organic fertilizer production is 10,000 kg but this month cannot meet the target plan due to not available of some material (e.g. animal dung)
2. Vegetable seedlings supply	Produced some vegetable seedlings such as: Jujube: 100 seedlings Papaya: 300 seedlings	The vegetable seedlings were distributed to: 1. Boua Ma: Morning glory: 4 kg Onion 2 kg Cucumber: 3 kg 2. Sop Ma: Morning glory: 3 kg Onion: 11 kg 3. Keng Gnao: Peanut: 10 kg Morning glory: 5 kg Feed corn: 8 kg	On-going and follow up
3. Mushroom production	Produced 4,000 bags of sawdust mushroom spore	3,300 bag of sawdust mushroom spore were distributed to the transition villages particularly the village in the southern part of resettlement area.	We met exactly 4,000 bags of our target plan. Follow up
4. Demonstration plot on several crop	Maintain demonstration plot during vegetative period of feed corn, peanut, asparagus and chili.	Applied 950 kg of organic fertilizer and weeding in the total area 3,850 m ² .	Follow up
5. Establishment of forage demonstration plot	Maintain demonstration plot of forage in 9,760 m ² .	Weeding control by hand	Follow up

○ Theun Douan-Agricultural Extension Centre (Zone II)

Activity	Input / Support	Output / Result	Assessment
1.Organic fertilizer production		Produced 5,672 kg of organic fertilizer, 2,215 of which supplied to Phonsavang, and other 1,025 kg of which were supplied to Sop On. The remaining 2,432 kg used in the center	Due to not available of raw material for organic fertilizer production we should produce more B-E liquid (EM) to spray into vegetable garden in replacement of organic fertilizer. Use of any agro-chemical in the agriculture land area is avoided.
2.Mushroom production	Produced 2,750 of sawdust mushroom spores	Supplied 2,500 bags of sawdust mushroom spores to the transition resettlement villages as follow: Sop On: 1,800 bags Phonsavang: 700 bags	Continuing to encourage the resettlers to grow the mushroom. We will also conduct the training on mushroom production for the resettlers at their village
3. Frog breeding	Frog breeding is done and going on.	Produced 2,000 small frogs	To be distributed to villagers after two months
4.Fruit trees propagation		Produced 140 grafted branches of mango and 100 grafted branches of litchi	To be distributed to the resettlers in next month
5. Poultry raising		Produced some poultry: Chicken: 20 heads Duck: 20 heads	To be distributed to the resettlers after one month

○ Nakai Neua - Fruit Trees Propagation Centre

Activity	Input / Support	Output / Result	Assessment
1. Distribution of fruit trees seedlings	Fruit trees seedlings were distributed to Keng Gnao as follow: Jack fruit: 20 seedlings Mango: 40 seedlings Litchi: 50 seedlings Lemon: 30 seedlings	The fruit trees seedlings already planted on the contour bunding at the irrigated land area (0.66 ha/hh)	Follow up
2. Grafted seedling production		Produced the grafted seedlings (marcotted branches): Mango: 302 Litchi: 123 Lemon: 535 Mandarin: 41	Grafted seedlings is not yet cut out from parent plant as follow: Mango: 1,144 Lemon: 745 Litchi: 239 Jack fruit: 69 Mandarin: 98
3. Fruit trees seedlings in the nursery	We have some fruit trees seedlings in the nursery and ready to distribute to the resettlers as follow: Mango: 1,875 Mandarin: 2,992 Lemon: 4,720 Litchi: 1,589 Jack fruit: 155		

4. Organic fertilizer production	Produced 1,200 kg of organic fertilizer	Provided 1,920 kg of organic fertilizer to the transition resettlement village as follow: Sop Ma: 600 kg Sop Phene: 380 kg Sop Hia: 940 kg	We have now 4,970 kg of organic fertilizer in the stock to be distributed the transition villages
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○ Forestry Land Use Planning Allocation and Management (FLUPAM):

FLUPAM activity is one component related directly to livelihood restoration of the resettlers. NTPC staff collaborated closely with RMU, DWGs, Village authority and even mass organization of the village to undertake / implement carefully this activity. The village boundary demarcation must be agreed by all parties concerned particularly village authority / villagers and then we conducted the public consultation to make sure understanding of the villager about the land that they have in their own village by using the land use planning and land allocation map.

During the month of July we have completed the village boundary demarcation between three villages such as: Oudomsouk – Phonphanpek and Oudomsouk – Nakai Neua. The village boundary demarcation between Nakai Neua and Nakai Tai is now being conducted: finalize of the total area of two villages including land for housing and land for agriculture and then how to identify the boundary of two villages. So, this issue requests a meeting to be organized which should be attended by representatives of RMU, DWG, village authority of two villages and technical staff of NTPC and so on.



Survey Team conducted the village boundary demarcation between Oudomsouk and Nakai Neua.

2.3.5 Fisheries Reservoir Program

No change from the previous report.

2.3.6 Community Development Program

○ Non-farm CD

Micro-credit: Village saving groups have been monitored in July in 8 villages (218 members) – Attachment SG table.

Education: Hand - over kitchen utensil for nursery school (Sop On, Bouama, Sop Phene, SopHia and Phonsavang).

No.	Village	No. of Child	Girl	Opening dates
1.	Nongboua	45	25	
2.	Sop On	85	37	17/7/06
3.	Bouama	91	75	18/7/06
4.	Phonsavang	39	15	17/7/06
5.	Sop Phene	35	13	18/7/06
6.	Sop Ma	79	35	18/7/06
7.	SopHia & NamNian – Area 8	32	14	18/7/06

Monitoring and provision of rice, protein at SopOn, Phonsavang, Bouama, SopMa, Nongboua extension, Sop Phene, SopHia, Done and Khone Kaen.

On the Job Training for Lao woman Union: Bouama, Phonsavang and Sop On village, 60 attendants, 20 persons from each village (2 days / village).

Training on Management for Rice bank: 40 attendants, 33 members (5 women).

○ On-farm CD

Vulnerable selection meeting (Phonsavang, Bouama, Sop On). Total of 92 vulnerable Households.

○ ICD



Village resettlement layout consultation in Nakai Neua and Nakai Tai.



Workshop on Water User Group Election Preparation(Nongboua pilot village)

Village consultation on Charcoal Training (Sop Phene, Sop Hia & SopMa, Bouama, Phonsavang & Sop On)

Social Activities

Downstream Areas

2.4 Downstream Areas Development Plans

The Downstream Team has carried out training in development management activities for VDCC's. The VDCC's have opened bank accounts in 21 pilot villages and also in additional fish catch monitoring villages.

Fish catch monitoring is in full operation. The services of a contractor for data entry have been hired. When the data entry and database are in place, analysis of the ongoing household fish catch at 39 villages will be provided in each monthly progress report.

Interviews were held with candidates for new positions in the downstream team and are presently in the selection process following NTSEP procedures. Then we are in the middle of trying to get a new office that can accommodate all newly to be recruited staff.

The following table shows the main downstream activities during the ongoing wet season.

No.	Village Name	Clearing/ Preparation/ Rice Fields		Fish culture HH	Pig raising HH	Wet season rice HH	Wet season crops HH	Mak Ngeo HH
		HH	Rai					
1	Mahaxai Tai							
2	Pova Tai							
3	Pova Neua					4		3
4	Kengpe							14
5	Veunsananh	32	64					3
6	Hatpek							10
7	Yangkham					6		
8	Hatkhamhieng							8
9	Beungxe			17	14	45	16	8
10	Beungbouathong							24
11	Nasang							15
12	Thaphoxai							39
13	Nonenakham							26
		32	64	17	14	55	16	150

Environmental Activities

3 Environmental activities

3.1 General

In addition to the monitoring of the HC's construction activities, reported in the Construction section of the report, and the PCR activities reported in section 2.1.1, the main activities of the Environmental Management Office in July 06 have included the following:

- Water quality sampling (25-29 July) and analysis
- Continued procurement activities for the Elephant Program including (i) Interim HEC Monitoring; and (ii) Elephant Program Phase II.
- Advertisement for Expression of Interest for the Terrestrial Program.
- Review of proposals for the Wetlands Program.
- Production of the Final Report for the baseline survey for fish and aquatic species in upstream and downstream rivers (Wildlife Program Element B).
- Finalization of the EMU TA Inception Report.

3.2 Wildlife Programmes

The description of the various elements of the components of the wildlife programme is included for reference.

3.2.1 Fish Impacts in upstream and downstream river species

This programme includes the following activities:

1. Species and habitat inventory (NT, XBF)
2. Fish migration studies in NT, NPA and XBF
3. NT habitat and flow studies
4. Modification of downstream NT habitat
5. Implementation of flow adaptive management programme and related activities
6. Incorporating river protection into the management of the NNT and Corridors

The baseline survey for fish and aquatic species in upstream and downstream rivers (Wildlife Program Element B) was conducted during the period of 18 April to 12 May 2006. The baseline survey was undertaken by an ichthyologist and his team with support from Living Aquatic Resource Research Center (LARReC). The objectives are to obtain a baseline fish and aquatic species (decapod crustaceans, turtles and amphibians) distribution and a habitat inventory in the downstream and upstream sections of the Nam Theun and Xe Bangfai, including the Nam Phao/Nam Kata catchments.

The baseline survey is now complete and a Field Report has been finalized.

The Final Report was scheduled to be submitted on 31 July 2006. The submission date has now been revised to 7 August 2006.

3.2.2 Terrestrial Programme

This programme includes the following activities:

1. Pre-impoundment species and habitat inventory, distribution and movement
2. Post-impoundment species and habitat inventory, distribution and movement (non-inundated part of the NP)
3. Development of a post-impoundment species management programme
4. Implementation of a post-impoundment species management programme
5. Finalization of the TOR for the survey components of the wildlife programme (fish and terrestrial animals).

A program for terrestrial wildlife species (excluding the Asian Elephant) found on the Nakai Plateau will be implemented. The Nakai Plateau includes both within and outside the inundation area of the Nakai Plateau but excludes the wetland areas within the Nakai Plateau which are already covered by a specific plan, and excludes the Nakai-Nam Theun National Biodiversity and Conservation Area (NNT NBCA).

It will consist of (i) pre-impoundment species and habitat inventories with the objective to collect information on distribution and movements on the Nakai Plateau, and interactions between species, (ii) development of a post-impoundment species management program, (iii) implementation of this program during the construction phase, including post-impoundment monitoring of a number of species to determine how the reservoir has affected wildlife populations.

The program has been re-advertised because activities now include the development of the management plan and therefore the scope of work differs significantly from that previously advertised. The advertisement for EOI has been posted on 13 July 2006 with a deadline for submission on 13 August 2006.

3.2.3 Asian Elephant Program

This programme includes the following activities:

1. Pre-impoundment inventory and survey of habitats, distribution, movements.
2. Implementation of a pre-Reservoir impoundment elephant management programme.
3. Post-Reservoir impoundment monitoring of movements and distribution.
4. Training of local authorities in conflict response and emergency response.
5. Establishment and implementation of an elephant conflict response team.
6. Development of a transitional strategy for reservoir impoundment.
7. Implementation of a reservoir impoundment elephant strategy.
8. Implementation of post impoundment elephant programme.

Phase I of the Elephant Program is being conducted by Wildlife Conservation Society (WCS). Phase I includes items 1, 4 and 5 above. The training, survey and monitoring components of Phase I have been completed and the Final Report for Phase I was submitted on 31 May 2006. A population estimate of 142 (95% CI=97,207) individuals (established by WCS) based on the line transect and dung decay data. This compares to previous estimates of between 100-400 individuals. A review of the Final Report has identified that the report is still lacking a full assessment. A revised Final Report is expected early September 2006.

WCS has been identified as the consultant likely to conducted Phase II of the elephant program. A contract drafted and submitted to WCS for comment and submission of a cost proposal. The objectives of Phase II are to develop and implement an elephant management plan for pre- and post-inundation management of elephants on the Nakai Plateau. Activities will include a continuation of HEC monitoring and training the villagers in passive and active crop protection measures.

During the period between the end of Phase I and the commencement of Phase II, HEC monitoring shall continue to obtain data on the spatial and temporal distribution of HEC on the Nakai Plateau and surrounding areas. A contract has been drafted and submitted to WCS for comment.

3.2.4 Transitional Strategy for Reservoir Impoundment

This programme includes the following activities:

1. Development of a strategy and measures targeting wildlife during salvage logging of the Nakai Reservoir.
2. Development of a transitional strategy for reservoir impoundment.
3. Training of local authorities in wildlife emergency response.
4. Establishment and implementation of an emergency response team.
5. Public awareness programme.
6. Prevention and prohibition of wildlife trade.

The Terms of Reference and advertisement for Expression of Interest are being finalized prior to re-advertising.

3.2.5 Wetland Conversion and Formation Program

This overall program includes the following activities:

1. Pre-impoundment species and habitat inventory, distribution and population.
2. Development of a strategy for species and habitat management after impoundment.
3. Implementation of habitat and species management programme.
4. Implementation of biodiversity aspects of reservoir management plan.
5. Patrolling of special conservation areas (WMPA).
6. Post-impoundment monitoring of populations and distribution.
7. Post-impoundment reservoir fish productivity and species monitoring.

Procurement is still underway for activities 1 and 2 above. The proposed commencement date for the pre-impoundment baseline species and habitat inventory has been reschedule to September 2006.

3.2.6 Adaptive Management Programmes

An Adaptive Management approach will be implemented for the following programmes:

1. Wildlife Programme (all components)
2. Riparian release downstream of the Nakai Dam
3. Water release in the Nam Kathang
4. Water release from the regulating pond to the downstream channel

3.3 Water Quality Monitoring and Assessment Programme

NTU: Nephelometric Turbidity Unit.

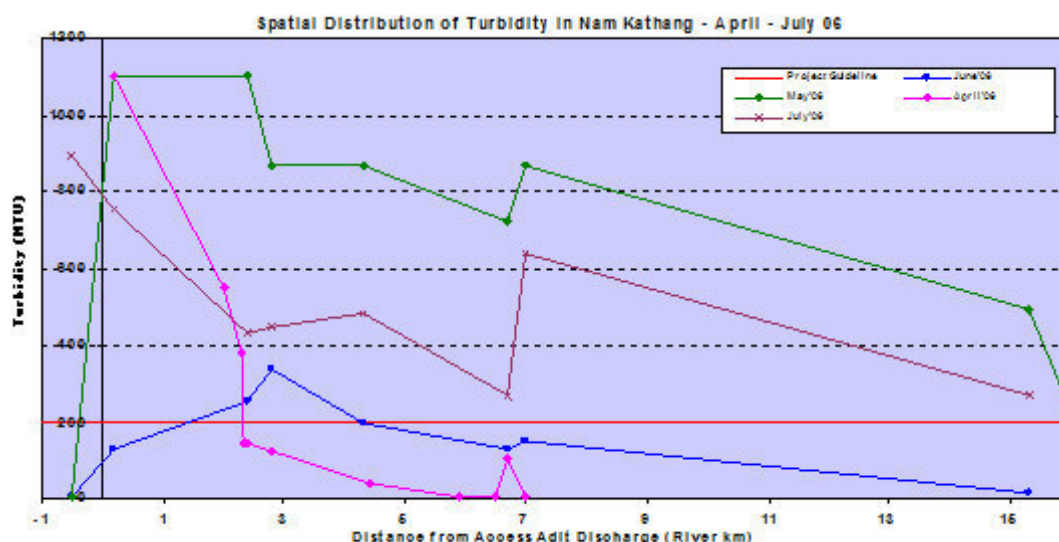
TSS: total suspended solids (mg/L)

During July 2006, the WQMAP monitored 27 parameters at thirteen surface water sampling sites. The thirteen surface water sampling sites are located upstream and downstream of construction areas on the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai. Given the ongoing elevated sediment load in the Nam Kathang the spatial distribution of turbidity was assessed along the Nam Kathang.

July 2006 Field Observations

Sample collection and field analysis was conducted during 25-29 July 2006. Laboratory analyses will be reported in August 2006. The major field observations and measurements are as follows:

- The Turbidity in the Nam Kathang had increased in July 2006 when compared to the previous month. The increase appears to be a function of heavy rainfall and the subsequent runoff from the catchment and cleared construction areas. The source of the suspended sediment is now likely to be resettlement activities at Ban Oudomsouk, the cleared areas around saddle dam 12B, outflow from the Headrace Channel and Intake and the increased discharge down the escarpment picking up sediment.
- Outflow from the Access Adit Platform 415 sedimentation basin was still turbid (761 NTU). The coagulant flask mixing unit was not operating at the time of sampling. The Access Adit discharge was however diluted (271 NTU) by the time it reached the Nam Kathang along the Switchyard drainage channel.
- Outflow from the Power House had turbidity (53.8 NTU) within the Project guideline for surface water. The low turbidity of the discharge reflects the additional improvements made to the coagulation system.
- The figure below shows the increase in turbidity in the Nam Kathang for April to July 2006. Turbidity exceeds the Project guideline for the entire length of the upper Nam Kathang from upstream of the Power House to Ban Gnommalat.





Sampling sites

June 2006 Water Quality Results

The laboratory analytical results for June 2006 are presented in the table below³. As a screening procedure, the results have been compared with Project and river-specific guidelines. Values highlighted in yellow represent exceedences. Comparison of measured values with guidelines is intended as an initial screening step to assist in data interpretation. Exceedences are then considered on a site-specific basis to assess whether a measured value poses an environmental or human health risk. The significant project-related exceedences are discussed below.

³ Water quality analysis data are presented one month late due to the time taken for the analyses.

Nam Theun

Despite a slight exceedence of the Project guidelines for TSS downstream of the Nakai Dam site (SW3) and an exceedence of iron downstream of the Ban Thalang Bridge (SW2) and Nakai Dam site, the water quality of the Nam Theun can still be considered as good.

Elevated levels of TSS and iron support field observations of (i) soil being washed into the Nam Theun from the Ban Thalang coffer dam excavations; and (ii) turbid water being discharged into the Nam Theun without any management measures from the downstream coffer dam of the Nakai Dam construction area.

TSS slightly exceeds the Project guideline in the Nam Theun downstream of the Nakai Dam. This slight exceedence is not deemed to pose a risk to human or environmental health. The turbid plume was observed to dissipate within a few hundred meters downstream and therefore any impacts would be localized.

For total iron, concentrations of 1-3 mg/l can be acceptable for people to drink but the taste and appearance will usually be affected above this level. There are no communities residing directly downstream of the Ban Thalang Bridge or Nakai Dam construction areas on the Nam Theun.

Nam Kathang

Although TSS and iron still remain above the Project guideline, there has been a significant improvement in the water quality of the Nam Kathang. Turbidity and TSS have decreased significantly when compared to the previous month. Coupled with the reduction in TSS, there has also been a reduction in the level of iron, manganese and nitrogen-based nutrients. The improvement in water quality coincides with improvements made in the management of suspended solids in the Access Adit and Power House discharges. Improvements in management include (i) continuous application of a coagulant (polyaluminium chloride); (ii) installation of flash mixing to facilitate effective coagulation; (iii) and redesign of sedimentation basins to facilitate flocculation and settling. The outflows from the sedimentation basins at the Access Adit and Power House construction areas were within the Project guideline for surface water.

Although there has been a significant improvement when compared to the previous month, TSS still exceeds the Project guideline in the Nam Kathang downstream of the Access Adit and Power House (SW5) and Regulating Dam (SW9). This is consistent with the field observations of highly turbid water being generated by in-stream soil excavation activities in the Nam Kathang diversion.

From an environmental health perspective, a high sediment load would have a negative effect on the primary productivity of the river with a reduction in light penetration and therefore photosynthesis. A reduction in primary productivity could subsequently impact fish production. Although some fish species may be adapted to wet season elevations in suspended solids, prolonged exposure to elevated levels of suspended solids may have several sub-lethal effects on fish resulting in a negative impact on fish productivity (such as siltation of fish spawning grounds, irritation of fish gills, induced stress, loss of food or ability to feed, etc.). A lowering of fish productivity could be detrimental to local communities who use fish as their main source of protein.

Although there is no WHO health-based guideline for turbidity the measured levels can make water significantly less palatable and sediment can also act as a substrate for bacteria growth and absorption of metal ions which can all have a negative impact on human health.

Consistent with elevated TSS, iron exceeds the Project guideline downstream of the Power House (SW5) and Regulating Dam (SW9). The human health implications are discussed above.

The sharp increase in alkalinity at SW14 on the Nam Kathang is consistent with the increase in calcium and may reflect a significant groundwater input between SW9 and SW14. Alkalinity at SW14 is comparable to the levels measured at the upstream control (SW4) during the dry season 2005. The measured alkalinity does not pose a threat to the environment or human health.

Kjeldahl-nitrogen exceeds the river-specific guideline downstream of the Power House. Dissolved and suspended organic nitrogen in run-off from the forested catchment, wallowing buffaloes, or discharge from the Power House and Access Adit are likely to be the main sources of this elevation. Levels decrease downstream through sedimentation or oxidation of suspended organic nitrogen and ammonia. There is no WHO human or environmental health based guideline for TKN but rivers with TKN concentration below 1 mg/l tend to be classified as good.

Potassium exceeds its river-specific guideline downstream of the Powerhouse (SW5). There is a downstream decreasing trend and the potassium level falls within the river-specific guideline by SW9. Previous data have indicated that elevations in potassium are resulting from construction activities at the Access Adit and Power House.

Faecal coliform measured at SW14 on the Nam Kathang exceeds the Project guideline. The presence of fecal coliforms indicates that run-off from the surrounding areas is contaminated by either human or animal excreta. Given that there are few construction areas between SW9 and SW14 on the Nam Kathang the increase is not deemed to be Project related but reflects the poor sanitation infrastructure in communities and their livestock using the Nam Kathang as a water source. Faecal coliforms are indicators of the bacteria and pathogen load in the water that pose a risk to human health. Communities should continue with the practice of boiling surface water prior to consumption.

Nam Gnom

The water quality in the Nam Gnom continues to be good with few exceedences of the Project guidelines. pH, alkalinity and calcium all exceed their respective guideline at the upstream control (SW11) which reflects the groundwater input in surface water. There is no evidence that construction activities on the Downstream Channel are significantly impacting the water quality of the Nam Gnom between sampling site SW11 and SW12.

Nam Phit

Despite a few Project-related exceedences of the Project guidelines, water quality in the Nam Phit can still be considered good. Conductivity and calcium exceed their respective guideline downstream of the Downstream Channel but these exceedences reflect groundwater inputs from a limestone geology dominated catchment rather than inputs from construction activities. Potassium and silicate both exceed their respective river-specific guideline in the upstream control (SW13). There is a decreasing trend downstream and therefore this source is not deemed to be Project-related.

Xe Bangfai

Water quality in the Xe Bangfai continues to remain good with only one exceedence of the Project guidelines. There is no evidence that construction activities are impacting the water quality of the Xe Bangfai.

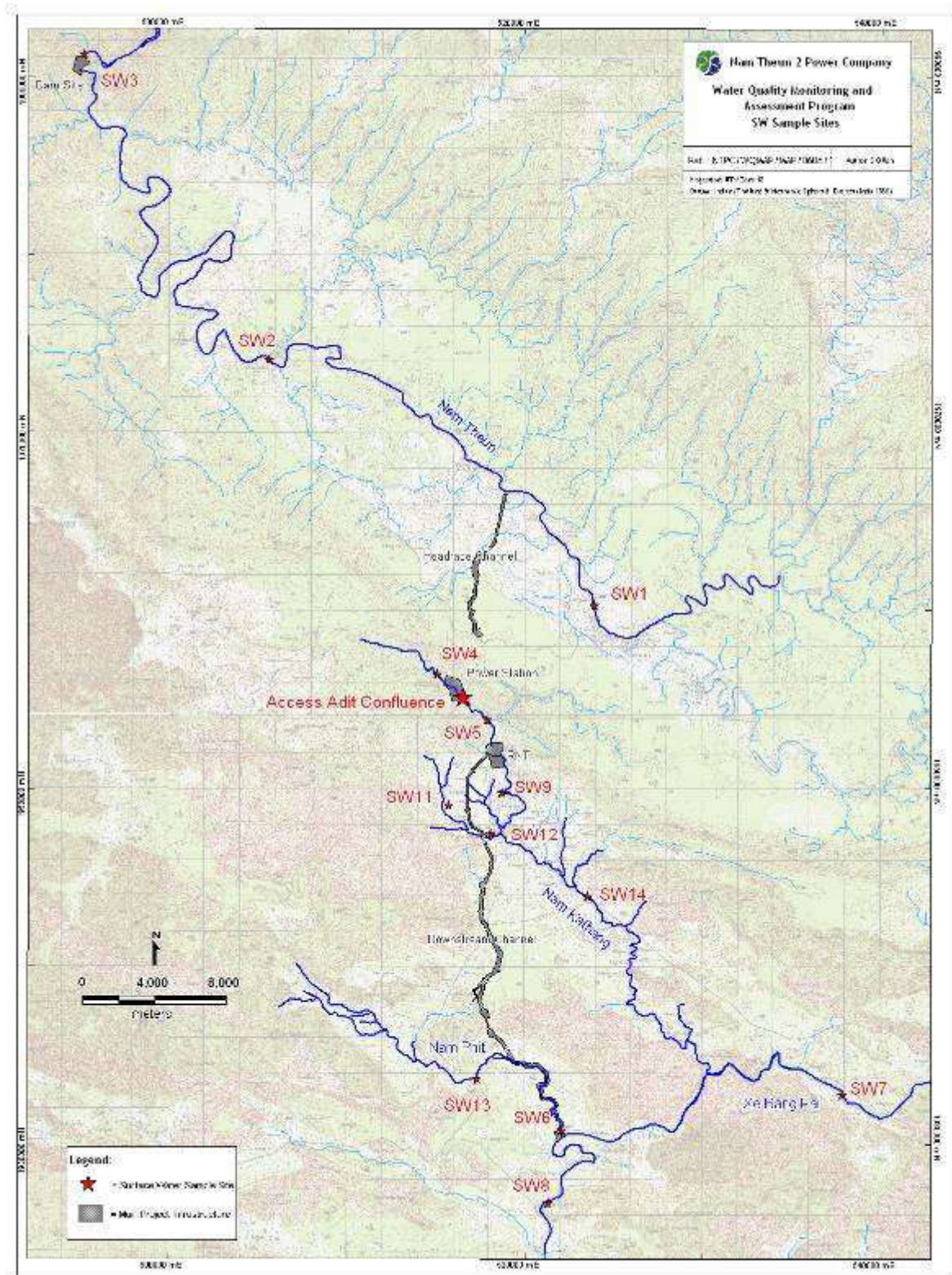


Table: June 2006 Surface Water Quality in the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai.

Parameter	Unit	WQ Guidelines	River- Specific Guideline	Nam Theun		
				SW 1	SW 2	SW 3
Sampling Date				29/06/06	29/06/06	29/06/06
Sampling Time				8.15 h	13.25 h	11.30 h
Water Depth	(m)			1.3	0.8	2.0
Sampling Method				grab	grab	grab
Air Temperature	(°C)			24.3	27.6	26.4
Cloud Coverage				100	100	100
Water Temperature	(°C)			27.5	28.4	29.1
pH		6.0-8.0		8.32	7.12	7.22
DO	(mg/L)	> 5.0		6.92	7.53	8.24
% DO Saturation	(%)			92.1	101.7	113.3
Conductivity	(µS/cm)	< 350 or <750 *		54.9	49.2	50.8
Turbidity	(NTU)	< 200		4.25	9.65	48.5
Total suspended solids	(mg/L)	< 40 or <80*		2.4	9.3	40.3
Alkalinity	(mg/L)	~ ¹¹	36.4	21.3	21.7	25.6
Ammonia-nitrogen	(mg/L)	< 0.5		0.216	0.060	0.050
Nitrate-nitrogen(NO ₃ -N)	(mg/L)	< 3.4		0.292	0.292	0.131
Nitrite-nitrogen(NO ₂ -N)	(mg/L)	< 0.2		ND ¹	ND ¹	ND ¹
Kjeldahl nitrogen(TKN)	(mg/L)	~ ¹¹	1.030	0.557	0.446	0.223
Potassium (K)	(mg/L)	~ ¹¹	1.06	0.939	1.02	1.06
Sodium (Na)	(mg/L)	300		2.76	2.76	3.22
Manganese (Mn)	(mg/L)	< 0.5		0.021	0.025	0.036
Total iron (Fe)	(mg/L)	< 1.0		0.362	1.25	1.32
Lead (Pb)	(mg/L)	< 0.05		ND ³	0.014	ND ³
Calcium (Ca)	(mg/L)	50		3.17	3.17	4.37
Magnesium (Mg)	(mg/L)	< 15		0.936	0.986	1.14
Silica (SiO ₂)	(mg/L)	~ ¹¹	10.3	9.10	8.44	8.82
Sulphate (SO ₄ ⁻²)	(mg/L)	< 500		3.98	2.58	2.49
Chloride (Cl ⁻)	(mg/L)	< 250		1.84	1.46	1.65
Total mercury (Hg)	(mg/L)	< 0.001		ND ⁵	ND ⁵	ND ⁵
Arsenic (As)	(mg/L)	< 0.05		0.0010	ND ⁶	ND ⁶
BOD	(mg/L)	< 15		0.5	0.5	0.5
COD	(mg/L)	< 40		19.0	9.50	15.8
Total phosphorus	(mg/L)	< 0.2		0.043	0.027	0.037
Faecal Coliform	(C/100mL)	150		26	46	58

¹ Non-detectable (Detection limit = 0.001 mg/L)² Non-detectable (Detection limit = 0.16 mg/L)³ Non-detectable (Detection limit = 0.010 mg/L)

No Project or internationally recognized guideline available therefore the river-specific guideline shall be adopted as the trigger

Yellow cell: Parameters which exceed the Project trigger.

⁴ Non-detectable (Detection limit = 0.005 mg/L)⁵ Non-detectable (Detection limit = 0.0002 mg/L)⁶ Non-detectable (Detection limit = 0.0003 mg/L)⁷ Non-detectable (Detection limit = 0.5 mg/L)

* 350 µS/cm for Nam Theun; 750 µS/cm for lowlands rivers

* 40 mg/L for all rivers in all seasons with the exception of 80 mg/L for the Xe Bangfai in wet season

Table: June 2006 Surface Water Quality in the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai.

Parameter	Unit	WQ Guidelines	River- Specific Guideline	Nam Kathang				Nam Gnom	
				SW 4	SW5	SW 9	SW 14	SW 11	SW 12
Sampling Date				28/06/06	28/06/06	28/06/06	27/06/06	28/06/06	28/06/06
Sampling Time				9.50 h	11.00 h	12.35 h	11.15 h	12.00 h	13.05 h
Water Depth	(m)			0.2	0.5	0.7	0.5	0.5	0.5
Sampling Method				grab	grab	grab	grab	grab	grab
Air Temperature	(°C)			27.8	28.5	30.9	32.5	28.9	27.5
Cloud Coverage				50	100	30	80	80	40
Water Temperature	(°C)			30.1	29.4	32.3	28.8	26.1	26.7
pH		6.0-8.0		7.76	7.86	7.92	7.83	8.18	7.97
DO	(mg/L)	> 5.0		9.55	7.11	6.19	8.12	9.14	7.57
% DO Saturation	(%)			122.6	96.8	86.6	111.0	113.7	96.2
Conductivity	(µS/cm)	< 350 or <750 *		280	266	248	309	294	269
Turbidity	(NTU)	< 200		6.06	198	150	12.2	6.01	31.0
Total suspended solids	(mg/L)	< 40 or <80*		4.2	109	78.3	21.8	12.4	25.7
Alkalinity	(mg/L)	- ¹¹	133.8	102	90.2	89.8	157	162	146
Ammonia-nitrogen	(mg/L)	< 0.5		0.278	0.390	0.147	0.294	0.058	0.285
Nitrate-nitrogen(NO ₃ -N)	(mg/L)	< 3.4		0.015	1.63	1.13	1.53	2.7	2.82
Nitrite-nitrogen(NO ₂ -N)	(mg/L)	< 0.2		ND ¹	0.124	0.130	ND ¹	ND ¹	0.026
Kjeldahl nitrogen(TKN)	(mg/L)	- ¹¹	1.089	ND ²	1.11	0.557	0.334	0.557	0.780
Potassium (K)	(mg/L)	- ¹¹	1.56	1.48	2.12	0.459	0.577	0.306	0.327
Sodium (Na)	(mg/L)	300		6.98	11.2	11.4	2.22	0.628	0.830
Manganese (Mn)	(mg/L)	< 0.5		0.015	0.065	0.032	0.034	0.013	0.032
Total iron (Fe)	(mg/L)	< 1.0		0.050	3.34	2.82	0.701	0.257	0.838
Lead (Pb)	(mg/L)	< 0.05		0.014	ND ³	ND ³	ND ³	ND ³	ND ³
Calcium (Ca)	(mg/L)	50		31.1	28.8	25.7	51.5	50.8	45.1
Magnesium (Mg)	(mg/L)	< 15		5.59	4.24	3.84	2.78	2.29	2.89
Silica (SiO ₂)	(mg/L)	- ¹¹	16.2	16.0	9.48	10.3	6.59	9.1	5.02
Sulphate (SO ₄ ⁻²)	(mg/L)	< 500		48.0	28.7	22.7	3.89	2.95	2.58
Chloride (Cl-)	(mg/L)	< 250		ND ⁴	12.1	12.7	2.04	0.78	0.58
Total mercury (Hg)	(mg/L)	< 0.001		ND ⁵	ND ⁵	ND ⁵	ND ⁵	ND ⁵	ND ⁵
Arsenic (As)	(mg/L)	< 0.05		0.0008	0.0012	0.0007	ND ⁶	0.0004	0.0005
BOD	(mg/L)	< 15		0.9	1.6	1.0	0.6	0.6	0.6
COD	(mg/L)	< 40		18.7	21.9	21.9	15.8	18.7	18.7
Total phosphorus	(mg/L)	< 0.2		0.040	0.013	0.013	0.017	0.02	0.027
Faecal Coliform	(C/100mL)	150		29	131	41	263	53	47

¹ Non-detectable (Detection limit = 0.001 mg/L)² Non-detectable (Detection limit = 0.16 mg/L)³ Non-detectable (Detection limit = 0.010 mg/L)⁴ Non-detectable (Detection limit = 0.005 mg/L)⁵ Non-detectable (Detection limit = 0.0002 mg/L)⁶ Non-detectable (Detection limit = 0.0003 mg/L)⁷ Non-detectable (Detection limit = 0.5 mg/L)

¹¹ No Project or internationally recognized guideline available therefore the river-specific guideline shall be adopted as the trigger
 Yellow cell: Parameters which exceeded the Project trigger.

* 350 µS/cm for Nam Theun; 750 µS/cm for lowlands rivers

* 40 mg/L for all rivers in all seasons with the exception of 80 mg/L for the Xe Bangfai in wet season

Table: June 2006 Surface Water Quality in the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai.

Parameter	Unit	WQ Guidelines	River- Specific Guideline	Nam Phit		River- Specific Guideline	Xe Bangfai	
				SW13	SW 6		SW 7	SW 8
Sampling Date				30/06/06	27/06/06		27/06/06	27/06/06
Sampling Time				10.30 h	12.25 h		10.30 h	10.30 h
Water Depth	(m)			1.0	0.8		0.8	1.0
Sampling Method				Grab	grab		grab	grab
Air Temperature	(°C)			24.9	30.5		30.6	32.5
Cloud coverage				100	95		20	10
Water Temperature	(°C)			24.9	26.7		28.1	30.9
pH		6.0-8.0		7.18	7.66		7.76	7.92
DO	(mg/L)	> 5.0		6.15	7.71		7.99	9.47
% DO Saturation	(%)			75.1	94.8		116.2	115.4
Conductivity	(µS/cm)	< 350 or <750 *		52.3	437		312	303
Turbidity	(NTU)	< 200		44.7	6.57		3.90	6.84
Total suspended solids	(mg/L)	< 40 or <80*		26.9	4.9		1.2	5.9
Alkalinity	(mg/L)	- ¹¹	252.6	28.0	242	200.6	165	167
Ammonia-nitrogen (NH ₃ -N)	(mg/L)	< 0.5		0.095	0.376		0.321	0.321
Nitrate-nitrogen(NO ₃ -N)	(mg/L)	< 3.4		0.251	0.788		0.168	0.389
Nitrite-nitrogen(NO ₂ -N)	(mg/L)	< 0.2		0.026	ND ¹		ND ¹	0.013
Kjeldahl nitrogen(TKN)	(mg/L)	- ¹¹	0.688	0.446	ND ²	0.559	0.334	0.223
Potassium (K)	(mg/L)	- ¹¹	0.19	0.569	0.162	0.68	0.431	0.410
Sodium (Na)	(mg/L)	300		0.116	0.484		1.49	3.71
Manganese (Mn)	(mg/L)	< 0.5		0.014	0.009		0.013	0.012
Total iron (Fe)	(mg/L)	< 1.0		0.814	0.148		0.049	0.180
Lead (Pb)	(mg/L)	< 0.05		ND ³	0.022		0.022	0.013
Calcium (Ca)	(mg/L)	50		7.07	66.1		48.6	51.4
Magnesium (Mg)	(mg/L)	< 15		0.936	6.03		3.58	3.93
Silica (SiO ₂)	(mg/L)	- ¹¹	8.8	17.5	9.00	10.5	9.19	8.44
Sulphate (SO ₄ ⁻²)	(mg/L)	< 500		7.44	2.95		3.05	3.33
Chloride (Cl ⁻)	(mg/L)	< 250		0.78	0.78		0.39	2.33
Total mercury (Hg)	(mg/L)	< 0.001		ND ⁵	ND ⁵		ND ⁵	ND ⁵
Arsenic (As)	(mg/L)	< 0.05		0.0005	ND ⁶		ND ⁶	ND ⁶
BOD	(mg/L)	< 15		0.9	ND ⁷		0.8	0.6
COD	(mg/L)	< 40		36.4	3.16		9.47	15.8
Total phosphorus	(mg/L)	< 0.2		0.033	0.017		0.063	ND ⁸
Faecal Coliform	(C/100mL)	150		135	31		23	48

¹¹ No Project or internationally recognized guideline available therefore the river-specific guideline shall be adopted as the trigger

¹ Non-detectable (Detection limit = 0.001 mg/L)

² Non-detectable (Detection limit = 0.16 mg/L)

³ Non-detectable (Detection limit = 0.010 mg/L)

⁴ Non-detectable (Detection limit = 0.005 mg/L)

⁵ Non-detectable (Detection limit = 0.0002 mg/L)

⁶ Non-detectable (Detection limit = 0.0003 mg/L)

⁷ Non-detectable (Detection limit = 0.5 mg/L)

Parameters which exceed the Project trigger.

* 350 µS/cm for Nam Theun; 750 µS/cm for lowlands rivers

* 40 mg/L for all rivers in all seasons with the exception of 80 mg/L for the Xe Bangfai in wet season

3.4 Environment Management Unit (EMU) Technical Assistance (TA)

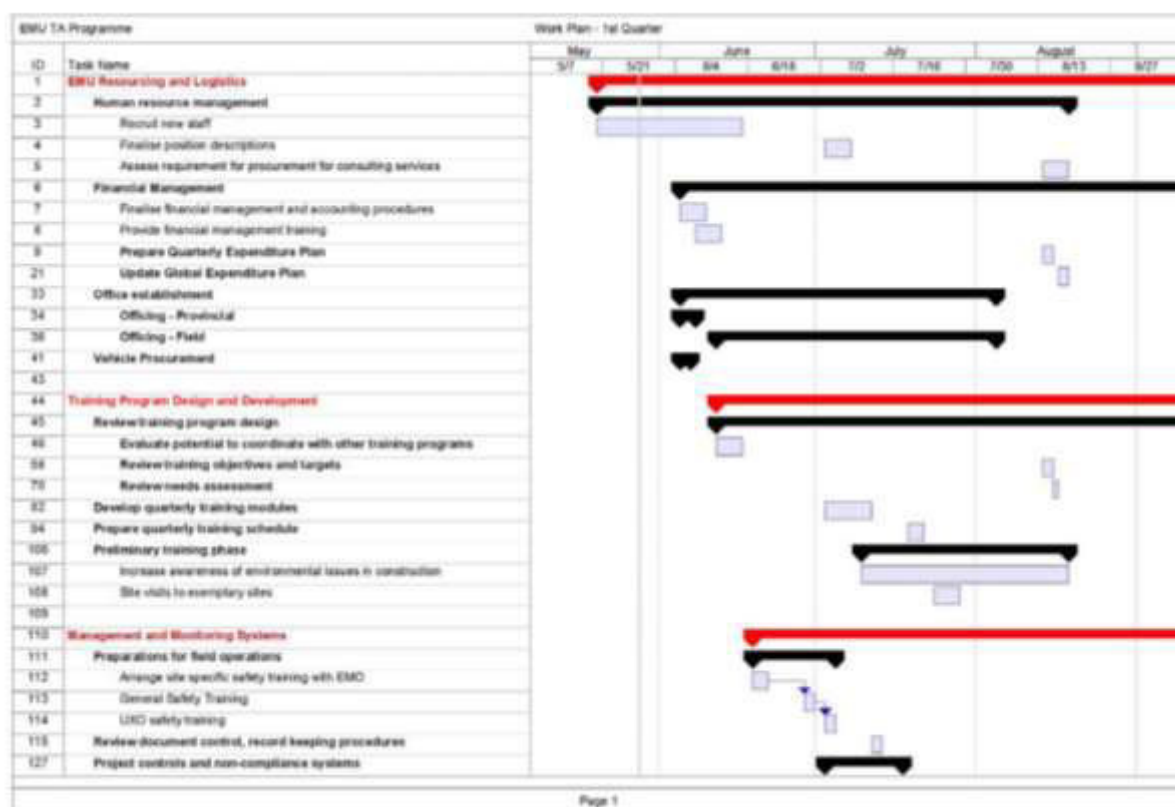
During July 2006, the Inception Report for the Technical Assistance to the Environmental Management Unit (EMU) was finalized based on NTPC's comments which were submitted to the EMU on 20 June 2006. The objectives of the Inception Phase are presented below.

- Identify the core GOL obligations to be implemented by the EMU, with respect to the Environmental Measures
- Assist the EMU to coordinate its work with other governmental authorities and non-governmental agencies concerned with environmental objectives
- Conduct a training needs assessment or SWOT analysis to identify institutional knowledge gaps
- Develop office management capacity of the EMU
- Advise GOL regarding the requirement for, and contracting of, specialty studies to be conducted over the term of the TA Programme
- Develop an Environmental Monitoring Programme
- Assist the EMU with the procurement of the Environmental Independent Monitoring Agency
- Equip the EMU office located at the STEA Vientiane, EMU provincial offices, field office
- Identify any variations in the scope of the work of the TA Programme.

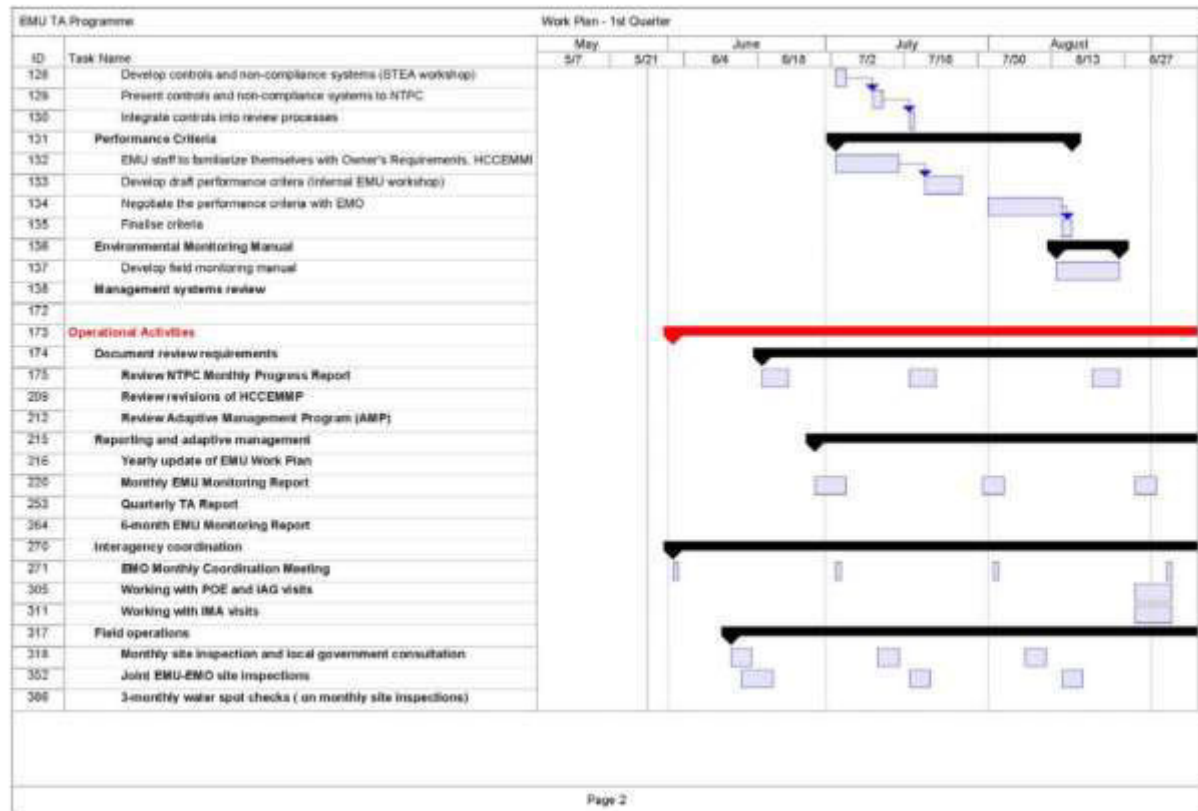
The EMU submitted its draft Environmental Management Manual that will undergo changes as circumstances dictate.

The EMU discussed plans for the construction of EMU district office accommodations in Nakai. The accommodations are expected to be completed in August.

EMU TA activities proposed for the first quarter after the Inception Phase are presented in the work program⁴ below. The first Quarterly Report which will document these activities is scheduled for submission on 10 August 2006.



⁴ Source : EMU TA Inception Report



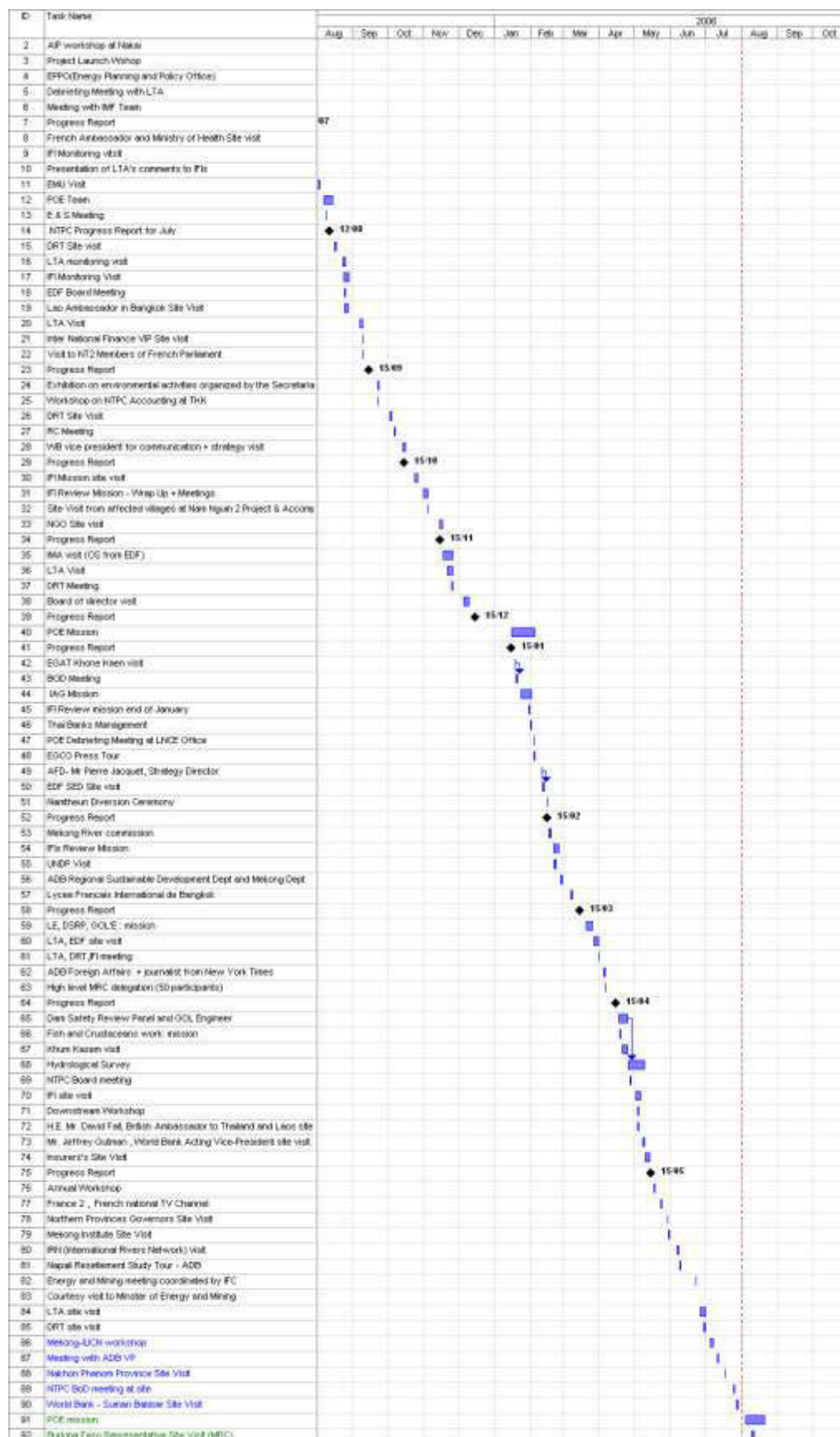
3.5 EMO's activities linked to construction

The environmental activities linked to construction works are part of the Construction Progress Report (Part B of NTPC's Monthly Progress Report).

Internal, External Monitoring

4 Internal and External Monitoring

Schedule of visits since Financial Close: Visits of the month in blue - Next scheduled visit in green.



GOL Related Activities

5 GOL related activities

5.1 Watershed Management Protection Authority (WMPA)

No change from previous report

5.2 Optimization of salvage logging on the Nakai Plateau

NTPC attended a meeting on salvage logging on 7 July, attended by representatives from WB, WMPA, RMU, EMU and LNCE. The meeting was chaired by WB and meeting notes were provided by WB.

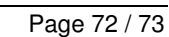
5.3 Social issues

A Resettlement Committee was held on 27 July 2006: has summarized the progress done on PL /DS /Resettlement /WMPP & salvage logging by RMU. In direct relation to the sound implementation of the project activities and after the discussion, the decisions have been made for a number of sensitive issues:

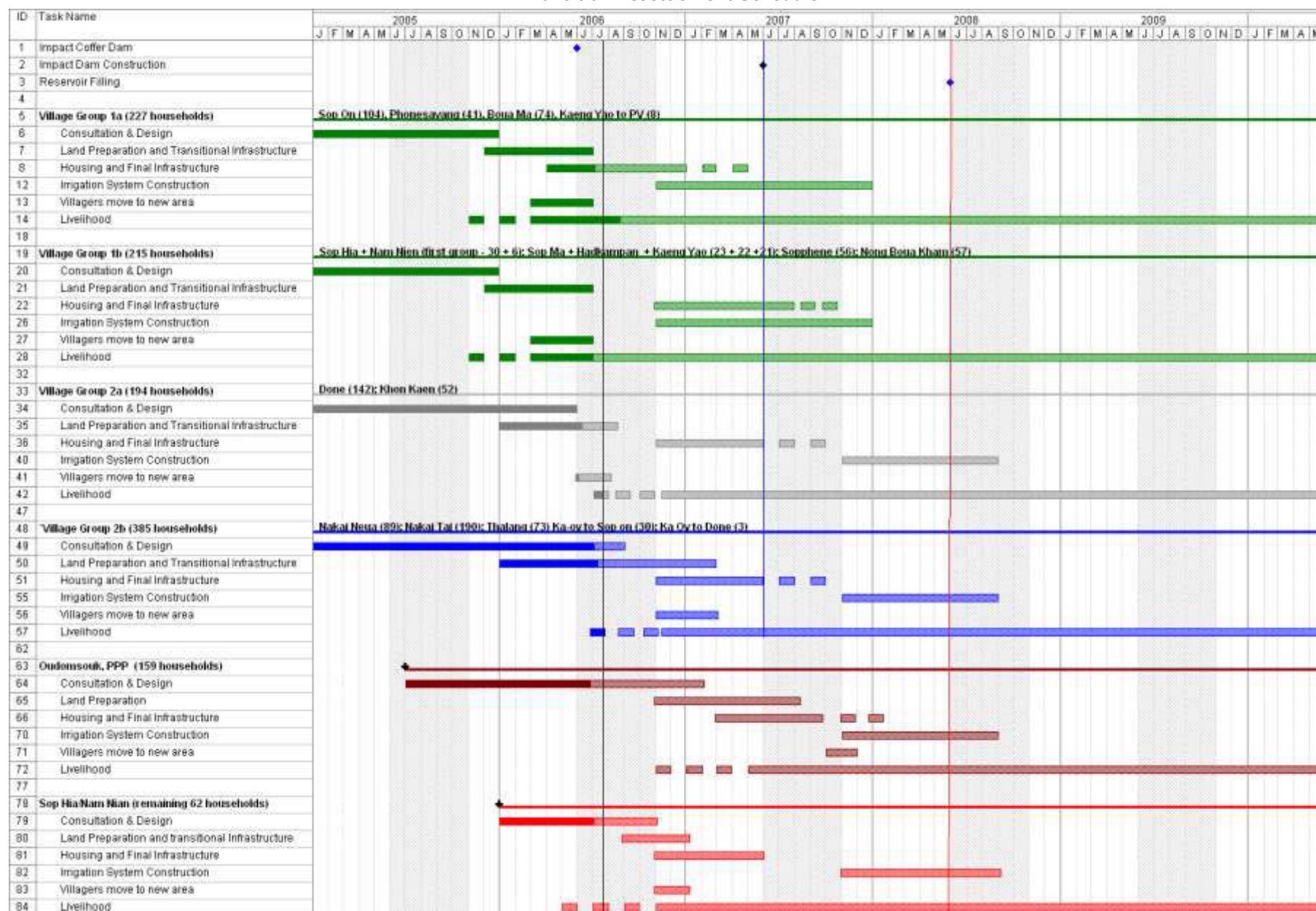
- cooperation with GPAR LSP "GPAR LSP will select villages or areas other than NT2 Project already selected",
- RMU to draft the Chairman Decision on appointment of 2-3 staff belong to RMU for working on the fishery reservoir management,
- to sign the Decision on the delimitation about NK/GML Districts (Decision.no. 0779/G.KM on 02/08/2006),
- Sophia/NamNian households should follow the CA, preferably to Nakai Plateau or adopting the 15.1 entitlement (type 9: repartees)...
- agreed to WMPA Secretariat to continue in implementing the activities accordingly to the proposal program but more focus on illegal logging and in close collaboration with Nakai District,
- regarding the development of 31 villages along the border, the development Team should cooperate with Nakai and Boualapha District to select about 10 staff among the Team to be permanent in those areas and working closely with WMPP staff,
- the Committee responsible on salvage logging in the reservoir should continue their works appropriately.

Annexes

July 2006



Transition Resettlement Schedule





Nam Theun 2 Power Company Ltd.

Nam Theun 2 Hydro-Electric Project

**Monthly Progress Report
covering activity in August 2006**

Part C : Environmental & Social Report

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General Overview

1 General Overview

Procurement:

In August, procurements have been mainly, but not only focusing on the construction of the wooden houses for the resettled people of Village Group 2.

Project lands:

- Resettlement Action Plans (RAP): RAPs 1-4 were completed on June 20th and posted for review by IFI on the NTPC secure website. Work is on-going to finalize RAP 5.
- Transmission Line: Compensation procedures for PAPs in LPAs 54 and 57 in the Xe Bangfai and Xaibouli Districts were finalized with district authorities. Final compensation for transmission tower footings and transmission line access roads was provided to PAPs in Xaibouli and Xe Bangfai districts.
- Livelihood restoration: Implementation of the livelihood restoration program continued. Initial results from the rice improvement program are highly encouraging. Non-agricultural vocational training for 68 PAPs was completed in Thakhek. Activities for orchid raising started. Rattan and bamboo activities proceeded, seedlings were distributed;
- Gnommalat: Land reallocation for 27 PAPs who lost all of their productive land continued. UXO clearing was completed and arrangements were made for clearing of vegetation.

Public Health:

- Infrastructure: The renovation works of Laksao district hospital are delayed regarding the delay to import the Onduline sheets (arrived now – work expected to continue in October)
- Equipment: an ambulance was handed over to Nakai District; the fourth ambulance is expected by mid-september. The trial period continues for the use of Essential Obstetric Care and Obstetric Register.
- Training, capacity building: Long-term training for X-ray and Ultrasound are in progress for Gnommalat District Hospital; Training for the use of biochemistry equipment was carried out in Khamkeut; Practical training for conducting maternal and child health clinic was conducted in Sop On
- Supervision: Routine supervision of the health center staff's activities was conducted during the month.
- Traditional Medicine Research Center (TMRC) team was invited by HPMU to jointly explore livelihood aspects of medicinal plants and further continuation of study on *Nakai Plateau Plants and Practices*. Joint meetings were held with the Community Development, Forestry, Agriculture and local health officers. A number of visits were made to resettlement villages and the experimental farms. Report is awaited from TMRC.

Nakai Plateau resettlement

Infrastructure:

- Extra topographic survey and mapping: The contract for the extra survey work required at Area 13 for the Ban Thalang irrigated agriculture area was suspended in July because of the heavy rain and the company has not been able to return to the site.
- UXO search and clearance: The contractor has maintained good progress during the month despite the heavy rains. They are now working on the large central areas 1 and 2 for Nakai Neua and Nakai Tai. From November 2005 to date the contractor has found and destroyed 1,171 UXO items, mainly bomblets. There is an ongoing contract for UXO community awareness and on-call roving response teams with the same contractor. By the end of August the roving unit have found and disposed of 1,171 UXO items mostly bomblets and mostly found nearby the northern resettlement areas. The communications channels between villagers and the response team have been established in all villages and are working very well, with any finds of suspicious items in community areas being quickly reported.
- Timber houses: The construction of timber houses in Area 16 (Pilot Village) for 8 families resettling from Ban Keng Gnao is completed. The contractors awarded the timber houses

construction contracts at areas 17 Bouama, 18 Phonsavang and 19 Sop On have mobilized and have started the construction works. The 3 contracts for the northern villages of Sop Ma Sop Hia, Nong Boua Kham and Sop Phene have not yet started due to necessary additional preparation works on the site (site clearance, access etc.). It is expected that the beginning of the coming dry season, mid-October/November will be the most appropriate time to commence construction of these permanent houses.

- Roads and tracks: Road construction was limited because of the heavy rains.
 - The construction of access roads to and within the three southern VG1 resettlement areas is about 82% complete. Some more tracks have been added to the contract works.
 - The construction of the Southern Resettlement Road is about 30% complete.
 - The construction of the access tracks to and within the four northern VG1 resettlement areas is about 53% complete.
 - It is expected that the above mentioned roads will be completed early next dry season, and that efforts for the remainder of the wet season will be directed towards maintaining priority access only.
- Irrigation: The contract for the construction of the irrigation area extension at the Pilot Village for the Keng Gnao resettlers was suspended because of the heavy rains.
- Villages Layout: The preparation of preliminary resettlement village and agricultural layouts for the VG2 villages is continuing by NTPC personnel in consultation with villagers.
- Community Buildings: The Architect Company has submitted seventeen final sets of drawings and BoQs for the community buildings and the preparation of construction bidding documents will commence in September.
- Domestic Water Supply and Sanitation

The rains have affected the progress with the borehole drilling programme during the month because of the poor road surfaces and the heavy drilling rigs. To date, 73 deep boreholes have been drilled and developed and there have been 10 failures.
- Electricity: A contract for the electrification of the 8 new houses at the Pilot Village has been signed in August. The design of the resettlement village electrification systems is underway and complete for five villages.

Livelihood Plans:

Presentation of various studies carried out since June 2005 and major adjustments / re-organization were made to POE on 17th of August. POE was highly interested by the approach and expressed its support to the methodology and the implementation of the adjustments proposed.

Following this meeting, a livelihood coordination Unit will be appointed early September in Nakai.

Forestry:

- Production at 3 sawmill improved in August but achievement of sawn wood production target difficult.
- New supervisory board of VFA has been appointed.
- A committee has been set up to organize sales by GOL of logs removed during May and June.

Agriculture / Livestock:

- Pilot village and demonstration farm activities continue to be focused more on the villages to be resettled,
- 2 expatriates have been appointed as Technical Assistance for this program.
- Village based extension / training center is being established in new Sop Hia (Area 8a) to serve the northern villages.
- Household vegetable gardens have been enthusiastically adopted by most transition resettlers.

Downstream Program:

- Training in development management activities for VDCC's have been carried out. The VDCC's have opened bank accounts in another 19 pilot villages.
- Interviews were held with candidates for new positions in the downstream team and are presently in the selection process following NTSEP procedures.
- Comments received from IFIs have been incorporated in the Downstream Implementation Plan. The report should be released soon.

Environment:

- Water Quality sampling (22-26 August) and analysis
- Ongoing Interim HEC Monitoring and continued procurement activities for Elephant Program Phase II.
- Continued procurement activities for the Wildlife Programs.
- Submission, review and revision of the Final Report for the baseline survey for fish and aquatic species in upstream and downstream rivers (Wildlife Program Element B).
- Revision of the Environment Management Manual for the EMU.

Monitoring:

- POE mission from 6 to 19 August 2006

1.1 Staffing NTPC, GOL (EMU, RMU, DWG) and Partners

○ NTPC E&SD Staffing

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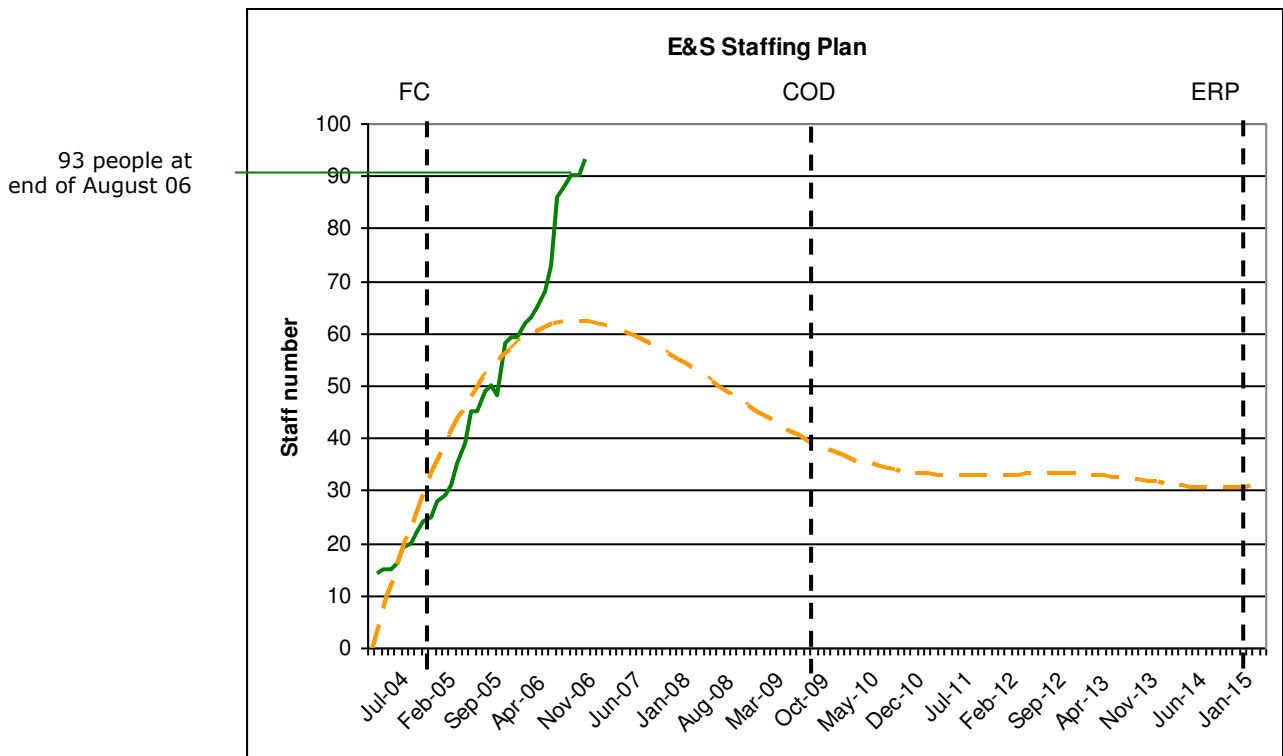
Scheduled staffing plan

Actual staff recruitment

FC = Financial Close

COD = Commercial Operation Date

ERP = End of Resettlement Period



In addition to NTPC staff, individual consultants are working full/part time with NTPC teams

2 technical Assistant for Agriculture and Livestock have been hired mid-August.

The construction of the Nakai Residential Complex in Oudomsouk for use by the NTPC E&S team is on-going (complex of 54 rooms/studios/apartments and 6 villas).

○ EMU Staffing

No change from previous report.

○ RMU and DWG Staffing

No change from previous report.

○ Partners

No change from previous report.

1.2 Unanticipated Project Impacts

No change from previous report.

1.3 Additional Plans and PIP updating

○ PIP / AIP

The Revised Proposed Annual Implementation Plan (for period 1 June 06 to 31 May 07) has been posted on the Secure Website on 28 July 2006. Approval received from ICA on 28th of August.

○ Additional Plans

No change from previous report.

1.4 Grievance procedure

8 additional claims in Gnommalat for land asset damaged by construction. Additional survey for estimation of compensation on-going.

1.5 Communication

The second semi – annual progress report has been submitted to lenders in May. NTPC has received comments and is presently updating it before resubmission to ICA.

1.6 Procurement

In August, procurement activities have been mainly, but not only focusing on:

- the procurement process for the construction of the wooden houses for the resettled people of Village Group 2,
- the procurement process for the implementation of the downstream programme,
- the procurement process for the construction of community buildings for VG1
- the procurement process for the construction of roads for areas 1 and 2
- the procurement process for the construction of roads for areas 21 and 22
- the procurement process for the construction of 5 houses for Project Lands.

Social Activities

**Physical Cultural Resources, Project Lands,
Camp Followers**

2 Social Activities

2.1 Physical Cultural Resources, Project Lands, Camp Followers

2.1.1 Physical and Cultural Surveys & Salvage

In 2004 NTPC commissioned a consultant to conduct a baseline PCR survey in the Project area. This baseline survey identified all items and sites of PCR significance that are located either within or adjacent to Land Parcel Areas. The survey also provided an impact assessment for each PCR site. The Head Contract was notified of all PCR sites and requested to provide impact assessment advice for those PCR located within LPA.

Based on the findings of the baseline survey and the impact assessment advice provided by the HC, the PCR items and sites were separated into four PCR plans for (i) movable PCR; (ii) PCR within construction areas; (iii) PCR within the Reservoir; and (iv) PCR along the Xe Bangfai.

Movable PCR Plan

To date the Institute of Cultural Research (IoCR) has implemented this plan which consisted of a series of consultations and management measures. Management measures included (i) securing PCR in situ; (ii) relocating PCR to the security of the temple; and (iii) improving security at the temples to help prevent the impact of theft.

Activities during August 2006 include:

- The Department of Museums and Archaeology (DMA) requested NTPC to assist in the relocation of a Buddha statue from Ban Phanang to the National Museum. The Project has already implemented management measures to safeguard the Buddha statue from theft. The WB confirmed that the relocation is not the responsibility of the Project and GOL should take the lead.

PCR within Construction Areas Plan

To date the IoCR has implemented this plan which also consisted of a series of consultations and management measures. Management measures included (i) appeasement ceremonies; (ii) relocation of PCR; and (iii) redesign of the Project to avoid impacts from construction.

Activities during August 2006 include:

- The WB requested that DMA reviewed the final alignment of the 500 kV Transmission Lines (TL) and indicated whether any registered PCR sites of archaeological significance would be impacted by the construction of the TL. In their letter (12h/DMA/06) dated 28 August 2005, DMA confirmed that no registered archaeological site would be impacted by the TL.

PCR within the Reservoir Plan

To date IoCR have completed the consultation for all villages within the inundation area and completed management measures for almost all PCR sites belonging to VG1 villages. Activities included (i) appeasement of spirit sites (ii) identification of new cemetery sites and UXO clearance prior to use; (iii) an appeasement ceremony for old cemetery sites; and (iv) ceremonies for the old temple sites and relocation of Buddha images to the new village. UXO clearance at the new cemetery sites is currently ongoing.

Activities during August 2006 include:

- IoCR produced the report which documents to consultation and management measures for the cemetery and temples sites managed during July 2006.
- On 20 August 2006, Ban Nong Boua requested NTPC to support a ceremony to relocate their cemetery. IoCR shall ascertain whether the cemetery is already above EL 538 and does not require relocation. However, if relocation is required, IoCR shall provide the necessary ceremony.

PCR along the Xe Bangfai Plan

The plan for PCR along the Xe Bangfai is scheduled to be implemented in coordination with the Downstream Program. One historic site located on the banks of the Xe Bangfai will require an archaeological salvage. A survey was conducted for the twelve temples located on the banks of the Xe Bangfai between Mahaxai and the Road 13 bridge to prioritize monitoring effort and identify any requirement for management measures (bank protection).

Activities during August 2006 include:

- Procurement activities for DMA to conduct the archaeological salvage of the historic kiln site which is located on the banks of the Xe Bangfai. The contract is almost final and archaeological activities are expected to commence after the wet season in early October and will be preceded by a consultation with Ban Mahaxai and Pova Neua.

Chance Find PCR

In addition to those PCR that were identified during the baseline survey there is a potential for additional sites or items of PCR (chance find PCR) to be identified during construction activities. The DMA and IoCR are providing ongoing technical assistance to NTPC to deal with these chance find PCR as and when they are discovered.

Activities during August 2006 include:

- During the July 2006 mission the WB, although indicating that the Chance Find Procedure appeared to be working well, were concerned at the limited number of archaeological finds and request strengthening of the PCR recognition procedure. In response, in August 2006 DMA have submitted a proposal to conduct PCR training for the EMO Inspectors, HC/CC Inspectors and UXO Clearing teams. PCR training proposed to commence in September 2006.
- During 14-15 August 2006 IoCR and Khamkeut DWG conducted consultations with stakeholders for a chance find grave site (PCR/IN/6/2) which had been identified as being located within the Phonsa-at Solid Waste Disposal Facilities. After several consultations and a site visit the relative of the deceased indicated that he did not want the grave site relocating and provided IoCR with conditions for the recommencement of construction activities. These included (i) providing a 10m buffer zone around the grave; and (ii) the digging of holes would have to be at least 150m to the south. On 17 August 2006, IoCR conducted a ceremony to appease the spirit for construction activities conducted to date. On 27 August 2006, RMU and Khamkeut DWG conducted an additional consultation with stakeholders which confirmed the findings of the earlier IoCR consultations. The CC are currently investigating an alternative site for the Solid Waste Disposal Facilities.
- During the period of 23-24 August 2006 IoCR conducted consultations at Ban Nakai Tai in response to a letter from the village head detailing concerns over the disturbances to a territorial spirit from road construction activities. During the consultation the villagers indicated that the road impacted on their community forest and was not within the agreed project land boundary. The issue is being resolved with Project Lands and if construction recommences then IoCR will conduct a ceremony to appease the spirit.

PCR Monitoring

On 22 August 2006, the monthly PCR monitoring was undertaken by the EMO. The PCR monitoring continues to focus on PCR sites located in the vicinity of the Downstream Channel. The following table presents the villages and their PCR included in the PCR monitoring.

Village	PCR ID	PCR Type	Issue
Kout Phadang	PCR/ADJ/52/1	Temple	No issue
	PCR/ADJ/52/3	Spirit Site	No issue
	PCR/ADJ/52/4	Spirit Site	No issue
Keovilay	PCR/ADJ/52/4	Cemetery	No issue

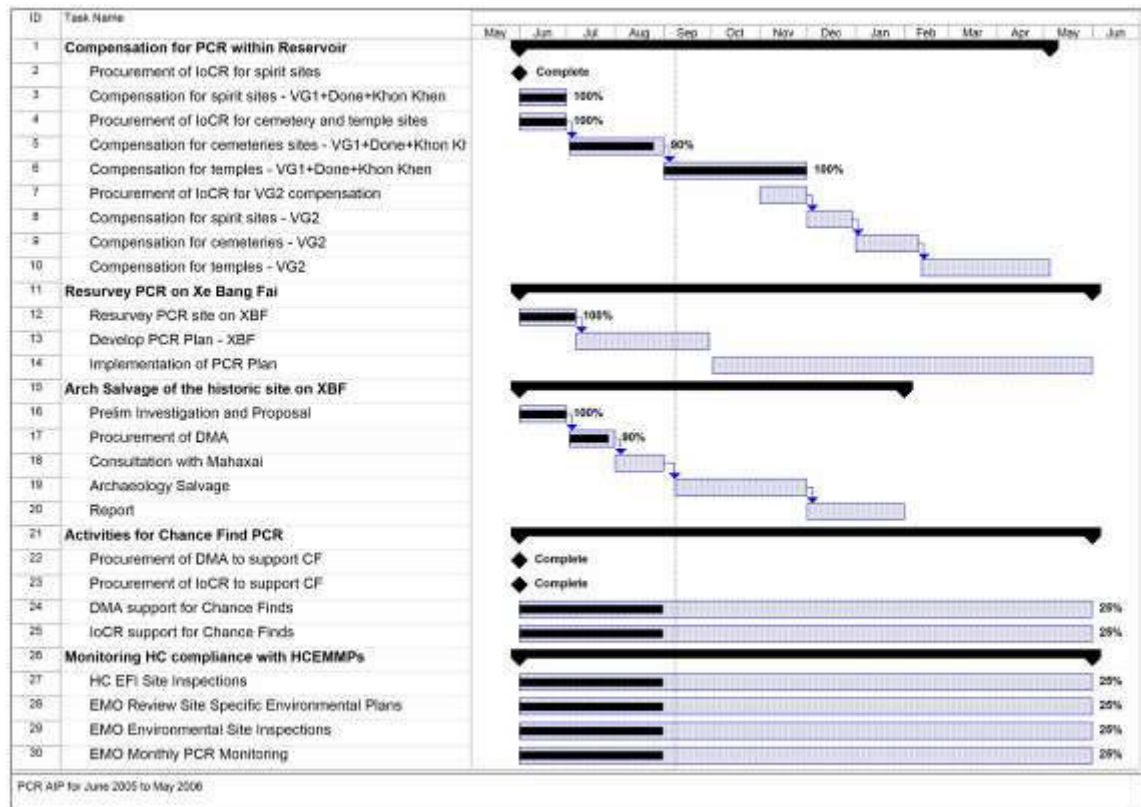
Other Activities

During 3-6 July 2006 DMA and IoCR accompanied the World Bank during a site visit specifically focused on PCR issues. The findings of the WB mission have been submitted to NTPC in August 2006. Overall the WB Report is very positive and indicates that the approach adopted by NTPC and GOL is in compliance with the Bank's safeguard policy. The following issues were raised in the WB report:

- The rehabilitation of Pha Phen Quarry should include removal of rocks fallen close to cave PP2 and PP3;
- Bank policy does not insist on the archaeological salvage of Nakai Tai temple against the wishes of the community of Nakai Tai;
- Relocation of Ban Phanang Buddha image to the National Museum is not NTPC responsibility;
- Chance Find Procedure training for EMO Inspectors, HC/CC Inspectors and UXO teams;

- An archeological salvage should be conducted at the historic kilns sites on the Xe Bangfai;
- Concerns about the Downstream Channel restricting access to some PCR;
- DMA to identify whether there are any registered archaeological PCR likely to be affected by the 500 kV Transmission Lines.

PCR Schedule:



Consultation (right) and appeasement ceremony (left) for the Chance Find grave site (PCR/IN/6/2) located within Phonsa-at Solid Waste Disposal Facility.

2.1.2 Project Lands

Main events in August:

- Resettlement Action Plans (RAP): RAPs 1-4 were completed on June 20th and posted for review by IFI on the NTPC secure website. Work is on-going to finalize RAP 5.
- Transmission Line: Compensation procedures for PAPs in LPAs 54 and 57 in the Xe Bangfai and Xaibouli Districts were finalized with district authorities. Final compensation for transmission tower footings and transmission line access roads was provided to PAPs in Xaibouli and Xe Bangfai districts.
- Livelihood restoration: Implementation of the livelihood restoration program continued. Initial results from the rice improvement program are highly encouraging. Non-agricultural vocational training for 68 PAPs was completed in Thakhek. Activities for orchid raising started. Rattan and bamboo activities proceeded, with seedlings were distributed;
- Gnommalat: Land reallocation for 27 PAPs who lost all of their productive land continued. UXO clearing was completed and arrangements were made for clearing of vegetation.

○ Baseline Studies

The collection of baseline study data is complete.

○ Meetings & Consultations

NTPC/HC "Access to Land" coordination meetings continue to be held to coordinate activities between NTPC and the HC as well as to address specific land access issues. One meeting was held in August, focusing on issues related to Road 12 and 8b. The Project Land team also participated in a site inspection with the NTPC Construction Division and HC in LPAs 18, 33, 34, 35 and portions of 38a.

Weekly coordination meetings with the DCWG and RMU continued during the month of August.

Meetings were held with the Panel of Experts (POE) in Gnommalat to discuss compensation and livelihood development activities in Project Lands. Members of the Project Land team also accompanied the POE during field visits to several LPAs.

○ Compensation

Provisional compensation was completed for LPA 47 (a borrow pit) as well as for vegetable gardens located along project affected portions of the Nam Gnom in Gnommalat District.

Final compensation for transmission tower footings and transmission line access roads in LPA 54 and 57 in Xe Bangfai and Xaibouli Districts proceeded.

Resettlement Actions Plans (RAPs):

See section above.

Oudomsouk Urban Planning Resettlement Action Plan:

Planning for construction of 5 new timber houses began in August for additionally impacted PAPs from Oudomsouk and Ban Phonphanpek. Sites have been selected, designs agreed upon with PAPs and preparation of bidding documents has started.

Livelihood restoration

Livelihood restoration programs continued during August for PAPs whose livelihood is more than 10% affected by project activities. Contracts for implementation of the various programs have been completed and are currently being implemented. Developments to specific components of the livelihood restoration program during the month of August are described below.

Rice Improvement: The rice improvement program started in May 2006, for 146 PAPs, in Gnommalat and Mahaxai Districts, out of the 160 farmers who participated at the training at Thasano Rice Research Station between March 26th and April 4th. DCWG officers have continued to closely supervise this work in a highly satisfactory way, with demonstration fields already indicating promising results for several of the varieties being tested, even though weather conditions have not

been ideal for rice growing this season. Interest in the rice improvement program remains very strong with PAPs as well as from non-PAPs.

Fish cultivation: A two day field visit for interested PAPs was organized in collaboration with DCWGs and the RMU to Ban Beungxe and Ban Nongbok to observe fish culture techniques.

Rattan and bamboo: Activities continued during August, with 17 PAPs involved from 4 villages (Ban Keovilay, Ban Nongseng, Ban Lao, Ban Gnommalat Tai). A four day study tour for interested PAPs to the Forestry Research Centre in Vientiane Capital and Vientiane Province was conducted to explain the economic benefits of planting rattan and bamboo. 4300 Rattan and 200 bamboos seedlings were distributed to the interested PAPs who participated in the study tour to Vientiane. An advisor from the Forestry Research Centre trained and instructed interested PAPs in how to plant and take care of the seedlings.

Jatropha: Work continued to increase the quantity of jatropha saplings at the Gnommalat nursery. 4,500 saplings were distributed to households in the Mahaxai District to assist with protection from noise, dust, as well as a method to improve income through production of oil from the jatropha seed.

Orchid cultivation: Implementation of the contract with the University of Laos for orchid development in Nakai and Gnommalat districts commenced during the month of August, with initial activities being concentrated in Nakai District. The project aims to preserve the numerous existing species of orchids available in the Nam Theun 2 project area, as well as to assist interested farmers in understanding the possibilities for commercialization of orchid cultivation.

Vocational training: 68 PAPs, 10 of whom were from Oudomsouk, continued non-agricultural vocational training at the Khammouane Vocational Training Center in Thakhek during August. Training was in the areas of tailoring, weaving, electrical works, cooking, accounting, carpentry, and general construction. All training courses are expected to be completed in early September.

Forage and Livestock: A local consultant continued activities for livestock improvement and establishment of 9 plots of forage material (involving 5 households) continued during August. The primary focus of activities is those farmers with a large number of cattle, and aims to introduce more varieties of grass and forage as a way to raise animals without using large areas of land. Fencing of the forage plots is on-going.

Frog & pig raising, mushroom cultivation: Activities in association with the Non-Formal Education Development Centre of Laos continued for mushrooms cultivation, pig and frog raising. 10 PAPs have been selected and confirmed for mushroom activities, 18 PAPs for pig activities, and 5 PAPs for frog raising activities. PAPs were from Ban Kobong, Sangkeo, Thongmang, Lao, Gnommalat Tai. Selection of sites for these activities has been completed and design and contract documents for construction of necessary infrastructure have been drafted.

Horticulture: Preparations for the horticulture portion of the livelihood restoration program continued in Nakai, Gnommalat and Mahaxai districts. Land clearing and ploughing in Gnommalat and Mahaxai will commence following completion of UXO clearance. Vegetables to be included in the program include baby corn, sweet corn, tomatoes, potatoes, Chinese cabbage, and broccoli. The specific vegetable varieties grown in each district will differ slightly due to differences in climate between the three districts.

Replacement land: A land area of approximately 44 ha was identified near Gnommalat earlier this year for redistribution to PAPs which have lost their entire productive land holdings. Land allocation for the 27 PAPs was agreed to and documents were signed by all parties in May. UXO clearing of the land, which commenced in June, was completed in August. Clearing of vegetation is expected to be completed during September, with removal of stumps, ground leveling, and plowing to be completed in October.

○ Handover of lands to Head Contractor

DT5a Land Asset Survey was conducted during August in preparation for handover to the head contractor for spoil deposits.

2.1.3 Camp Followers

- Population Management: Monitoring of labor and population movement:

This activity is placed under direct control of RMU since January 2006.

- Human Trafficking Control

This activity is placed under direct control of RMU since January 2006.

- Infrastructure Development

No changes from previous report.

- Public Health

A consulting advice was obtained from an expert from Hinboun dam project and inter district meetings held and a workshop conducted during 5-7th July. A program has been drafted for chlorination of shallow well water for use in the restaurants in Nakai and Gnommalat. Provincial water and sanitation section is working on the proposal.

Water Quality monitoring of domestic water supply:

Under the Camp Followers Health Program, the EMO is monitoring faecal coliform contamination in domestic water supply of restaurants in Nakai and Gnommalat District. The presence of faecal coliform indicates contamination from human or animal faeces.

The EMO will continue to sample for faecal coliform analysis at five restaurants in Nakai District and ten restaurants in Gnommalat District on a quarterly basis to assess whether activities under the Camp Followers Health Program are contributing to improvements in the quality of domestic water supply.

On 24 and 25 August 2006 the EMO via the WQMAP conducted faecal coliform analyses of the domestic water supply for five restaurants in Nakai District and ten restaurants in Gnommalat District, respectively.

The faecal coliform level exceeded the Lao standard for drinking water of zero at all restaurants but one. The elevated faecal coliform levels recorded in these restaurants indicate a high pathogen load which poses a high risk to human health. These restaurants that exceed the Lao standard should continue to avoid direct consumption of the water and boil the water prior to washing vegetables and cooking pots.

Site No.	Groundwater Supply	Water Use				Faecal Coliforms (FC/100 mL)	Lao WQ Standard for Drinking Water	
		Drinking	Cooking	Washing Veg	Washing pots			
Nakai District								
PH1	Lined, covered well	X	X	✓	✓	80	0	
PH2	Lined, covered well	X	X	✓	✓	6		
PH3	Unlined, semi-covered well	X	X	✓	✓	192		
PH4	Unlined, uncovered well	X	X	✓	✓	164		
PH5	Unlined, uncovered well	X	✓	✓	✓	0		
Gnommalat District								
PH6	Unlined, uncovered well in a rice paddy surrounded by standing water and animal excreta. ~ 3m deep.	X	X	✓	✓	32		
PH7	Unlined, covered well. ~5m deep.	X	X	X	✓	39		
PH8	Lined, covered well. ~10m deep.	X	X	✓	✓	25		
PH9	Nam Gnom	X	X	X	✓	48		
PH10	Restaurant has modified its groundwater supply from Tham Phouang cave to a well located at the rear of the restaurant.	X	X	✓	✓	8		
PH11	Lined, semi-covered well. ~9m deep.	X	X	✓	✓	5		
PH12	Lined PVC Pipe for pumping GW. ~6m deep.	X	X	✓	✓	69		
PH13	Unlined, uncovered well. ~6m deep.	X	X	✓	✓	24		
PH14	Unlined, uncovered well.~7m deep	X	X	✓	✓	27		
PH15	Lined, covered well. ~10m deep.	X	X	✓	✓	18		

The district authorities have been advised to implement measures to stop using this water for washing vegetables and other food items that can be consumed raw and for washing hands and dishes.

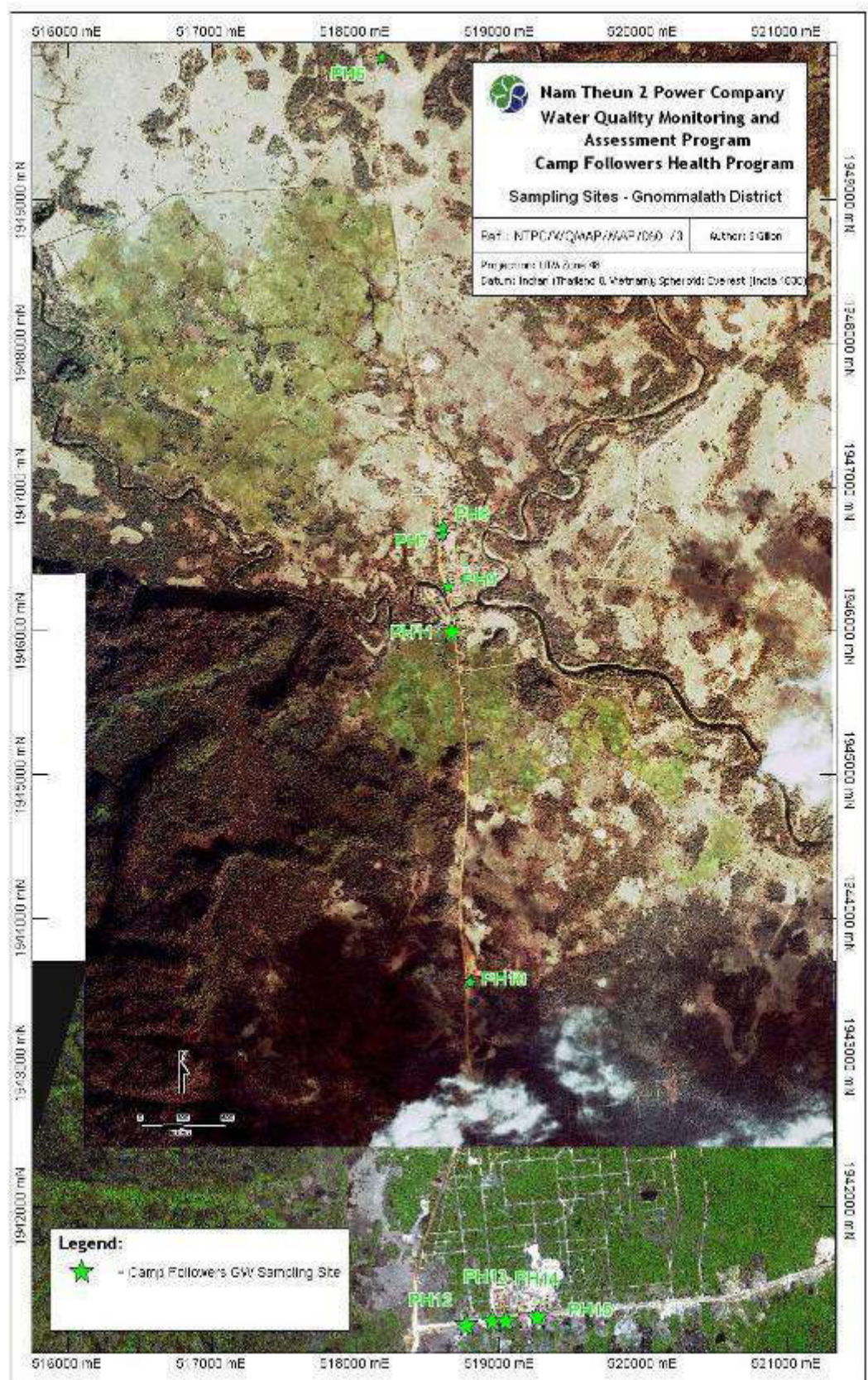
This problem will be closely monitored and measures will be discussed to save the public from the dangers of consuming contaminated raw foods.

Peer leaders training among service women and restaurant owners was conducted in Khamkeut district from 21st – 24th June in Lak Sao. 12 service women and 10 restaurant owners attended the meeting. The training for other districts is being planned.

Figure:
Locations of
Groundwater
Quality
Sampling
Stations for
the Public
Health
Program,
Nakai District



Figure:
Locations of
Groundwater
Quality
Sampling
Stations for
the Public
Health
Program,
and
Gnommalat
District



STIs and its control: No changes from previous report.

- Traffic Safety and Regulations

Development of regulations / Review and strengthening of regulations: No change.

Road Safety: No change.

- Social Security and capacity building for local agencies

Support and technical assistance for District Police Offices: No changes from previous report.

Establish Intersectoral Task Force on Population management and security: No changes.

Social Activities

Health Programs

2.2 Public Health Regional and Resettlement Programs

Following major activities were undertaken during August 2006:

Upgrading health infrastructure:

- Laksao roof renovation works are delayed because of the delay in supply of roofing material (Onduline sheets). Roofing material has arrived and work will begin after rainy season in October. The construction of deep protected machine drilled boreholes will be undertaken during the first week of September in each of the above mentioned health centers and hospitals.

Equipment:

- The ambulance was handed over to Nakai District Hospital on 9th August in Thakhek by the Provincial Governor in the presence of POEs. Last ambulance for the Provincial Hospital, Thakhek is expected in the country by mid-September.
- Ambulance equipment for all ambulances arrived. All ambulances have been fitted with the equipment and the Provincial Hospital ambulance equipment is in store.

Training, capacity building:

- The trial period continues for the use of Essential Obstetric Care and Obstetric Register. The Obstetric Register has been finalized and HPMU is looking for suitable printers to print the register for health centers, district hospitals and provincial hospital. This register will be used in general by Khammouane health services both in project and non-project areas.
- Long-term training for X-ray and Ultrasound are in progress for Gnommalat District Hospital in Vientiane and will continue until October 06 (continues).
- Training for the use of biochemistry equipment was carried out in Khamkeut on 5-6 August 2006.
- Practical training for conducting maternal and child health clinic was conducted in Sop On Village on 23-35 August 2006 for three health center staff.
- Monthly meetings were held in three districts on 26th July and 1-2 August 2006.
- Two meetings were held with the clinical staff at provincial hospital to organize the training for emergency care. Training program is expected to take place early October 2006.

Health Education Program:

- HIV/AIDS awareness program was conducted during boat racing festival in Mahaxai on 22-23 August 2006.

Supervision:

- Routine supervision of the health center staff's activities was conducted during the month
- 24-25th August 2006 supervisory visit to Nakai Tai and Sop On.

Surveillance and Monitoring:

- Maintained the updates of the Public Health section of the NTPC website.
- A new reporting format was designed and piloted in all districts to improve the quality of information and comparability among districts.
- Monthly MCH clinic reporting form is also being developed.
- The monthly MCH clinics will be extended to the regional health program. Health center staff are being trained to conduct this activity at monthly interval in all villages.

Resettlement Program:

- Traditional Medicine Research Center (TMRC) team was invited by HPMU to jointly explore livelihood aspects of medicinal plants and further continuation of study on *Nakai Plateau Plants and Practices*. Joint meetings were held with the Community Development, Forestry, Agriculture and local health officers. A number of visits were made to resettlement villages and the experimental farms. Report is awaited from TMRC.
- Lao report on Nongboua health checks and survey has been completed and will be sent to DCC for cataloging.
- Monthly MCH clinic for Nongboua and Sop On villages were conducted on 1st and 24th August respectively.

Other activities

- NCCAB Director and team visited province and had special meeting with HPMU. The Director was keen to explore the possibility of carrying out anonymous HIV testing among service women through NTPC Health program in the province.
- Two patients were referred from resettlement villages to provincial hospital for treatment during the month under Equity Fund.

Abbreviations used in this section:

DCD	District Community Development
DH	District Hospital
DHO	District Health Office
HC	Health Center
HPMD	Health Properties Management Division
HPMU	Health Program Management Unit
ICHC	Integrated Community Health Center
IFMT	Institut Francophone pour la Medecine Tropicale
MCH	Maternal and Child Health
MOH	Ministry of Health
NCCAB	National Committee for Control of AIDS Bureau
ORPP	Outbreak Response Preparedness Plan
PH	Provincial Hospital
PHO	Provincial Health Office
TMRC	Traditional Medicine Research Center
UNPFA	United Nations Population Fund
VHC	Village Health Committee
VHV	Village Health Volunteers
WHO	World Health Organization

Public Health Infrastructure & Equipment, vehicles			
Buildings	Progress during the month	Progress to date	
Consultancy services for preparation of bidding document		100%	Delayed consultancy with Ministry of Health leading to delayed start infrastructure programs
Khammouane Provincial Hospital		100%	Only refurbishment of emergency ward. The balance according to hospital needs is transferred to medical equipment and ambulance
District Hospital	5%	50%	<p>Refurbishment works in Nakai, Mahaxai and Khamkeut hospitals have been completed in July 2006.</p> <p>Renovation works of the roof for the Khamkeut District hospital are behind the schedule because lateness in providing roof sheets.</p> <p>District Hospital new construction will start in October and likely to be completed before next rainy season. Initial expenses are for land clearance and transformer for GMLT DH.</p>
Health Center	0%	50%	<p>Refurbishment work for Nadou and Kengdaeng Health Centers have been completed in July 2006. Khetphid and Nasok HCs and Nongbouakham Integrated Community Health Center (IHC) - in Resettlement Health Program - new construction will start in October. (Note: Two additional IHCs belonging to health program are under Infrastructure budget)</p>
Infrastructure maintenance			Most of the infrastructure maintenance will be required after 2008 onwards.

Medical & Other Equipment	Progress during the month	Progress to date	
Medical and Lab Equipment			
Consultancy for preparation of bidding document		100%	Delayed consultancy with Ministry of Health leading to delayed procurement program
Medical Equipment (KMN Provincial Hospital, 4 District Hospitals and 6 Health Centers)	3%		Lot II items have been distributed to 4 district hospitals (DHs)
			Lot I, III and IV being shipped to Laos by successful bidder. Expected to arrive in 2-3 months (includes big items like X-Ray and Ultrasound), for 4 DHs and KMN PH
			In addition, some biochemistry and laboratory equipment is on order as well. Further supply of medical equipment will be assessed according to need after completion of the construction work.
Ambulance Equipment and other sur-charges		90%	All ambulances have been installed with the emergency equipment. Provincial hospital ambulance equipment awaits arrival of the ambulance.
STIs Program			Develop STI services at provincial and district levels, including introductory workshops. (This item originally was budgeted under medical equipment hence in this section)
Peer education			Peer education program - service women, restaurant/bar/guesthouse owners – Ongoing
Non-Medical Equipment			
Photocopier	0%	100%	One for each DHO and the Khammouane PHO
Computers & printers	0%	59%	Two sets to each district health office and two sets to Khammouane Provincial Health Office
Audio-visual equipment (television and DVD player)	5%	80%	One set of television and DVD player to district health offices and health centers for health education program. Additional BCC equipment will be provided in 2006-07
Fridge, water cooler, LCD projector, fax and other items	0%	88%	One set to each district health office and district hospital and a fridge to Khammouane Provincial Health Office.
Hospital beds (Khamkeut)	0%	45%	30 steel beds with mattresses to Khamkeut District Hospital
Hospital furniture (KMN Provincial Hospital, 4 District Hospitals and 6 HCs)			Hospital furniture will be provided according to the need after completion of refurbishments and new construction work
Bed Nets, including impregnation	0%	30%	2,875 nets for 21 villages of Mahaxai, 3,011 nets for 35 villages of Gnommalat, 3,234 nets for 15 villages of Nakai and 2,364 nets for 15 villages of Khamkeut. Nets will be supplied regularly during the life of the project. Vector control measures/equipment will be provided according to need.
Other package non-medical equipment			Other package of non-medical equipment will be provided according to the need after completion of refurbishment and new construction work
Road safety communication			This money will be spent in conjunction with overall road safety program in NTPC project areas.
Vehicles			
Motorbikes	0%	70%	12 motorbikes (6 from project and 6 donated by NTPC) distributed to DHOs and HCs. Plans of replacement mid project.
4WD Pickups	0%	80%	Four 4WD pickups procured and distributed one each to Nakai, Mahaxai, Gnommalat Districts and one to Khammouane Provincial Health Office. Vehicle use policy has been developed in conjunction with the GOL for

			exclusive use of health work.
Ambulances	25%	-19%	Two ambulances have been handed over to Khamkeut and Gnommalat Districts. The third ambulance arrived and was handed over to Nakai district on 9 th August. Forth ambulance was ordered after a request from Provincial Hospital for replacement of the old one. Expected to arrive by mid-September 2006.

Public Health Program - including awareness programmes			
Supplies - Drugs, kits, forms and manuals.	Progress during the month	Progress to date	
Drug and Medical Supply			
KMN Provincial Hospital	62%	38%	Drug revolving fund for emergency and STI Program
District Hospital	17%	83%	Drug revolving fund for four districts
Health Center	21%	79%	Drug revolving fund for four health centers
Community level (Village Drug Revolving Fund)	59%	41%	Drug revolving fund for 68 villages.
Community level (TBA kits)	33%	67%	Traditional Birth Attendant kits to 96 trained TBAs
Office and Vehicle Operating cost			Operating costs have been transferred to 4 DHs/DHOs and KMN PH/PHO 2 time per year, including health centers.
KMN PH/PHO	8%	92%	
DHs/DHOs	2%	98%	
HCS	3%	97%	
Others (training materials, printing forms, etc. ...)	6%	94%	Including BCC materials
Health Education and Awareness Program	Progress during the month	Progress to date	
STIs including HIV/AIDS	10%		Apart from regular health education program in health facilities, special health education and awareness activities are organized on special events such as World AIDS Day and boat racing festival.
			Substantial numbers of people from the community attend these public events - 23 public event sessions were held in four districts and in Thakhek since September 2005 to date.
			Separate session was held for, GOL, NTPC and RMU staff
			Special focus was also given to construction contract staff during the new house construction in the resettlement areas.
			NCCAB Director and team visited province and had special meeting with HPMU. The Director was keen to explore the possibility of carrying out anonymous HIV testing among service women through NTPC Health program in the province.
Operating cost for PCCA/DCCA			PCCA and DCCAs are responsible for carrying out education and awareness activities in the area of STIs including HIV/AIDS. Their capacity is limited but slowly improving. It is important to support them in this program for sustainability.
Relocation/medicinal plants	10%		Initial work was carried out. Further studies will be carried out in conjunction with National Traditional Medicinal Research Center after resettle population move into their permanent housing.
			Traditional Medicine Research Center (TMRC) team was invited by HPMU to jointly explore livelihood aspects of

			medicinal plants and further continuation of study on Nakai Plateau Plants and Practices. Joint meetings were held with the Community Development, Forestry, Agriculture and local health officers. A number of visits were made to resettlement villages and the experimental farms. Report is awaited from TMRC.
Consultancy fees (Road safety, PHC, psychosocial, etc.)			This money will be spent in conjunction with overall road safety program in NTPC project areas.

Strengthening Human Resource in Public Health			
Supervision and Monitoring	Progress during the month	Progress to date	
Incentive			Incentive were distributed two times to provincial, district and health center in all project target areas, while only one time were provided to village health workers since they were trained in the past few months. Discussions are being held to find ways to link these incentives in future to performance.
Field visits for supervision and support			Resettlement Health Program - bi-weekly visits to all resettlement sites for review of environmental and health situations, including emergency care for any patients. Regional Health Program - through integrated outreach program consisting of health center, district health, provincial health and HPMU staff visiting health centers and villages.
Integrated Outreach Program			Integrated outreach work consist of more comprehensive health education and awareness on a number of health topics such as maternal and child health, STIs including HIV/AIDS, malaria, diarrhea, respiratory infections, hygiene and sanitation, road safety
Strengthening Health Service Delivery			Regular review of service delivery to district hospitals and health centers by district health staff. Referral system for emergency patients has been developed and is linked to quarterly review and training program. Emergency obstetric care referral system is also developed and will be reviewed quarterly Maternal and Child Health service is being organized at monthly intervals for resettled populations. This will be followed by all health centers in their respective villages.

Training	Progress during the month	Progress to date	
Community level	6%	94%	Seven TBA training sessions (96 participants), seven VHV training sessions (101 participants) and seven VHC training sessions (66 participants). Periodical training and refresher program will continue throughout the life of the project.
Health Center, District and Provincial levels	20%	80%	<p>Five training sessions including three TOT (MCH, STI, TBA and peer educator) (102 participants)</p> <p>Training sessions for all level of health workers will be repeated at periodical intervals depending on the subject matter.</p> <p>Laboratory services training is planned for June-July 2006</p> <p>STI Program - Peer educator training in 4 districts</p>
Long Term	31%		<p>Two long term training session, namely emergency medicine and ICHC of three months (9 participants) and one month (two participants) respectively. Khamkeut District still to have emergency training.</p> <p>Long term training for X-Ray and Ultrasound will be conducted in August onwards.</p>
Study Tours		90%	All district hospital and health center staff were taken for study tours to Integrated Community Health Center (ICHC) in Vangvieng and Taleo (59 participants)
Workshop on how to identify psychosocial/drug abuse problems			It requires different methodology to assess the situation. The focus group discussions in future will reflect on this social problem if it exists in the communities
On the job training			This activity is incorporated with on the job training during supervision and support.

Meetings	Progress during the month	Progress to date	
Create Outbreak Detection and Response Preparedness Unit		100%	Monthly meetings are held in each district and Khammouane Provincial Health Office. These meetings provide an opportunity for educational updates on conceptual and methodological aspect of health service delivery along with the achievements and future plan
Meetings at provincial and district levels	9%		Implementation of the National Avian Influenza awareness program in conjunction with the provinces (Khammouane, Bolikhamxay and Savannakhet)
Quarterly meeting at HC (VHVs, HCs)			Regular meetings at provincial and district levels
Health education materials and activities - design and production	2%		Plans to start in the next quarter
Develop the procedures for the referral system			Support under health education program for all health facilities in the project areas.
Zonal Health Committee Meeting (4 x per year for each ICHC; and for DH)			Referral system methodology to be developed and training conducted in Jun-Jul 06
Adapt ICHC accounting and management system			It will be implemented once the ICHC is in place
			New system will not be introduced. Instead, GOL system similar to other areas in the province will be implemented

Public Health Monitoring and Surveillance	Progress during the month	Progress to date	
Task force meeting			To be redefined as the present definition is difficult to define.
Routine data collection/HIS			Routine data collection and collation. (Note: considerable backlog to be completed)
Outbreak Response Preparedness	100%		Report published and distributed in English.
Outbreak Response Operational	10%		Translation of English report and distribution, followed by training workshops.
Scientific support			Scientific support and areas of support are being redefined. Possibility of getting assistance from additional sources.
Existing data analysis 2004	100%		
Midterm survey	0%		Will be carried out in 2008-09, with planning starting in mid-2008
Special surveys	5%		One Health checks and survey in Nongboua Village. Others will be carried out in the new resettled villages after 100% completely moved.
Monthly MCH clinics			Monthly MCH clinic for Nongboua and Sop On villages are regularized now. The monthly MCH clinics will be extended to the regional health program. Health center staff are being trained to conduct this activity at monthly interval in all villages.

Equity Fund	Progress during the month	Progress to date	
5% of total budget			With the fast track resettlement program in operation, there has been an increasing need for emergency provision for individuals. To date six individuals have been referred and paid for treatment in Provincial hospital Thakhek.

Social Activities

Nakai Plateau Resettlement

2.3 Nakai Plateau Resettlement

2.3.1 General

Transitional resettlement of the first eight villages was completed in August – villagers continued to participate in the clearing of their housing and agricultural plots, collection of building materials for temporary houses, construction of temporary houses, toilets, wells, schools etc. The enthusiasm of the villagers has continued for four months, with the process is being closely monitored and supported by NTPC, District and RMU staff, to ensure that relocation does not proceed without appropriate management (health, schooling, access etc.....). Villagers are organized in units who work as a team to establish the essential infrastructure required prior to moving in to their temporary houses – which are at least of an equivalent standard to their source village houses.

Rice and protein distribution programmes are in place (a mix of fresh and dried meat, eggs and vegetables was determined as appropriate by the NTPC Health team based on nutritional considerations), and basic household “kits” are distributed – these include water containers, washing gear and mosquito nets. District health officials are monitoring all transition families for any signs of ill health requiring treatment, and school uniforms are being provided as required.

It has been particularly encouraging to see the enthusiasm with which the villagers of Ban Done and Khone Kaen constructed their transition housing and moved their belongings from the old to the new villages at the peak of the wet season and under difficult conditions.



POE had to travel to old Ban Done by hand tractor

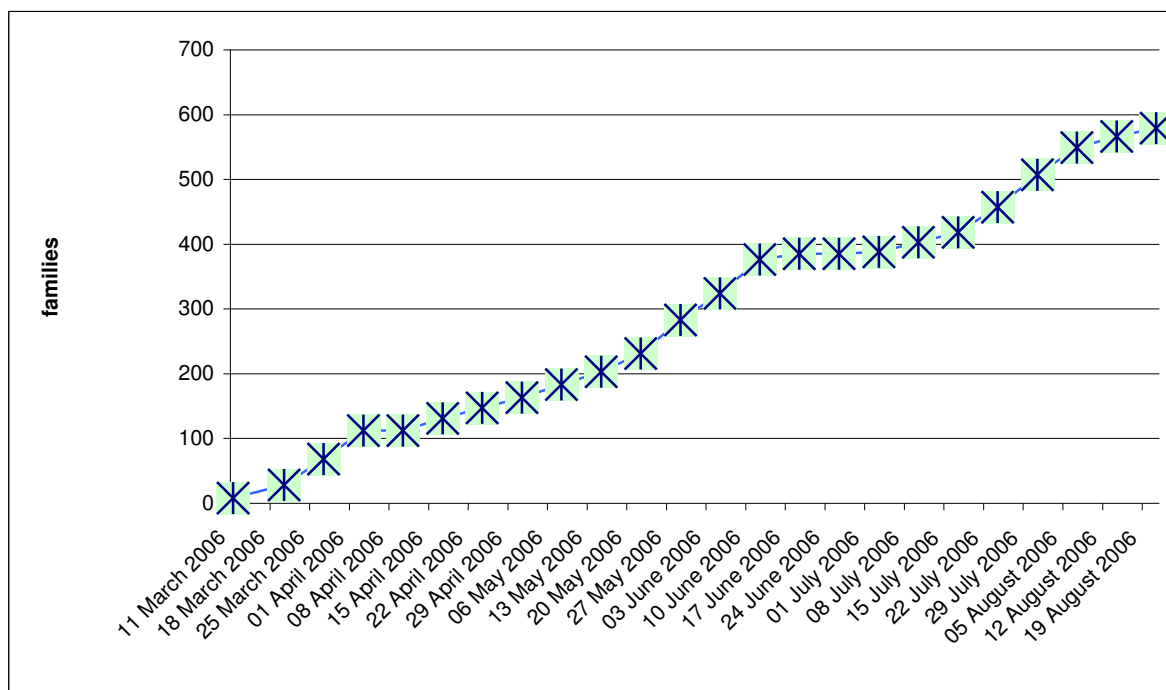
At the end of August 2006, the new villages of Sop On, Phonsavang, Boua Ma, Sop Ma, Sop Hia/Nam Nian (first group), Sop Phene and Sop Ma have been established with all villagers living in their new locations. All of the 142 households of Ban Done, and all of the 52 households of Khone Kaen, managed to build and relocate to temporary houses on their new plots, despite the heavy rains and particularly difficult access to these villages. Access to Khone Khen was by 4WD truck only, and access to (old) Ban Done was by a combination of 4WD truck, boat and hand tractor.

Community well in
new Sop Hia

The following table shows how villages have relocated since the start of Transition resettlement, as well as a graph showing the actual cumulative movement of households to date.

Transition Timetable

Week Starting:	Kaeng Yao	Sop On	Ponsavang	Bouama	SopHia Nam Nian (vietic)	Sopma Hadjkampan Kaeng Yao	Sophene	Ban Done	Khon Kaen	Total households	People
Move to Area:	16	19	18	17	8a	8	11	21	22		
11/03/2006	8									8	40
20/03/2006		20								28	140
27/03/2006		40								68	340
03/04/2006		44								112	560
10/04/2006										112	560
17/04/2006			19							131	655
24/04/2006			11	5						147	735
01/05/2006			11	5						163	815
08/05/2006				20						183	915
15/05/2006				20						203	1015
22/05/2006				18	10					231	1155
29/05/2006				6	19	15	12			283	1415
05/06/2006					7	22	12			324	1620
12/06/2006						29	23			376	1880
19/06/2006							9			385	1925
26/06/2006										385	1925
03/07/2006								3		388	1940
10/07/2006								15		403	2015
17/07/2006								15		418	2090
24/07/2006								29	10	457	2285
31/07/2006								40	10	507	2535
07/08/2006								35	7	549	2830
14/08/2006								5	12	566	2915
21/08/2006									13	579	2980
Total families	8	104	41	74	36	66	56	142	52	579	



As of the end of August 2006 there have been a total of 579 households resettled (approximately 2,980 people) to transition housing.

Transitional Livelihoods:

Currently 100% of agricultural plots have been cleared at new Sop On, 100% at new Phonsavang, and 20% at new Boua Ma. All the agricultural plots of the 8 Keng Yao families that moved to the Pilot Village have been cleared.



Maternal and Child Health meeting at Sop On

Training and assistance in home gardens is on-going and most transition resettlers have productive gardens for home consumption and trade.

The opportunity to supply labor for work associated with UXO clearance and village construction is provided to all villages, in addition to food support in the case of transition resettlers.

There remains a full time presence of NTPC and District supervisors and community facilitators in each village.

Weaving activities at new Sop Hia.



Most NAKAI activity is still focused on implementation of Transition Relocation.



Temporary school at Sop On

Two schedules are presented in the following pages:

The first schedule shows the phases of resettlement for the various villages listed in order of potential impact by cofferdam and main dam

The second schedule shows progress of the respective tasks associated with resettlement of the same villages.

			statistical impact in 2006 (cofferdam)		statistical impact in 2007 (part. dam)				2006				2007				2008					
number	village name	hh # (2006)	10%	1%	10%	1%	new area	New area code	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4		
8	Ban Hat Khamphane	23	3	3	3	3	8	N1	preparation of transitional phase	transitional phase			relocation completed		Flood impact by dam partly built	Reservoir impounding						
9	Ban Sop Ma	23	3	3	3	3	8	N1	preparation of transitional phase	transitional phase			relocation completed									
10	Ban Keng Gnao	20	3	3	3	3	8	N1	preparation of transitional phase	transitional phase			relocation completed									
10	Ban Keng Gnao	8	3	3	3	3	16	N2	preparation of transitional phase	transitional phase			relocation completed									
13	Ban Sop On	104	3	3	3	3	19	N3	preparation of transitional phase	transitional phase			relocation completed									
14	Ban Done	142	3	3	3	3	21	N4	preparation of transitional phase	transitional phase			relocation							completed		
15	Ban Khone Khen	52	3	3	3	3	22	N5	preparation of transitional phase	transitional phase			relocation							completed		
5	Ban Sop Phene	56	2	3	3	3	11	N6	preparation of transitional phase	transitional phase			relocation completed									
11	Bouama	74	2	3	3	3	17	N7	preparation of transitional phase	transitional phase			relocation completed									
12	Ban Phonsavang	41	1	3	3	3	18	N8	preparation of transitional phase	transitional phase			relocation completed									
1	Ban Sop Hia	34	1	2	3	3	xx	Nx	relocation of lower hh on upper part of the old village	preparation of transitional phase		transitional phase		relocation						completed		
1	Ban Sop Hia (first group)	30	1	2	3	3	8a	N9		transitional phase			relocation completed									
	Ban Nam Nian (first group)	6	0	0	3	3	8a	N9		transitional phase			relocation completed									
4	Ban Nong Boua Kham	57	1	2	1	2	9	N10		preparation of transitional phase	transitional phase		relocation completed									
3	Ban Thalang	79	0	1	1	2	13	N11			preparation of transitional phase	transitional phase		relocation		completed						
6	Ban Nakai Neua	88	0	1	1	2	1	N12			preparation of transitional phase	transitional phase		relocation		completed						
2	Ban Nam Nian	30	0	0	3	3	xx	Nx			preparation of transitional phase	transitional phase		relocation		completed						
7	Ban Nakai Tai	179	0	0	1	2	2	N13			preparation of transitional phase	transitional phase		relocation		completed						
16	Ka Oy	10	0	0	0	0	19	N3				preparation of transitional phase		transitional phase		relocation completed						
16	Ka Oy	15	0	0	0	0	21	N4				preparation of transitional phase		transitional phase		relocation completed						
17	Ban Oudomsouk / Phon Phan	103+56	0	0	0	1		N14				preparation of transitional phase		transitional phase		relocation completed						

				Transition																													
				Topo survey	Village layout design (Housing)	Village layout design (Agric.)	up Hill relocation	Access track	UXO temp area	Logging temp housig area	drill wells, hand pumps	Temporar y Schools	Temp. toilets	Building Temp. houses	Expected Commencem ent of Transition Resettlement	Transition Support - food, health, household goods	Target Date - full transition	UXO whole areas	Logging whole area	Road Construct ion	Stump Removal	Clear housing area	House Building	Dismantle house and transport	Water Supply	Electricity	Communit y Buildings	Agric land preparatio n	Other non farm activities	Irrigation	Target Date - Permanen t Houses Complete		
New area code	new area	village to move in this area	hh # (2006)																														
N1	8	Ban Hat Khamphane	22				NR								May-06		T2/06							C				P	P				T4 / 06.
N1	8	Ban Sop Ma	23				NR								May-06		T2/06							C				P	P				T4 / 06.
N1	8	Ban Keng Gnao	21				NR								May-06		T2/06							C				P	P				T4 / 06.
N2	16	Ban Keng Gnao	8				NR	NR		NR		NR			Mar-06		T2/06		NR	P									NR			P	T3/06
N3	19	Ban Sop On	104				NR								Mar-06		T2/06											P	P				T4 / 06.
N3	19	Ka Oy	30				NR										T2/07											P	P				T4 / 07.
N4	21	Ban Done	142												Jul-06		T3/06																T1 / 07.
N5	22	Ban Khone Khen	52												Aug-06		T3/06																T1 / 07.
N6	11	Ban Sop Phene	56				NR								May-06		T2/06							C				P	P				T4 / 06.
N7	17	Bouama	74				NR								Apr-06		T2/06							C				P	P				T4 / 06.
N8	18	Ban Phonsavang	41				NR								Apr-06		T2/06							C				P	P				T4 / 06.
N15	7	Ban Sop Hia	37						C								T4/06	C															T1 / 07.
N9	8a	Ban Sop Hia (first group)	30												May-06		T2/06							C				P	P				T4/06
N3	8a	Ban Nam Nian (first group)	6												May-06		T2/06							C				P	P				
N10	9	Ban Nong Boua Kham	57				NR	P		C	P	P	P	P	Nov-06		T3/06		P	P	P	P	C			P	P	P					T1 / 07.
N11	13	Ban Thalang	73														T1/07																T1 / 07.
N12	1	Ban Nakai Neua	89														T1/07																T1 / 07.
N15	7	Ban Nam Nian	25				NR		C								T4/06	C															T1 / 07.
N13	2	Ban Nakai Tai	190				NR										T1/07																T1 / 07.
N4	21	Ka Oy	3				NR		C								T3/07	C															T4 / 07.
N14		Ban Oudomsouk / Phon Phan Pek	103+56				NR		C								T3/07	C															T4 / 07.

NRNot Relevant

PIn procurement

CContract signed, mobilization phase

Implementation - On going

Task completed

2.3.2 Infrastructure

Wet season rainfall has been heavy throughout August and the three road construction contractors made minimum progress during the month.

○ Topographic survey and mapping of indicative locations

The contract for the survey and mapping of an extra 237 ha near Area 13 for the Ban Thalang irrigated agriculture area was suspended in July because of the heavy rains. The contractor has not yet been able to return to the site.

A small contract for survey and mapping and the installation of Nakai FSL beacons is expected to be signed with contractor in September. This will be for the further identification of Oudomsouk houses that will be either be flooded or impacted by the Nakai Reservoir. The survey will also include about 15 ha at Phone Pan Peck for a possible alternative new housing area.

There is still no final resolution to the question of how may (ex Nam Pan) Sop Hia and Nam Nian resettlers will be resettled to the Plateau area and how many will resolve to move to Khamkheut District. These villagers have been tending to change their minds frequently. Consultations with GOL and with resettlers are on-going; it is anticipated that those resettlers whose final choice is to move to the plateau will be relocated to the previously identified Area 7.

○ Finalization of village location – Village layout Design

Village Development Plans: All VG1 layouts have been completed (except for that portion of Sop Hia and Nam Nian that was previously scheduled to move to Nam Pan). The preparation of layouts for the remaining villages is underway as shown in the table below.

Name of the original villages in VG2	New village area	Village layout	Agriculture Layout
Thalang	Area 13	Complete	More topographic survey and mapping required
Nakai Tai	Area 2	Finalized after consultations 15 July	More survey and mapping required of area north of Nakai Tai required
Nakai Neua	Area1	Finalized after consultations 14 July	Revisions required after consultations
Done	Area 21	Complete	Complete
Khone Khen	Area 22	Complete	Complete

○ UXO search and clearance

Despite the rains, the contractor continues to make good progress during the month in the large central Areas 1 and 2 for Nakai Neua and Nakai Tai. Bush cutting has also commenced at Area 7 for the Sop Hia and Nam Nian households that have chosen to move to this Nakai Plateau area.

Since November 2005 to date, the contractor has searched and cleared over 900 ha of resettlement area. To the end of August 2006, 1,171 UXO items have been found and destroyed, the vast majority being bomblets.

The contractor also has a contract for "Resettlement Area UXO Community Awareness and Emergency Response Teams." In June an awareness survey of the resettlement villages was completed to identify each village's needs. The results of the survey were used to design specific educational materials and the preparation of these is underway. Response forms have been prepared and "drop boxes" provided in which the response forms can be returned.

In August, the response team continued to visit villages to check on reported suspect items. To the end of August, 1,013 UXO items have been found and destroyed by the response team. Again the vast majority of items is bomblets and mostly found nearby the northern resettlement areas.

○ Roads and drainage

There are three ongoing road construction contracts. As stated previously, heavy rains have caused minimal earthworks progress on all three contracts during the month. Some progress was made with culvert installations. The resettlement access to the south of Oudomsouk is now in a poor condition because of use by trucks transporting timber for house construction at Areas 17, 18 and 19. Therefore the Contractor has been instructed to undertake some surface improvement works.

Southern Access roads to and within villages:

There has been little progress and completion is still estimated at about 82% by the end of August for the construction of access roads to and within the new villages of Bouama (area 17), Phonsavang (area 18) and Sop On (area 19).

Southern Resettlement Road:

There was minimum progress on the contract for the construction of the Southern Resettlement Road, 11.765 km long. This included improving drainage work to try and keep the road surface as dry as possible. The construction is about 30% complete.



Southern Resettlement Road no longer suitable for cars, but the buffalos like it

Northern Access roads to and within villages:

The contractor has continued work on the construction of access roads to and within the new villages of Sop Ma (area 8), Vietic Sop Hia (area 8a), Nong Boua Kham (area 9) and Sop Phene (area 11) and has made some progress with culvert installation in Areas 8 and 8A. It is estimated the works are about 52% complete.

○ House Construction

Contracts for the construction of timber houses for VG1 resettlers have been awarded but only three companies have commenced construction. The problem with the delivery of sawn construction wood is improving but not to an extent where the three remaining contractors can be given notice to proceed and this will be delayed to the start of the forthcoming dry season. The delays are due to:

- original surveys by GOL overestimated the volume of construction hardwood species available;
- VFA sawmill equipment still in procurement;
- Restrictions on transporting logs to/from other sawmills (traffic management concerns)
- Complicated and time consuming procedures (tax exemption, permissions etc.)

Other contracts are planned to start as follows:

<i>Areas and Villages concerned</i>	<i>Contract No. and Contractor</i>		<i>Start Date</i>
Area 17 for Bouama Area 16 for Keng Gnao	C604	Area 16	20 March 06
		Area 17	19 May 06
Area 18 for Phonsavang	C605		16 May 06
Area 19 for Sop On	C606		21 Apr 06
Area 8 for Sop Ma / Hat Khamphane Area 8A for Sop Hia	C607	Area 8a	deferred to dry season
		Area 8	deferred to dry season
Area 9 for Nong Boua Kham	C608		deferred to dry season
Area 11 for Sop Phene	C609		deferred to dry season

The eight houses for Keng Gnao resettlers at Area 16 are complete. All the three Contractors (at Area 19 (Sop On), 18 (Phonsavang) and 17 (Bouama)) have completed the construction of the work camps and progress with foundations and the concrete piers and continue their progress on the structural timber parts of the buildings.



New House in Pilot Village (Keng Gnao resettlers)

Houses under construction in new Sop On



○ Community Buildings

Each resettlement village will have a primary and nursery school, village office and meeting hall, market, warehouse and a rice mill and workshop. There will also be two clinics, four seed processing and agricultural storage facilities and four organic fertilizer facilities located at various villages. The sizes of most of the buildings will vary according to village size.

The contract for the preparation of designs, drawings and BoQs with the contractor has progressed and seventeen final drawing albums and BoQs have been submitted. The preparation of bidding documents for the VG1 and some of the VG2a (schools and health centers) buildings has commenced.

The drawings and Bills of Quantities for the two Health Centers at Ban Done and Ban Nong Boua Kham were completed previously under a separate contract for the design of Public Health Infrastructure.

○ Domestic Water Supply and Sanitation

As previously reported, resettlement village water supplies is a combination of:

- Rainwater collected from house roofs, via guttering and down-pipes to a 2,000 liters capacity tank; and
- Deep machine drilled boreholes equipped with VLOM (Village Level Oriented maintenance) hand pumps.

Toilet/bathrooms are and will be installed at every house and in some selected community buildings. The construction of the VG1 resettlers' rainwater collection facilities and toilet/bathrooms is included with the housing construction contract.

Boreholes with hand pumps:

The recapitulative progression for August 2006 and the summary of the actual performance vs initial and temporary revised update plan (due to the reconciliation of the data on resettlers' population) is included in the following pages. Please note that this following summary includes the boreholes drilled for the benefit of Project Affected Persons (PAPs) by the construction of the Nam Theun 2 infrastructure as well as those planned to be drilled in the Public Health facilities under the health infrastructure rehabilitation plan.

The drilling performance has been relatively poor during August mainly due to poor access to the majority of the planned drilling sites which has not allowed the move of the heavy drilling rigs.

As of the end of this reporting period, an actual total of 73 deep boreholes were successfully completed out of 83 drilled since the beginning of the operations in December 2005 with the Champasack Provincial Nam Saat drilling team.

The rate of failures is low in general, mainly located in the two new areas 17 (Ban Bouama) and 8a (Vietic Sop Hia) due to adverse low water bearing soil condition. Operations in those 2 villages have been momentarily suspended under further investigations and analysis of the situation is done.

The on-going implementation is undertaken under the contract C675 that was signed in May 2006 for the realization of a total of maximum 109 successful boreholes to cover the initial needs of the VG1, VG2a on-going relocation that was earlier defined as 94. Also the drilling of 15 boreholes under the health infrastructure rehabilitation activities and "Project Lands" related interventions was included. The completion of the objectives of this contract is expected in January 2007.

Another contract to cover the remaining VG2b, VG3 and VG4 is planned to be established from January 2007 for an expected duration of maximum 7 months.

The supply process of imported Afridev VLOM deep well hand pumps is long-time engaged with the National Center for Environmental Health and Water Supply (NEW) under a one year duration Frame Agreement signed in May 2006. The NEW has now placed an order on behalf of NTPC (Nam Theun Social and Environmental Project) to the Unicef Supply Division in Copenhagen and for which NTPC is the payee. The required costs based on the Unicef SD proforma have been transferred in August. The hand pumps are expected being delivered in October 2006.

RECAPITULATIVE MONITORING DRILLING PERFORMANCE

SITUATION ON MONTH OF: 31 AUGUST 2006 - Note: Temporary Revised Plan based on resettlers last updated data

RECAPITULATIVE TABLE No 1: 'Project Lands'						Balance vs plan		Total Completion					Completion August 2006		
			Initial plan		Temporary Revised Plan	Productive	Equipped	Total BHS drilled	Productive	Equipped	Failures	Failures			
			Option average coverage 8 Houses/BH	Difference initial plan vs temporary revised plan	Option average coverage 8 Houses/BH	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	% of total drilled	Productive	Equipped	Failure
No	New Area	Villages	Total Qty	Total Qty	Total Qty										
1	ODS New Urban area A (Oudomsouk May)	Oudomsouk SD12B PAPs	9	1	10	1	1	9	9	9	0	0.00			
2	ODS New Urban area C (Primary School)	Oudomsouk SD12B PAPs	1	0	1	0	0	1	1	1	0	0.00			
3		Oudomsouk SD12B PAPs - ODS old areas 8, 7 and market	5	0	5	0	0	5	5	5	0	0.00			
4		Pon Pan Pek - Intake PAPs	5	0	5	0	0	5	5	5	0	0.00			
5		NRC Oudomsouk	0	1	1	0	1	1	1	0	0	0.00	1		
6	xxx	Others - ESTIMATE QUANTITY - To be finalized and adjusted during implementation period as per demand.	22	-15	7	7	7	0	0	0	0				
SUB TOTAL Project lands			42	-13	29	8	9	21	21	20	0	0.00	1	0	0

RECAPITULATIVE TABLE No 2: 'Nakai Plateau resettlement'						Balance vs plan		Total Completion					Completion August 2006		
			Initial plan		Temporary Revised Plan	Productive	Equipped	Total BHS drilled	Productive	Equipped	Failure	Failures			
			Option average coverage 8 Houses/BH	Difference initial plan vs temporary revised plan	Option average coverage 8 Houses/BH	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	% of total drilled	Productive	Equipped	Failure
No	New Area	Villages	Total Qty	Total Qty	Total Qty										
1	16	Ban Nongboua, Keng Nyao (PV)	7	0	7	2	2	5	5	5	0	0.00			
2	17	Ban Bouama	11	1	12	4	5	12	8	7	4	33.33	1		1
3	18	Ban Phonsavang	8	-1	7	0	0	8	7	7	1	12.50			
4	19	Ban Sop On	17	3	20	9	9	11	11	11	0	0.00			
5	8	Ban Sop Ma, Halkhamphan, Keng Nyao	11	0	11	7	7	4	4	4	0	0.00			
6	8a	Ban Sop Hia Vietic	7	0	7	2	4	8	5	3	3	37.50	2		1
7	9	Ban Nong Boua Kham	10	1	11	11	11	0	0	0	0				
8	11	Ban Sop Phene	9	1	10	8	9	2	2	1	0	0.00			
9	21	Ban Done	22	1	23	15	15	9	8	8	1	11.11			
10	22	Ban Khon Kaen	8	1	9	7	9	3	2	0	1	33.33			
11	1	Ban Nakai Tay	27	1	28	28	28	0	0	0	0				
12	2	Ban Nakai Neua	14	0	14	14	14	0	0	0	0				
13	13	Ban Thalang	12	2	14	14	14	0	0	0	0				
14	7	Ban Sop Hia/ Nam Nian	11	-6	5	5	5	0	0	0	0				
15	KK	Ban Sop Hia/ Nam Nian	0	7	7	7	7	0	0	0	0				
16	xxx	Oudomsouk	15	0	15	15	15	0	0	0	0				
17	PPP	Ban Pon pan Pek	0	2	2	2	2	0	0	0	0				
SUB TOTAL Resettlement villages			189	13	202	150	156	62	52	46	10	16.13	3	0	2

RECAPITULATIVE TABLE No 3: "HEALTH INFRASTRUCTURE"						Balance vs plan		Total Completion							
			Initial plan		Temporary Revised Plan	Productive	Equipped	Total Btts drilled	Productive	Equipped	Failure	Failures	Completion August 2006		
				Difference Initial plan vs temporary revised plan		Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	Cumul to date	% of total drilled	Productive	Equipped	Failure
No	District	Buildings	Total Qty	Total Qty	Total Qty										
1	Gnommalath	Gnommalath Hospital	1	0	1	1	1	0	0	0	0				
2	Gnommalath	Khed Phit Health Center	1	0	1	1	1	0	0	0	0				
3	Gnommalath	Nadou Health Center	1	0	1	1	1	0	0	0	0				
4	Gnommalath	Nasok Health Center	1	0	1	1	1	0	0	0	0				
5	Kamkeuth	Kaeng Deng Health Center	1	0	1	1	1	0	0	0	0				
SUB TOTAL Health Infrastructure			5	0	5	5	5	0	0	0	0		0	0	0
GRAND TOTAL			236	0	236	163	170	83	73	66	10	12.05	4	0	2

○ Irrigation Systems

Progress with the contract for the construction of the extension area to the Pilot Village irrigation scheme for the resettlers from Ban Keng Gnao has been suspended because of the rains and the fact that the farmers are growing a wet season rainfed rice crop on the plots. The Contractor is procuring all the pipes and fittings required for the works.

The preparation of irrigated agricultural layouts is part of the resettlement village planning exercise and this has been reported on above.

Permanent irrigation agriculture cannot commence until there are transmission lines are installed to power the irrigation pumps until there is Nakai Reservoir water to pump from (apart from areas 17, 18 and 19, which will have the use of water from the Theun Duane and Houay Malai).

○ Electricity

The Senior Electrical engineer is continuing with the design of the resettlement village electricity layouts. He will continue with this activity in between the supervising installations at various sites, particularly for the VFA Sawmill. To date designs have been completed at five villages. A contract for the electrification of the eight houses completed at Area 16 for the Keng Gnao resettlers is complete and was signed in August.

2.3.3 Nakai Plateau Forestry Development Program

Progress Summary:

- 1) The forestry livelihood component activities are designed to strengthen of the Nakai Plateau Village Forestry Association (NPVFA) that was formed in June 2003. The goals and objectives of these activities are to allow the Association to implement sustainable forest management and operate a profitable forest industry business to provide additional income to support resettled families and further improve incomes from managed forest timber and non-timber resources.
- 2) The Concession Agreement between GoL and NTPC provides the NPVFA, acting on behalf of the resettled communities, with the exclusive utilization rights to the timber and non-timber forest products within a defined resettlement area of approximately 20,000 hectares. Forest management contracts and long term forest management plans have been prepared, approved and signed by the Government of Laos and the Nakai Plateau Village Forestry Association on 2nd August 2005. This involved retyping and remapping of the better quality forest, degraded forest and protection forest zones for inclusion in the plan.
- 3) The management plan includes a calculation and provision for harvesting and sawing 6,000 cu.m. of logs each year for the production of added value timber products. In the initial 3 – year period, 2006 – 2008 it was planned for activities to cover the salvage logging and clearing for housing, irrigation and farming and selling of wood products, including tendering to supply timber for resettlement houses.
- 4) To implement activities NTPC has assisted the NPVFA to obtain various business licenses and commenced procurements of equipment's and services required in May 2005. Most vehicle and logging equipment purchases, office and accommodation buildings have been completed in the first half of 2006. Factory buildings are 90% completed and 50% of processing equipment supplied. Electricity and plant installation is expected to be completed before end September for startup mid October 2006. Six Lao and one expatriate advisors were appointed in 2005 and a part time expatriate engaged in 2006 to assist with a larger workload than had originally been planned
- 5) In September 2005 NTPC requested the GoL to supply 33,000 cu.m. of tax free sawlogs from the project reservoir. An area of 2000 ha was indicated by GoL as potentially suitable, but this was later assessed to contain little suitable volume. In December 2005 the tax exemption was approved. NTPC then prepared a harvesting plan based initially on harvesting resettlement areas following UXO clearance operations to permit housing and irrigation development. This plan, based on GoL 100 % inventory surveys, was submitted to GoL in January 2006 to approve salvage harvesting 16,400 cu.m. of hardwood species suitable for construction and 4,900 cu.m. of softwoods (mainly pine).
- 6) The GoL approved the NPVFA, as holder of the cutting rights to undertake the harvesting of trees and sawing of timber under contract to NTPC to permit benefits to be returned to the resettled households. NTPC has undertaken to pay the operating costs of harvesting and sawing timber for project construction and to pay a NPVFA performance fee based on sawn wood volumes delivered to building contractors. Harvesting commenced in January and sawing by local sawmills in the Nakai and Lak 20 areas commenced in March.
- 7) Demonstration and training activities were commenced prior to Financial Close (FC). These included a furniture training factory, establishing a tree nursery and establishing 17 hectares of non-timber forest product plantations and 50 hectares of enrichment planting. Since Financial Close other key development activities have included :
 - Establishment of a further 25 hectares of non-timber forest products plantations
 - Forest inventories and reservoir boundary demarcation surveys
 - Demonstrations of charcoal production in kilns at individual family and group level, to be linked to supply of charcoal for activated carbon production and export
 - Pencil wood production for export to Thailand.
- 8) In July NTPC and GoL agreed to the introduction of temporary regulations to strengthen the management and institutional capacity of VFA as weaknesses were appearing with the higher than originally planned workloads. The role of NTPC in management was strengthened and a Supervisory Board with 50/50 VFA and GoL representation and 2 NTPC advisors. Measures are being introduced to strengthen forest security.

Progress Summary - August

Activity	August Result	Total to Date	Target to end August	Total 2006 Target
Logging Production (cu.m.)				
Log volumes harvested	-	22,113	21300	24,720
Volume hardwood harvested.	(-723)	9,377	7,420	19,820
Volume softwood harvested.	(+726)	12,736	3,900	4,900
Construction hardwood (21 species) harvested	(-652)	6,620	9,820	19,820
Non-construction hardwood species harvested	(-71)	2,757	-	-
Construction hardwood logs sawn	1,106	3736	9820	9,900
Sawn wood Production (cu.m)				
Sawmill production	515	2,093	4,900	9,900
Sawn wood delivered to house construction	440	1186	3,510	5,975
Log Sales				
Log volume (pine) sold	439	5,743	3,900	4,900
Log volume (pine) not sold	-	6,993	-	-
Log volume non construction species not sold	-	2,757	-	-
Furniture Production				
Units produced (tables , chairs , cupboards, door & window frames	134	762	500	800
Charcoal production				
Kiln Construction - Large	-	1	2	10
Kiln Construction - Medium	-	-	4	20
Charcoal output (tones)	-	3.8	6	1000
Brick Production				
Kiln Construction (number)	1	1	1	2
Brick Output (number of bricks)	50000	74,000	30,000	80,000
Plantation				
Weeding – Manual (ha) 2004-05 planting	2.5	84	84	126
Weeding – Chemical (ha) 2004-05 planting	5	5		
Fertilizer – Thermophosphate – Trees only (ha) 2004-05-06 planting	-	44.8	50	50
Fence repairing and improvement (km)	2.1	2.1	3.5	3.5
Soil improvement trials and demonstrations Land prep, fertilizer and grass sowing (ha)	2.5	7.5	84	210
Natural regeneration demo - Re-fencing (km)	3.0	3.0	3.0	3.0
Natural regeneration demo - Weeding (ha)	-	-	35	35

(-) Values in brackets for wood volumes are adjustments after GoL final checking of log lists in July

Results Comment and Other Significant Events

- Production at 3 sawmills improved in August but still remains well behind target. Nearly 3000 cu.m. of logs still remain to be sawn in September and early October.
- The new Supervisory Board of the VFA was appointed comprising 5 Village Leaders, 5 GoL representatives and 2 NTPC advisory members without voting rights.
- A committee has been set up to organize sale by GoL of some 7000 cu.m. logs removed during May and June from areas to be used for housing and agriculture. The committee has 6 GoL members and 1 VFA representative. The committee has agreed that any benefits (or losses) are to be shared between the GoL and VFA
- Difficulties are being experienced by the committee to sell the logs. Only very low prices are being offered.
- The furniture factory has commenced producing small wooden products that are suitable examples for handicraft development at the village level. There was a major increase in production, including 70 school chairs and 15 teaching blackboards.
- A French volunteer advisor has made improvements to factory safety and prepared recommendations for works needed to expand production and improve work practices.

2.3.4 Nakai Plateau Agricultural and Livestock Development Program

Agriculture and Livestock teams are now continuing to focus on the transition resettlement villages now including 9 villages (including Keng Gnao). Otherwise, the agriculture and livestock team is implementing the temporary vegetable garden for each household, agriculture land clearing, fencing, mushroom production, buffalo relocation, pig and poultry shed construction etc., in order to improve livelihood condition of the resettlers when they are moved to a new location.

2 Technical assistant arrived mid-August for the agriculture & Livestock Program.

During the transition resettlement period, we encourage the resettlers grow the several vegetable as temporary vegetable garden and mushroom cultivation for the house consumption. We also encourage the resettlers to do agricultural land clearing and fencing. According to livestock, the resettlers are now continuing to move their own animals (e.g. buffalo and cattle) and we provide the necessary material for the animal shed and also agricultural tools.

○ Transition resettlement villages

Activity	Input / Support	Output / Result	Assessment
1. Establishment of temporary vegetable garden	Provided vegetable seed and seedlings as follow: Onion: 18 kg Morning glory: 12 kg Longbean: 9 kg Coriander: 5 kg Cucumber: 2.5 kg Eggplant: 1,750 seedling Chili: 1,700 seedlings Tomatoes: 900 seedling Mint: 5 kg Papaya: 600 seedlings Pumpkin: 200 g Squash: 200 g 8,698 kg of organic fertilizer	Completed the establishment of temporary vegetable garden of every village in the area of 9.5 ha (except: Ban Done and Khone Kaen not implemented yet due to the road cannot access to those village) but we should be done at the end of September, 06 or when the road is accessible	It is mainly for house consumption and the surplus product can be sold. The temporary vegetable garden is continuously grown several vegetables
2. Crop seed supply and Fruit trees distribution	Vegetable seed were distributed to transition resettlement village are mentioned above. Some field crop were distributed as follow: Feed corn: 25 kg	Vegetable production were produced for house consumption and had surplus product for selling as follow: 1. Boua Ma: Morning glory: 115 kg	Tree villages have received some household income from temporary vegetable garden as follow: 1. Boua Ma: 269,000 kip 2. Keng Gnao: 150,500 k 3. Sop On : 118,000 kip

Activity	Input / Support	Output / Result	Assessment
	<p>Peanut: 10 kg.</p> <p>Fruit trees were distributed to Phonsavang village which is included 29 households as follow: Litchi: 55 seedlings Mango: 52 seedlings</p>	<p>Onion: 69 kg Coriander: 25 kg Cucumber: 55 kg Longbean: 42 kg</p> <p>2. Phonsavang: Morning glory: 55 kg Coriander: 12 kg Onion: 23 kg</p> <p>3. Keng Gnao: Morning glory: 25kg Onion: 7 kg Mint: 5 kg Coriander: 12</p> <p>4. Sop On: Morning glory: 56 kg Onion: 49 kg Cucumber: 48 kg</p>	Follow up and on-going
3. Agriculture land clearing	This activity is not implemented during the month of August because of rain		Agriculture land clearing will be done again in the coming dry season 2006-07
4. Agriculture land fencing	Suggested the resettlers of Sop Phene, Sop Hia and Sop Ma to prepare the fencing post	Agricultural land fencing will be done within the month of September in the mentioned three villages	Follow up
5. Wet season crop cultivation	We still continued to supply several vegetable seed for temporary vegetable garden and field crop seed including rice for the irrigated land area (0.66 ha/hh) or permanent garden. As reported in the previous monthly progress report that only three villages could grow the rice and some field crop in the permanent garden (0.66 ha/hh). Another transition resettlement village could not grow in the irrigated land area (0.66 ha/hh) because at that time they are busy of moving to a new village site.	<p>At Sop On, the rice is grown in 67.9 ha of area and other crop (peanut and feed corn) 2.5 ha</p> <p>At Phonsavang, the rice is grown is 18.3 ha and other field crop (peanut and corn) 2.8 ha</p> <p>At Keng Gnao the rice is grown in 2.48 ha and other field crop 2.0 ha</p>	Follow up to maintain the crop during vegetative period. The rice can be harvested in the month of October, 06
6. Contour bunding		The establishment of contour bunding will done after harvesting time is finished (probably from the month of November or the rice harvesting time is finished)	On-going and follow up

Activity	Input / Support	Output / Result	Assessment
7. Mushroom production	<p>Provided 1,400 bags of sawdust mushroom spores to: Boua Ma: 200 bags (1 hh) Sop Hia: 400 bags (2 hh) Sop Ma; 200 bags (1 hh) Phonsavang: 220 bags (1 hh) Sop On: 400 bags (2 hh)</p> <p>Constructed 12 mushroom houses as follow: Boua Ma: 3 M. houses Sop Ma: 3 M. houses Sop Hia: 3 M. houses Sop Phene: 3 M. houses</p>	<p>Mushroom is produced by villages as follows: Boua Ma: 133.5 kg and earned 775,000 kip Phonsavang: 25.2 kg and earned 72,000 kip Sop On: 95.3 kg and earned 399,000 kip Keng Gnao: 72.4 kg and earned 554,000 kip</p> <p>Three transition resettlement villages in the northern part (Sop Ma, Sop Hia and Sop Phene) are already promoted to grow mushroom but now it is only for house consumption.</p>	Mushroom production is one important component of familial food security and very suitable for every household even vulnerable household. Follow up.
8. Buffalo relocation	The resettlers are undertaking themselves for the buffalo relocation and also cattle but the project provided the string for catching buffaloes and cattle and also payment for labor of buffalo relocation (10,000 kip/buffalo).	<p>Sop Ma is relocated 159 buffaloes, remaining 25 buffaloes Sop Phene is relocated 152 buffaloes, remaining 2 buffaloes. Sop Hia is completed the relocation of buffalo and cattle (only 12 buffaloes and 15 cattle)</p>	On-going and Follow up
9. Buffalo shed	The project provided the barbed wire and nail and also payment for labor but another material (e.g. wood, etc.) is carried out by resettlers themselves.	<p>The construction of buffalo shed at Sop Ma and Sop Phene is going on. Sop Phene is completed one buffalo shed (50m x60m) Boua Ma is completed 2 buffalo shed</p>	Because of rain almost every day during August, otherwise the resettlers could not complete the construction of their buffalo shed.
10. Poultry and pig shed	Supplied the bamboo sheet wall, thatch for roofing and nail but labor is undertaken by resettlers themselves.	<p>Established the poultry shed as follow: Sop Phene: 11 poultry sheds and 14 pig sheds Boua Ma: 5 poultry sheds Sop Ma: 5 poultry sheds and 17 pig sheds Sop Hia: 9 poultry sheds and 1 pig shed Sop On: 5 poultry sheds and 5 pig sheds Ban Done: 1 poultry shed and 3 pig sheds</p>	On-going and follow up
11. Animal Vaccination	Supplied the animal vaccine to the transition resettlement villages including four (4) pre-resettlement villages (Thalang, Nong Boua Kham, Nakai tai and Nakai Neua).	<p>Animal were vaccinated: Buffalo: 225 heads Cattle: 50 heads Pig: 139 heads Poultry: 747 heads</p> <p>Animal vaccination is done by Village Veterinary volunteer in collaboration with DWG technical staff</p>	On-going and follow up

○ NB-Pilot Village

During this wet season 2006, most villagers like to grow the rice in 12.1 ha of planted area. The several vegetable is growing continuously particularly onion, cucumber and morning glory and also some field crop such as: peanut, feed corn and sweet corn. The vegetable cultivation is going on throughout the wet season and now pilot village preparing the vegetable seedlings for the coming dry season. The major vegetable will be grown in dry season such as: cabbage, cauliflower, broccoli, onion, lettuce, pakchoy etc.

Activity	Input / Support	Output / Result	Assessment
1. Wet season crop cultivation	Vegetable and field crop seed were distributed to pilot village: <ul style="list-style-type: none"> Cucumber: 0.02 kg Coriander: 2 kg M. glory: 6.5 kg Spinach: 0.2 kg 	Those vegetable seed is grown in the area 0.03 ha. Vegetable cultivation is continuously grown	On-going and follow up
2. Fertilizer production	Supplied raw materials to produce organic fertilizer (e.g. rice husk, animal dung, rice bran etc.)	Only one household produced 400 kg of organic fertilizer and 30 liter of effective microorganism liquid (EM) themselves at NB-agricultural extension center	Applied to his owner vegetable garden.
3. Vegetable production	Vegetable cultivation is continuously activity to implement throughout the year and the project also supplied continuously the necessity input to villager (vegetable seed, tools, etc.).	During this month 26 households grown vegetable and the total planted area was 5,056 m ² . The vegetable production is follow: <ul style="list-style-type: none"> Coriander: 22.5 kg Morning glory: 42 kg Sweet corn: 3,386 kg Longbean: 32.4 kg The vegetable production is still continue to harvest	The pilot villager earned 1,153,000 kip from vegetable production and field crops (banana, papaya etc.)
4. Mushroom production	1,300 bags of sawdust mushroom spores were supplied to 4 households of pilot village and one mushroom house were constructed for one hh	Produced 84.8 kg of mushroom, 63 kg of which is sold and earned 638,000 kip.	On-going and follow up
5. Pasture development		Weeding 3,200 m ² of forage plot of 2 households	Follow up.
6. Animal raising	So far, the project supplied cattle 39 cattle to the interested households through revolving fund. At Keng Gnao, the project supplied 35 chicken for 7 households	Now the number of cattle is increased up to 55 cattle. Up to now hatching 85 chicken	Follow up

○NB-Agricultural Extension Centre (Zone I)

The major role and function of the center is to produce organic fertilizer, sawdust mushroom spore and pig, poultry to supply to the resettlement village including pilot village and also provide the crop seed and seedling and technical assistance to the resettlers.

Activity	Input / Support	Output / Result	Assessment
1. Organic Fertilizer production		Produced 5,440 kg of organic fertilizer 2,920 kg of which were distributed to the transition resettlement village. We have now 3,920 kg of organic fertilizer in the stock. Produced also 160 liter of Bio-Extract liquid or Effectiveness Micro-organism (EM).	Organic fertilizer and EM production is continuously produced for supplying to the resettlement villages
2. Vegetable seedlings supply	Produced some vegetable seedlings and field crop seedlings such as: Chili: 1,000 seedlings Papaya: 200 seedlings Eggplant: 1,000 seedlings	The vegetable seedlings were distributed to: 1. Boua Ma: Chili: 155 seedlings Eggplant: 210 seedlings 2. Sop Ma: Chili: 249 seedlings Eggplant: 170 seedlings 3. Sop Hia: Chili: 85 seedlings Eggplant: 156 seedlings Papaya: 77 seedlings	On-going and follow up. Vegetable seedling is now producing at the each village
3. Mushroom production	Produced 4,500 bags of sawdust mushroom spore	2,100 bag of sawdust mushroom spore were distributed to the transition villages	In the near future, the resettlers proposed to construct a small factory for sawdust mushroom spores production in Sop Ma and Sop Hia.
4. Demonstration plot on several crop	Maintain demonstration plot during vegetative period of upland rice (3 varieties), peanut and potato	Applied 1,560 kg of organic fertilizer into demonstration plot and weeding in the total area 3,900 m ² .	Follow up
5. Establishment of forage demonstration plot	Regularly continuing to maintain demonstration plot of forage in 9,760 m ² .	Weeding control by hand	Follow up

○Theun Douan-Agricultural Extension Centre (Zone II)

Activity	Input / Support	Output / Result	Assessment
1.Organic fertilizer production		Produced 50 liter of effective micro-organism liquid (EM) and 2,500 kg of organic fertilizer, 1,301 of which supplied to Phonsavang, and other 1,200 kg of which were supplied to Boua Ma and Sop on also received 500 kg.	Due to not available of raw material for organic fertilizer production we should produce more EM liquid to spray into vegetable garden in replacement of organic fertilizer application. Of course, we avoid the use of any agro-chemical (pesticide, herbicide etc.) in the agriculture land area.
2.Mushroom production	Produced 1,500 of sawdust mushroom spores	Supplied 800 bags of sawdust mushroom spores to the transition resettlement villages as follow: Sop On: 200 bags Phonsavang: 200 bags Sop On: 400 bags	Continuing to encourage the resettlers to grow the mushroom. We will also conduct the training (learning by doing method) on mushroom production for the resettlers at their village
3. Frog breeding		During the month of August does not conduct any frog breeding	To be distributed the small frog to villagers in the next months
4.Fruit trees propagation		Produced 150 grafted branches of mango and 380 grafted branches of litchi	To be distributed to the resettlers in next month
5. Poultry raising		Hatching of some poultry: Chicken: 21 heads Duck: 25 heads	To be distributed to the resettlers after one month through revolving fund
6. Crop seed multiplication	Continuing to conduct demonstration plot on several crop and also crop seed multiplication	Produced seed multiplication in the planted area as follow: Sweet potato: 450 m2 Onion: 180 m2 Wild tea: 1,006 seedlings	On-going and follow up

○ Nakai Neua - Fruit Trees Propagation Centre

Activity	Input / Support	Output / Result	Assessment
1. Distribution of fruit trees seedlings	Fruit trees seedlings were distributed to Phonsavang as follow: Mango: 52 seedlings Litchi: 55 seedlings	The fruit trees seedlings already planted around the permanent house is now under construction	Follow up and to be distributed to other transition resettlement villages
2. Grafted seedling production		Produced the grafted seedlings (marcotted branches): Mango: 283 Litchi: 67 Lemon: 271	Grafted seedlings is not yet cut out from parent plant as follow: Mango: 1,996 Lemon: 1,451 Litchi: 615 Jack fruit: 144
3. Fruit trees seedlings in the nursery	We have some fruit trees seedlings in the nursery and ready to distribute to the resettlers as follow: Mango: 2,187 Mandarin: 2,731 Lemon: 6,263 Litchi: 1,457 Jack fruit: 185 Rose Apple : 446		
4. Organic fertilizer production	Produced 1,400 kg of organic fertilizer	Provided 2,040 kg of organic fertilizer to the transition resettlement village as follow: Sop Ma: 1,250 kg Sop Phene: 560 kg Sop Hia: 230 kg	We have now 2,100 kg of organic fertilizer in the stock to be distributed the transition villages

○ Forestry Land Use Planning Allocation and Management (FLUPAM):

During the month of August we completed the Land Use planning and Land allocation Mapping of Oudomsouk and Phonphanpek villages and then we are continuing to analyze the potential of such land to be used for livelihood restoration. The village boundary demarcation of between Nakai Neua and Nakai Tai is now still under conducting the survey of suitable land for agriculture and the optimize cost for irrigation system investment and then proceeding to identify the boundary of two villages. So, this issue should be organized the meeting which it should be attended of representative of RMU, DWG, village authority of two village and technical staff of NTPC and so on.

2.3.5 Fisheries Reservoir Program

No change from the previous report.

2.3.6 Community Development Program

This month is the most busy month of CD staff under bad weather condition and pressure from all concerned and villagers to be relocated safely to new sites before serious flood which was forecasted to be quite serious.

At the same time half of the District CD staff are appointed to be part of the socio-economic data collection under the close supervision of consultant contracted out by NTPC.

Together with the Infrastructure team, under bad weather and road conditions, CD team has been able to relocate all 8 villages' families safely and new temporary houses for all families entitled to receive houses have been built to satisfaction.

At the end of the month 31st August, the wrap up workshop on fast track or transitional relocation is organized. The objectives are to draw out lessons learnt to be applied for future main event of permanent relocation.

Some off-farm activities are also introduced to villagers who wish to do it and who have potential to practice, in addition to agriculture and livestock practices as supported by the Agriculture team.

○ Non-farm CD

Micro-credit: Village saving groups have been monitored in August in 8 villages (211 members) – Attachment SG table.

Tailor training at Sop On village (training and practice – one month and start on 22/8/2006): 6 trainees (3 persons from Sop On, 1 person from Bouama, 2 persons from Nongboua village)

Education:

- Conduct teacher Training (14-28/8/06) at Oudomsouk school; 10 attendants (4 women) – all participants understand education system (method, scheme, management, monitor and evaluation, etc.)
- Procure School material for year 2006 (school season will start on 1st September)



Continues Monitoring and provision of rice, protein at SopOn, Phonsavang, Bouama, SopMa, Nongboua extension, Sop Phene, SopHia- Area 8, Done, Khone Kaen (581 Household – 2794 persons enough rice to eat until the end of September).

On the Job Training for Lao woman Union and Youth association (off-farm income: potentiality of village): Sop Hia – area 8 on 28 August 2006: Trainer: 2 persons (LWU), 2 persons (Youth) and 1 person SRO (facilitator): 33 attendants (24 women)

Some of activities would be support by NTPC (capital and training) and some activity need to be revolving fund. The villagers' select work as follow:

- Weaving: 12 persons
- Tailor: 8 persons (youth: 7 persons)
- Food: 4 persons (youth: 2 persons)
- Wicker work: 3 persons
- Carving: 3 persons (youth: 3 persons)
- Embroidery: 5 persons (youth 2 persons)

○ ICD

Charcoal training in Sop Hia, Sop Phene and Sop Ma. Water User group election in Nong Boua.



Social Activities

Downstream Areas

2.4 Downstream Areas Development Plans

The Downstream Team has carried out training in development management activities for VDCC's. The VDCC's have opened bank accounts in another 19 pilot villages.

Fish catch monitoring is in full operation. The services of a contractor for data entry have been hired. When the data entry and database are in place, analysis of the ongoing household fish catch at 39 villages will be provided for each dry and wet season. At this moment we prepare to finalize the data input and data analysis for the area downstream of the dam at Khamkeut District. A separate report including the anticipated impacts and the proposed livelihood restoration activities for Khamkeut District during the past rainy season will be prepared before the end of this year 2006.

Interviews were held with candidates for new positions in the downstream team and are presently in the selection process following NTSEP procedures. For the following positions candidates have been selected after ranking, short listing and holding interviews:

- Community Development Organizers (4 positions)
- Chief Agriculture (1 position)
- Horticulturist (1 position)
- Aquaculturist (1 position)
- Livestock Specialist (1 position)
- Veterinarian (1 position)
- Chief Infrastructure (1 position)
- Chief Water Supply (1 positions)
- Hygiene/Sanitation Specialists (2 positions)
- Irrigation O & M (1 position)
- Flood Control/Irrigation Engineer (1 position)
- Marketing/Trading Specialist (1 position)
- Post Harvest Specialist (1 position)
- Micro Credit/Income Monitoring Specialist (1 position)

The time and duration of actual implementation of asset and livelihood restoration options is limited to the dry seasons mainly. The recruitment of staff has to be speed up to cover the upcoming dry season of October 2006 – May 2007. At the moment we are in the middle of setting up a new office that can accommodate all newly to be recruited staff.

Village revolving funds have been set up in the following villages: Mahaxaitai, Povatai, Povaneua, Veunsananh, Yangkham, Hatkhamhieng, Beungxe, and Navangneua.

Village Saving funds have been established in Beungxe, Beungbouathong, Veunsivilai, Nasang, Hatkhamhieng,

Village Saving funds have been established in Beungxe, Beungbouathong, Veunsivilai, Nasang, Hatkhamhieng, ngkham, Povaneua, Povatai, Khamfeuung, Mahaxaitai, Hatxaifong, and Navangneua.

In Beungxe 41 households have harvested dry season crops with the technical assistance of the downstream team. The following table shows the main downstream activities during the ongoing wet season.

No.	Village Name	Clearing/ Preparation/ Rice Fields		Fish culture HH	Pig raising HH	Wet season rice HH	Wet season crops HH	Mak Ngeo HH
		HH	Rai					
1	Mahaxai Tai							
2	Pova Tai							
3	Pova Neua					4		3
4	Kengpe							14
5	Veunsananh	32	64					3
6	Hatpek							10
7	Yangkham					6		
8	Hatkhamhieng				22			8
9	Beungxe			17	14	45	16	8
10	Beungbouathong							24
11	Nasang							15
12	Thaphoxai							39
13	Nonenakhm							26
14	Navangneua				4	20		
		32	64	17	40	75	16	150

Ongoing technical assistance is given in fish culture, pig raising, and agricultural crops.

Environmental Activities

3 Environmental activities

3.1 General

In addition to the monitoring of the HC's construction activities, reported in the Construction section of the report, and the PCR activities reported in section 2.1.1, the main activities of the Environmental Management Office in August 06 have included the following:

- Water Quality sampling (22-26 August) and analysis
- Ongoing Interim HEC Monitoring and continued procurement activities for Elephant Program Phase II.
- Continued procurement activities for the Wildlife Programs.
- Submission, review and revision of the Final Report for the baseline survey for fish and aquatic species in upstream and downstream rivers (Wildlife Program Element B).
- Revision of the Environment Management Manual for the EMU.

3.2 Wildlife Programmes

The description of the various elements of the components of the wildlife programme is included for reference.

3.2.1 Fish Impacts in upstream and downstream river species

This programme includes the following activities:

1. Species and habitat inventory (NT, XBF)
2. Fish migration studies in NT, NPA and XBF
3. NT habitat and flow studies
4. Modification of downstream NT habitat
5. Implementation of flow adaptive management programme and related activities
6. Incorporating river protection into the management of the NNT and Corridors

The baseline survey for fish and aquatic species in upstream and downstream rivers (Wildlife Program Element B) was conducted during the period of 18 April to 12 May 2006. The baseline survey was undertaken by an ichthyologist and his team with support from Living Aquatic Resource Research Center (LARReC). The objectives are to obtain a baseline fish and aquatic species (decapod crustaceans, turtles and amphibians) distribution and a habitat inventory in the downstream and upstream sections of the Nam Theun and Xe Bangfai, including the Nam Phao/Nam Kata catchments.

The baseline survey is now complete and a Field Report has been finalized.

The Final Report has been submitted and reviewed by NTPC. NTPC have few substantial comments on the Final Report which should be finalized in October 2006.

3.2.2 Wildlife Management and Monitoring Programme

Given overlaps in the baseline survey and management planning activities, the Terrestrial and Wetland Programmes, which are presented separately in the Concession Agreement, have been combined into one Wildlife Management and Monitoring Programme.

This programme includes the following activities:

1. to identify pre-impoundment species and habitat inventory
2. to collect information on the distribution and movements of wildlife on the Nakai Plateau, and interactions between species;
3. to develop an impoundment and post-impoundment wildlife management and monitoring plan; and
4. to identify appropriate GOL agencies and train those to take over implementation of activities in the plan one year post Commercial Operating Date.

The programme shall be conducted in two phases:

1. Phase I includes (i) the pre-impoundment species and habitat inventories with the objective to collect information on distribution and movements on the Nakai Plateau, and interactions between species, (ii) development of a post-impoundment species management program; and
2. Phase II includes training the appropriate GOL agency to implement the management plan.

A company has been identified which will conduct Phase I. A contract is under negotiation with baseline survey activities expected to commence on 15 September 2006.

The first output, the Inception Report, is schedule for submission on 15 November 2006 and will include:

1. Literature review;
2. Identification of impacts and duration from construction, salvage logging, initial inundation, and the subsequent operations of the Nakai Reservoir;
3. Initial recommendations for management measures;
4. Recommendations on the inclusion into the team of (i) animal rescue specialist; (ii) bird specialist; or (iii) wetlands ecologist.
5. Identification of a specialist to make the Wildlife Management and Monitoring Plan operational.

The remaining outputs, Baseline Survey and Wildlife Management and Monitoring Plan, are schedule for submission in July 2007.

3.2.3 Asian Elephant Program

This programme includes the following activities:

1. Pre-impoundment inventory and survey of habitats, distribution, movements.
2. Implementation of a pre-Reservoir impoundment elephant management programme.
3. Post-Reservoir impoundment monitoring of movements and distribution.
4. Training of local authorities in conflict response and emergency response.
5. Establishment and implementation of an elephant conflict response team.
6. Development of a transitional strategy for reservoir impoundment.
7. Implementation of a reservoir impoundment elephant strategy.
8. Implementation of post impoundment elephant programme.

Phase I of the Elephant Program was conducted by Wildlife Conservation Society (WCS). Phase I includes items 1, 4 and 5 above. The training, survey and monitoring components of Phase I have been completed and the Final Report for Phase I was submitted on 31 May 2006. A population estimate of 142 (95% CI=97,207) individuals (established by WCS) based on the line transect and dung decay data. This compares to previous estimates of between 100-400 individuals. However a

review of the Final Report has identified that the report is still lacking a full assessment: including (i) population estimate based on fecal DNA; (ii) seasonal movements based in DNA capture-mark-recapture; (iii) HEC - analysis of extent; (iv) habitat/resource use; and (v) feasibility of creating artificial salt licks. Given delays in the DNA analysis the Final Report will not be finalized until January 2007. However, WCS shall submit a revised Final Report, which incorporates all the remaining assessments with the exception of those assessments reliant on the DNA analysis data, before this date.

WCS has been identified as the consultant likely to conducted Phase II of the elephant program. The objectives of Phase II are to develop and implement an elephant management plan for pre- and post-inundation management of elephants on the Nakai Plateau. Activities will include a continuation of HEC monitoring and training the villagers in passive and active crop protection measures. A contract has been drafted and reviewed by WCS and a financial proposal has been submitted. Contract negotiations are still ongoing.

During the period between the end of Phase I and the commencement of Phase II, HEC monitoring is continuing to assess the spatial and temporal distribution of HEC on the Nakai Plateau and surrounding areas. During the period of July to August 2006, 13 HEC incidents were recorded on the Nakai Plateau with 3 and 10 HEC incidents in July and August respectively. There has been an unconfirmed report of a human injury resulting from an elephant near Ban Thalang. WCS are following up on the incident.

3.2.4 Transitional Strategy for Reservoir Impoundment

This programme includes the following activities:

1. Development of a transitional strategy for reservoir impoundment.
2. Training of local authorities in wildlife emergency response.
3. Establishment and implementation of an emergency response team.
4. Public awareness programme.
5. Prevention and prohibition of wildlife trade.

The Terms of Reference and advertisement for Expression of Interest are being finalized prior to re-advertising.

The requirement to provide recommendations on the transitional strategy has been included in the Wildlife Management and Monitoring Programme. Recommendations are scheduled to be submitted with the Inception Report in November 2006.

No other special remarks for this reporting period.

3.2.5 Adaptive Management Programmes

An Adaptive Management approach will be implemented for the following programmes:

1. Wildlife Programme (all components)
2. Riparian release downstream of the Nakai Dam
3. Water release in the Nam Kathang
4. Water release from the regulating pond to the downstream channel

3.3 Water Quality Monitoring and Assessment Programme

NTU: Nephelometric Turbidity Unit.

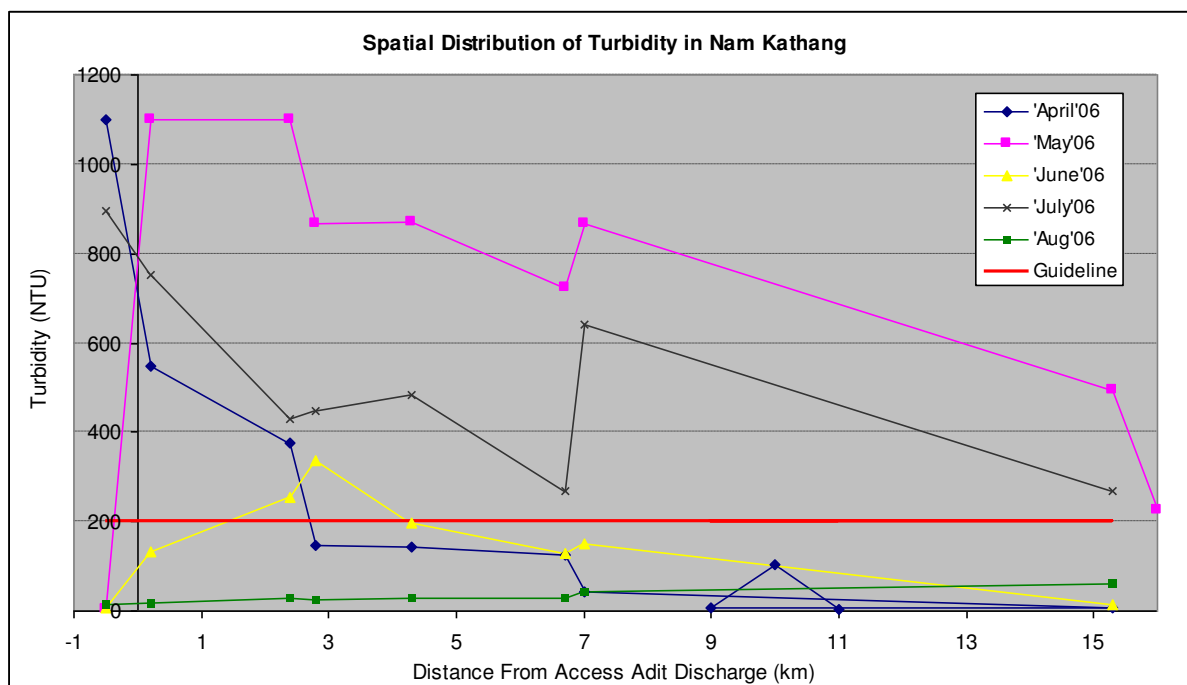
TSS: total suspended solids (mg/L)

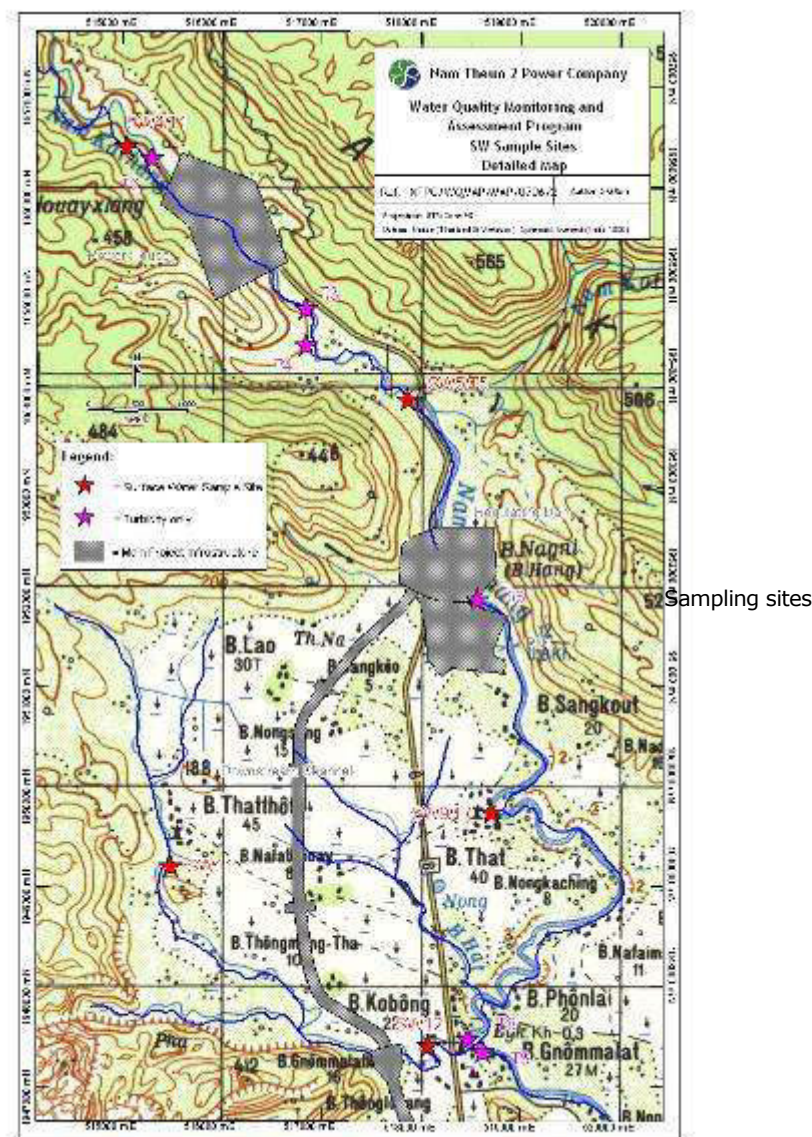
During August 2006, the WQMAP monitored 27 parameters at thirteen surface water sampling sites. The thirteen surface water sampling sites are located upstream and downstream of construction areas on the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai. Given the ongoing elevated sediment load in the Nam Kathang the spatial distribution of turbidity was assessed along the Nam Kathang.

August 2006 Field Observations

Sample collection and field analysis was conducted during 22-26 August 2006. Laboratory analyses will be reported in September 2006. The major field observations and measurements are as follows:

- The turbidity in the Nam Kathang had decreased significantly when compared to the previous month and reflects the decrease in rainfall and therefore less surface runoff from the catchment and cleared construction areas.
- Turbidity levels are within the Project guideline for the entire lengthen of the upper Nam Kathang from upstream of the Power House to Ban Gnommalat.
- Discharge from the Access Adit Platform 415 sedimentation basins was 14.7 NTU.
- Discharge from the Power House sedimentation basins was 424 NTU.
- The turbidity of the discharges from the construction areas on the Nakai Plateau had all decreased significantly when compared to the previous month. The turbidity of the discharges directed down the Nakai escarpment from Saddle Dam 12b, Headrace Channel and Intake Structure were 26.9, 106.6 and 88.5 NTU respectively.





July 2006 Water Quality Results

The laboratory analytical results for July 2006 are presented in the table below¹. As a screening procedure, the results have been compared with Project and river-specific guidelines. Values highlighted in yellow represent exceedences. Comparison of measured values with guidelines is intended as an initial screening step to assist in data interpretation. Exceedences are then considered on a site-specific basis to assess whether a measured value poses an environmental or human health risk. The significant project-related exceedences are discussed below.

In summary, there was heavy rainfall in the Project area prior to and during sampling and this is reflected in the elevation of a few key parameters:

Nam Theun

With the exception of the elevated fecal coliform downstream of the Ban Thalang Bridge (SW2) and Nakai Dam (SW3), the water quality of the Nam Theun can still be considered as good. There was a non-Project related exceedence of TSS at the upstream control (SW1) which is consistent with heavy rainfall prior to sampling and the subsequent runoff from areas of swidden agriculture. The

¹ Water quality analysis data are presented one month late due to the time taken for the analyses.

exceedence of iron at all sites on the Nam Theun is also consistent with the heavy rainfall. Runoff from cleared construction areas at the Ban Thalang Bridge and Nakai Dam site are likely to be contributing to the observed levels.

There has been a significant increase in fecal coliform when compared to the previous month. The presence of fecal coliforms indicates that run-off from the catchment is contaminated by either human or animal excreta. Heavy rainfall has washed excreta from the surrounding areas into the river. The elevated levels measured reflect the poor sanitation infrastructure in communities and possible inputs from their livestock. However, inputs from the construction camps cannot be ruled out especially when inspectors still observe construction workers using surrounding areas as a toilet instead of the facilities provided. Fecal coliform are indicators the bacteria and pathogen load in the water which could pose a risk to human health. Communities should continue with the practice of boiling surface water prior to consumption.

Nam Kathang

There has been a sharp increase in turbidity and TSS in the Nam Kathang when compared to the previous month. Turbidity and TSS exceed the Project Guideline at nearly all sites on the Nam Kathang, including the upstream control (SW4). The increase appears to be a function of heavy rainfall in the Project area prior to sampling and the subsequent runoff from the catchment and cleared construction areas rather than the Power House and Access Adit point source discharges. The elevated suspended solid content in the Nam Kathang is now likely to be coming from the cleared areas around Saddle Dam 12b, the Headrace and Intake, as well as, the increased flow down the Nakai escarpment eroding the river banks and mobilizing sediment. Given access constraints resulting from high water level the location of SW4 had to be moved approx. 200m downstream from its usual location. Although SW4 was still upstream of the Power House and the main impacted run-off from the Nakai escarpment, it was not clear whether the run-off from Nakai was enter the Nam Kathang upstream of SW4, and therefore resulting in elevated values in the control. From an environmental health perspective, a high sediment load would have a negative effect on the primary productivity of the river with a reduction in light penetration and therefore photosynthesis. A reduction in primary productivity could subsequently impact fish production. Although some fish species may be adapted to wet season elevations in suspended solids, prolonged exposure to elevated levels of suspended solids may have several sub-lethal effects on fish resulting in a negative impact on fish productivity (such as siltation of fish spawning grounds, irritation of fish gills, induced stress, loss of food or ability to feed, etc.). A lowering of fish productivity could be detrimental to local communities who use fish as their main source of protein.

Although there is no WHO health-based guideline for turbidity a guideline of below 5 NTU is recommended for drinking water for aesthetic reasons. The measured levels can make water significantly less palatable and sediment can also act as a substrate for bacteria growth and absorption of metal ions which can all have a negative impact on human health

Coupled with the increase in suspended solids, iron exceeds the Project Guideline at all sites on the Nam Kathang. For total iron, concentrations of 1-3 mg/l can be acceptable for people to drink but the taste and appearance will usually be affected below this level.

Kjeldahl-nitrogen (TKN) exceeds its Project guideline at the upstream control (SW4) and downstream of the Power House (SW5 and SW9) on the Nam Kathang. Organic nitrogen in run-off from the construction areas on the Nakai Plateau is likely to be the main source of these elevations. Levels decrease downstream through a combination of sedimentation of suspended organic and some oxidation. There is no WHO human or environmental health based guideline for TKN but rivers with TKN concentration below 1 mg/l tend to be classified as good.

Consistent with the elevated levels in TKN, COD exceeds its Project guideline at site SW4, SW5 and SW9 on the Nam Kathang. There is no subsequent exceedence in the BOD which indicates that TKN is not readily available for biological oxidation. The short-term exceedence of COD in the Nam Kathang is not deemed to pose a risk to human or environmental health.

Consistent with the heavy rainfall and runoff from terrestrial areas containing human and animal excreta, faecal coliform exceeds its Project guideline at all sampling sites downstream of the Power House (SW5-14). The source of this elevation is likely to be construction workers who are still observed using the surrounding areas as a toilet, although the contribution from surrounding communities with poor sanitation infrastructure and their livestock cannot be ruled out. The health implications are discussed above.

Nam Gnom

The water quality in the Nam Gnom continues to be good with few significant exceedences of the Project guidelines. TSS and iron both exceed the Project guidelines at both sites on the Nam Gnom, including the upstream control (SW11). Given that there were no significant downstream increases, this elevation seems to be resulting from runoff from cleared agricultural areas during heavy rainfall rather than being Project-related. Fecal coliform exceeds the Project guideline at the

upstream control site (SW11). The source of this elevation is the community of Ban That and its poor sanitation facilities and livestock rather than Project-related. There is no evidence that construction activities on the Downstream Channel are significantly impacting the water quality of the Nam Gnom between sampling site SW11 and SW12. There was no trend of increasing TSS or iron downstream which usually indicates that construction activities are impacting the river.

Nam Phit

Despite a few exceedences of the Project guideline, water quality in the Nam Phit can still be considered as good. TSS, iron and Kjeldahl-nitrogen exceed the Project guideline at SW6. These increases are consistent recent clearing of the access road into the Xe Bangfai confluence. Fecal coliform exceeds the Project guideline at both SW13 and SW6 and is likely to be community-based rather than Project related.

Xe Bangfai

Water quality in the Xe Bangfai continues to remain good with only one exceedence of the Project guideline at both SW7 and SW8. Iron exceeds its guideline at both sites as a result of runoff from cleared agricultural areas. There is no evidence that construction activities are impacting the water quality of the Xe Bangfai.

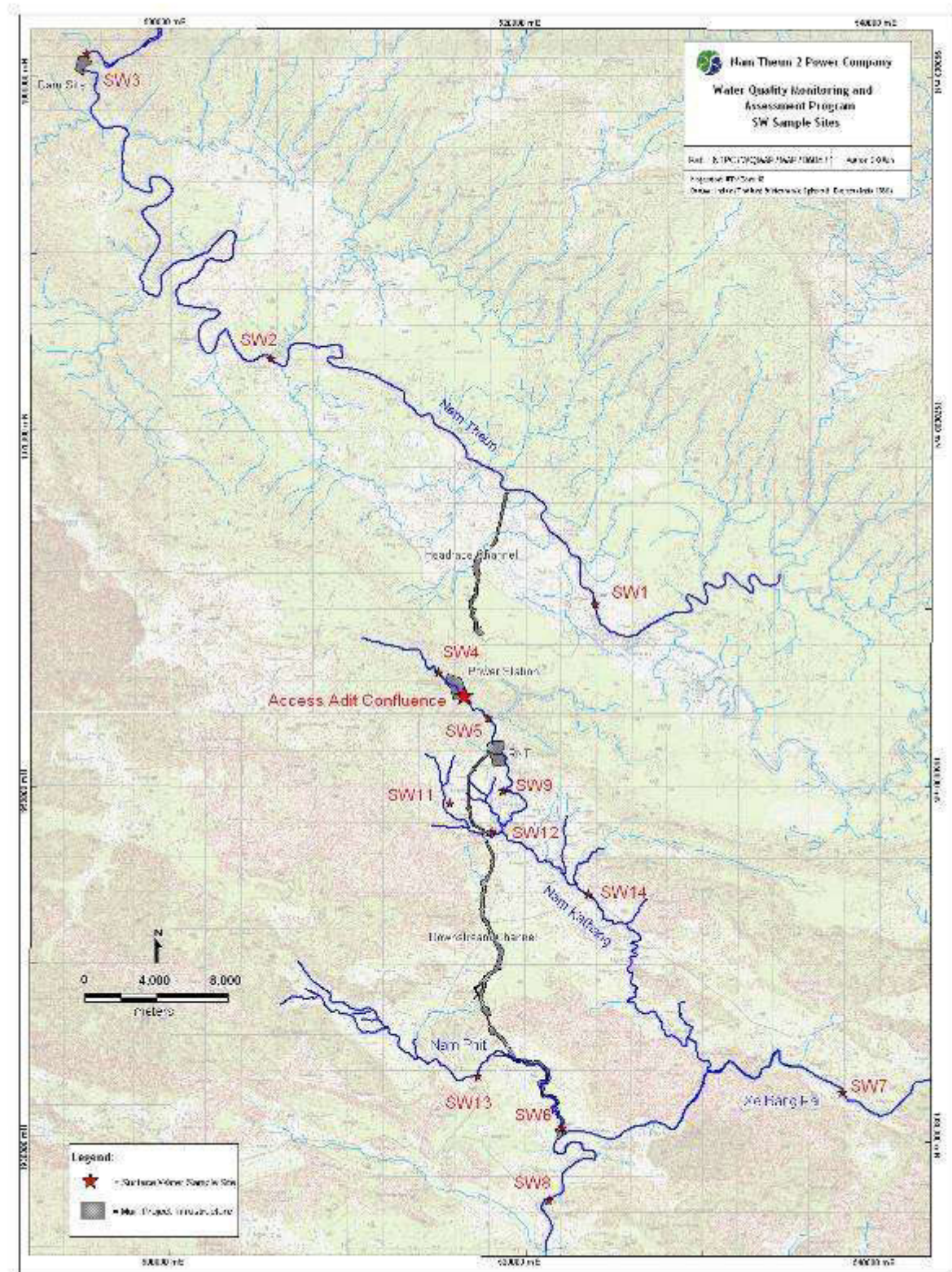


Table: July 2006 Surface Water Quality in the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai.

Parameter	Unit	Project Guidelines		Nam Theun		
				SW 1	SW 2	SW 3
Sampling Date				27/07/06	27/07/06	28/07/06
Sampling Time				10.45 h	12.10 h	11.05 h
Water Depth	(m)			7.0	9.0	*
Sampling Method				Grab	grab	grab
Air Temperature	(°C)			23.4	24.1	24.1
Cloud Coverage				100	100	100
Water Temperature	(°C)			23.9	24.4	24.3
pH		6.0-8.0		6.95	6.78	6.79
DO	(mg/L)	> 5.0		7.45	7.32	7.56
% DO Saturation	(%)			91.1	92.6	96.2
Conductivity	(µS/cm)	< 350 or <750 *		19.6	22.5	21.7
Turbidity	(NTU)	< 200		25.5	25.5	25.9
Total suspended solids	(mg/L)	< 40 or <80*		40.9	35.5	25.4
Alkalinity	(mg/L)	- ¹¹	36.4	23.1	12.6	13.4
Ammonia-nitrogen	(mg/L)	< 0.5		0.353	0.226	0.187
Nitrate-nitrogen(NO ₃ -N)	(mg/L)	< 3.4		0.110	0.111	0.111
Nitrite-nitrogen(NO ₂ -N)	(mg/L)	< 0.2		ND ¹	0.006	0.006
Kjeldahl nitrogen(TKN)	(mg/L)	- ¹¹	1.030	0.222	0.222	0.333
Potassium (K)	(mg/L)	- ¹¹	1.06	0.679	0.776	0.778
Sodium (Na)	(mg/L)	300		1.02	1.20	1.21
Manganese (Mn)	(mg/L)	< 0.5		0.024	0.036	0.028
Total iron (Fe)	(mg/L)	< 1.0		1.08	1.28	1.27
Lead (Pb)	(mg/L)	< 0.05		ND ³	ND ³	ND ³
Calcium (Ca)	(mg/L)	50		1.67	1.78	1.98
Magnesium (Mg)	(mg/L)	< 15		0.744	0.744	0.694
Silica (SiO ₂)	(mg/L)	- ¹¹	10.3	5.21	5.59	5.50
Sulphate (SO ₄ ⁻²)	(mg/L)	< 500		ND ⁴	ND ⁴	ND ⁴
Chloride (Cl ⁻)	(mg/L)	< 250		0.48	0.67	0.48
Total mercury (Hg)	(mg/L)	< 0.001		ND ⁶	ND ⁶	ND ⁶
Arsenic (As)	(mg/L)	< 0.05		ND ⁷	ND ⁷	ND ⁷
BOD	(mg/L)	< 15		0.8	0.7	0.5
COD	(mg/L)	< 40		ND ⁸	ND ⁸	ND ⁸
Total phosphorus	(mg/L)	< 0.2		0.010	0.010	0.010
Faecal Coliform	(C/100mL)	150		63	356	186

¹ Non-detectable (Detection limit = 0.001 mg/L)² Non-detectable (Detection limit = 0.16 mg/L)³ Non-detectable (Detection limit = 0.010 mg/L)¹¹ No Project or internationally recognized guideline available therefore the river-specific guideline shall be adopted – 80th percentile of the highest seasonal mean

Yellow cells: Parameters which exceed the Project trigger.

⁴ Non-detectable (Detection limit = 0.005 mg/L)⁵ Non-detectable (Detection limit = 0.0002 mg/L)⁶ Non-detectable (Detection limit = 0.0003 mg/L)⁷ Non-detectable (Detection limit = 0.5 mg/L)

* 350 µS/cm for Nam Theun; 750 µS/cm for lowlands rivers

* 40 mg/L for all rivers in all seasons with the exception of 80 mg/L for the Xe Bangfai in wet season

Table (Cont.): July 2006 Surface Water Quality in the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai.

Parameter	Unit	WQ Guidelines	River-Specific Guideline	Nam Kathang				Nam Gnom	
				SW 4	SW5	SW 9	SW 14	SW 11	SW 12
Sampling Date				26/07/06	26/07/06	26/07/06	25/07/06	26/07/06	26/07/06
Sampling Time				09.00 h	09.45 h	11.05 h	11.00 h	10.30 h	11.45 h
Water Depth	(m)			0.60	1.0	1.5	0.80	1.2	1.2
Sampling Method				grab	grab	grab	grab	grab	grab
Air Temperature	(°C)			24.5	24.4	25.3	38.0	24.7	24.8
Cloud Coverage				100	100	100	80	100	100
Water Temperature	(°C)			24.0	24.2	24.5	28.2	23.8	24.1
pH		6.0-8.0		7.21	7.33	7.41	7.73	7.62	7.55
DO	(mg/L)	> 5.0		7.85	7.60	7.61	7.46	7.99	7.74
% DO Saturation	(%)			95.2	92.6	93.6	93.2	95.4	91.9
Conductivity	(µS/cm)	< 350 or <750 *		39.4	484	37.6	196.4	221	217
Turbidity	(NTU)	< 200		894	>1100	641	55.3	135	104.7
Total suspended solids	(mg/L)	< 40 or <80 ¹		763	921	567	68.5	194	172
Alkalinity	(mg/L)	- ¹¹	133.8	20.7	55.2	23.1	111	124	126
Ammonia-nitrogen	(mg/L)	< 0.5		0.230	0.230	0.219	0.172	0.216	0.208
Nitrate-nitrogen(NO ₃ -N)	(mg/L)	< 3.4		0.047	0.108	0.095	0.454	0.556	0.527
Nitrite-nitrogen(NO ₂ -N)	(mg/L)	< 0.2		0.063	0.082	ND ¹	0.006	0.013	0.013
Kjeldahl nitrogen(TKN)	(mg/L)	- ¹¹	1.089	2.77	9.98	1.88	0.333	0.665	1.11
Potassium (K)	(mg/L)	- ¹¹	1.56	1.66	1.74	1.27	0.676	0.731	0.636
Sodium (Na)	(mg/L)	300		1.29	1.57	1.30	1.49	0.925	0.880
Manganese (Mn)	(mg/L)	< 0.5		0.416	0.434	0.269	0.055	0.140	0.098
Total iron (Fe)	(mg/L)	< 1.0		12.6	18.5	9.67	1.72	3.70	3.28
Lead (Pb)	(mg/L)	< 0.05		ND ³	ND ³	ND ³	ND ¹	ND ¹	ND ¹
Calcium (Ca)	(mg/L)	50		7.34	9.94	7.14	29.7	36.7	40.6
Magnesium (Mg)	(mg/L)	< 15		3.99	5.29	2.99	1.98	2.49	2.69
Silica (SiO ₂)	(mg/L)	- ¹¹	18.6	6.54	5.69	5.40	6.73	5.50	4.69
Sulphate (SO ₄ ⁻²)	(mg/L)	< 500		2.3	1.4	2.2	1.8	2.7	2.2
Chloride (Cl ⁻)	(mg/L)	< 250		ND ⁵	0.10	0.10	0.29	0.10	0.29
Total mercury (Hg)	(mg/L)	< 0.001		ND ⁶	ND ⁶	ND ⁶	ND ²	ND ²	ND ²
Arsenic (As)	(mg/L)	< 0.05		0.0027	0.0048	0.0027	ND ³	0.0029	0.0021
BOD	(mg/L)	< 15		4.1	2.8	1.9	1.3	1.1	0.7
COD	(mg/L)	< 40		97.6	83.2	49.6	ND ⁴	25.6	6.40
Total phosphorus	(mg/L)	< 0.2		ND ⁹	ND ⁹	0.044	0.040	0.010	0.013
Faecal Coliform	(C/100mL)	150		104	648	532	372	480	84

¹ Non-detectable (Detection limit = 0.001 mg/L)² Non-detectable (Detection limit = 0.16 mg/L)³ Non-detectable (Detection limit = 0.010 mg/L)⁴ Non-detectable (Detection limit = 0.005 mg/L)⁵ Non-detectable (Detection limit = 0.0002 mg/L)⁶ Non-detectable (Detection limit = 0.0003 mg/L)⁷ Non-detectable (Detection limit = 0.5 mg/L)¹¹ No Project or internationally recognized guideline available therefore the river-specific guideline shall be adopted – 80th percentile of the highest seasonal mean
Yellow cell: Parameters which exceed the Project trigger.

* 350 µS/cm for Nam Theun; 750 µS/cm for lowlands rivers

† 40 mg/L for all rivers in all seasons with the exception of 80 mg/L for the Xe Bangfai in wet season

Table (Cont.): July 2006 Surface Water Quality in the Nam Theun, Nam Kathang, Nam Gnom, Nam Phit and Xe Bangfai.

Parameter	Unit	WQ Guidelines	River- Specific Guideline	Nam Phit		River- Specific Guideline	Xe Bangfai	
				SW13	SW 6		SW 7	SW 8
Sampling Date				25/07/06	25/07/06		25/07/06	25/07/06
Sampling Time				12.30 h	01.45 h		10.00 h	02.10 h
Water Depth	(m)			0.90	6.0		4.5	6.20
Sampling Method				grab	grab		grab	grab
Air Temperature	(°C)			42.0	36.2		37.0	37.0
Cloud coverage				15	10		100	45
Water Temperature	(°C)			31.4	31.1		28.5	29.4
pH		6.0-8.0		7.56	7.52		7.61	7.65
DO	(mg/L)	> 5.0		5.59	6.08		6.91	6.75
% DO Saturation	(%)			72.6	79.5		85.5	86.9
Conductivity	(µS/cm)	< 350 or <750 *		225	218		277	248
Turbidity	(NTU)	< 200		14.3	35.6		18.9	44.1
Total suspended solids	(mg/L)	< 40 or <80*		13.3	65.5		35.8	65.7
Alkalinity	(mg/L)	- ¹¹	252.6	130	129	200.6	159	141
Ammonia-nitrogen (NH ₃ -N)	(mg/L)	< 0.5		0.213	0.104		0.122	0.221
Nitrate-nitrogen(NO ₃ -N)	(mg/L)	< 3.4		0.315	0.279		0.533	0.425
Nitrite-nitrogen(NO ₂ -N)	(mg/L)	< 0.2		0.006	0.006		ND ¹	0.006
Kjeldahl nitrogen(TKN)	(mg/L)	- ¹¹	0.688	0.222	1.44	0.559	ND ²	0.222
Potassium (K)	(mg/L)	- ¹¹	0.60	0.341	0.340	0.68	0.495	0.473
Sodium (Na)	(mg/L)	300		0.238	0.202		0.942	0.826
Manganese (Mn)	(mg/L)	< 0.5		0.016	0.030		0.044	0.052
Total iron (Fe)	(mg/L)	< 1.0		0.490	1.16		1.28	1.34
Lead (Pb)	(mg/L)	< 0.05		ND ³	ND ³		ND ³	0.013
Calcium (Ca)	(mg/L)	50		34.4	32.9		41.6	38.1
Magnesium (Mg)	(mg/L)	< 15		3.14	3.44		3.34	3.08
Silica (SiO ₂)	(mg/L)	- ¹¹	9.0	4.17	3.65	10.5	7.30	4.88
Sulphate (SO ₄ ²⁻)	(mg/L)	< 500		2.9	3.5		2.4	2.0
Chloride (Cl ⁻)	(mg/L)	< 250		0.10	0.29		0.48	0.48
Total mercury (Hg)	(mg/L)	< 0.001		ND ⁶	ND ⁶		ND ⁶	ND ⁶
Arsenic (As)	(mg/L)	< 0.05		0.0004	0.0005		0.0004	ND ⁷
BOD	(mg/L)	< 15		0.8	0.8		0.6	0.5
COD	(mg/L)	< 40		ND ⁸	14.4		24.0	14.4
Total phosphorus	(mg/L)	< 0.2		0.023	0.013		0.060	0.010
Faecal Coliform	(C/100mL)	150		257	360		43	26

¹ Non-detectable (Detection limit = 0.001 mg/L)² Non-detectable (Detection limit = 0.16 mg/L)³ Non-detectable (Detection limit = 0.010 mg/L)⁴ Non-detectable (Detection limit = 0.005 mg/L)⁵ Non-detectable (Detection limit = 0.0002 mg/L)⁶ Non-detectable (Detection limit = 0.0003 mg/L)⁷ Non-detectable (Detection limit = 0.5 mg/L)¹¹ No Project or internationally recognized guideline available therefore the river-specific guideline shall be adopted – 80th percentile of the highest seasonal mean

Yellow cells: Parameters which exceed the Project trigger.

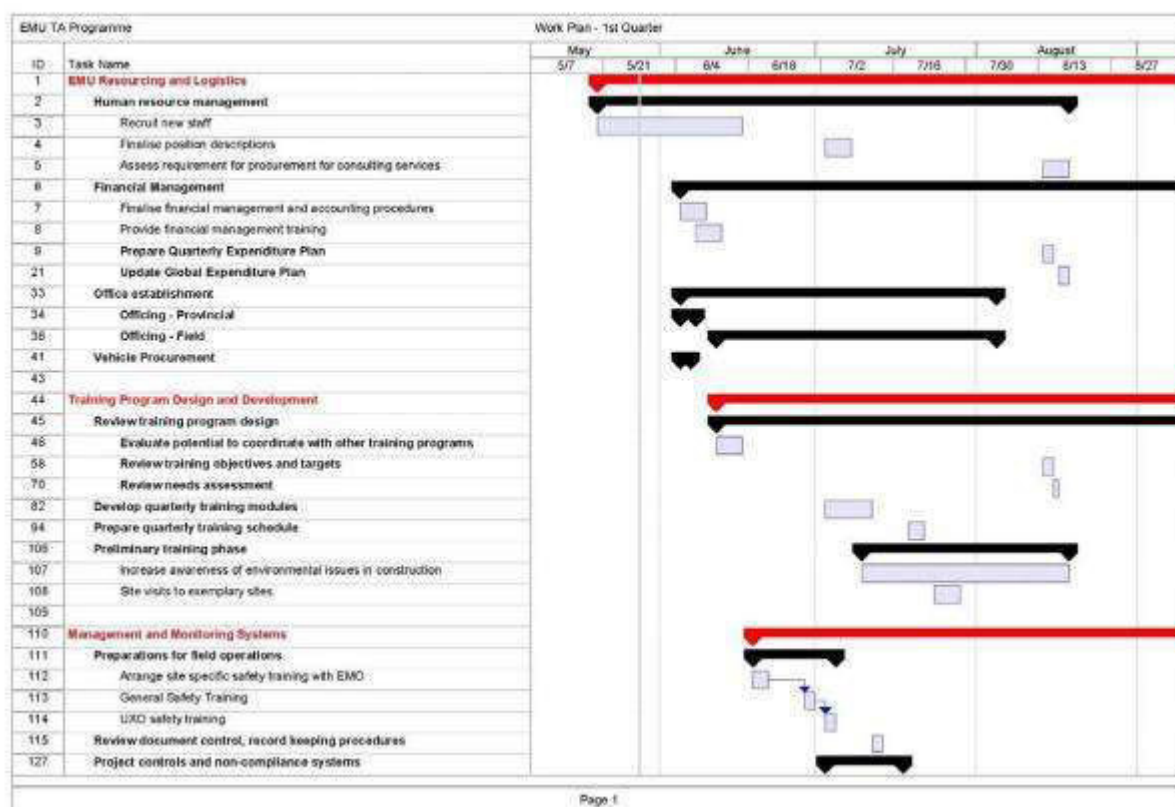
* 350 µS/cm for Nam Theun; 750 µS/cm for lowlands rivers

* 40 mg/L for all rivers in all seasons with the exception of 80 mg/L for the Xe Bangfai in wet season

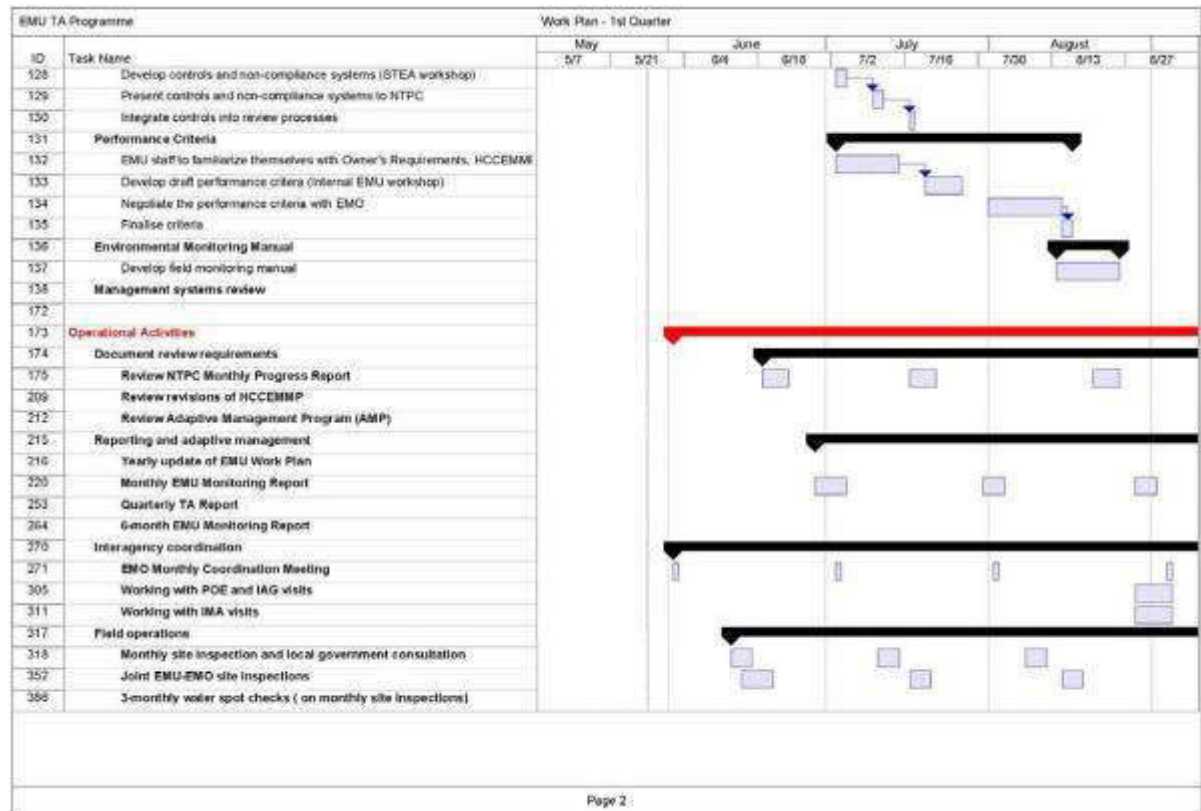
3.4 Environment Management Unit (EMU) Technical Assistance (TA)

Activities undertaken by the EMU and EMU TA during August 2006 are presented in the Work Plan below² and also include:

- Finalization of the Environmental Management Manual and Work Plan to address NTPC comments.
- Finalization of the first Quarterly Report after the Inception Report. The first Quarterly Report was scheduled to be submitted on 20 August 2006 but is now scheduled to be submitted to NTPC in early September 2006.
- Construction of the EMU district office has commenced and is well underway. Two rooms are under construction at the annex of the Nakai District Offices and are now expected to be completed in September 2006.
- EMU personnel continue to accompany EMO Inspectors on joint site inspections with alternation between personnel from EMU Khammouane and EMU Bolikhamxay. Details of the construction areas inspected by the EMU are provided in Part B, Section 1.2 (*Environment Protection*).



² Source : EMU TA Inception Report



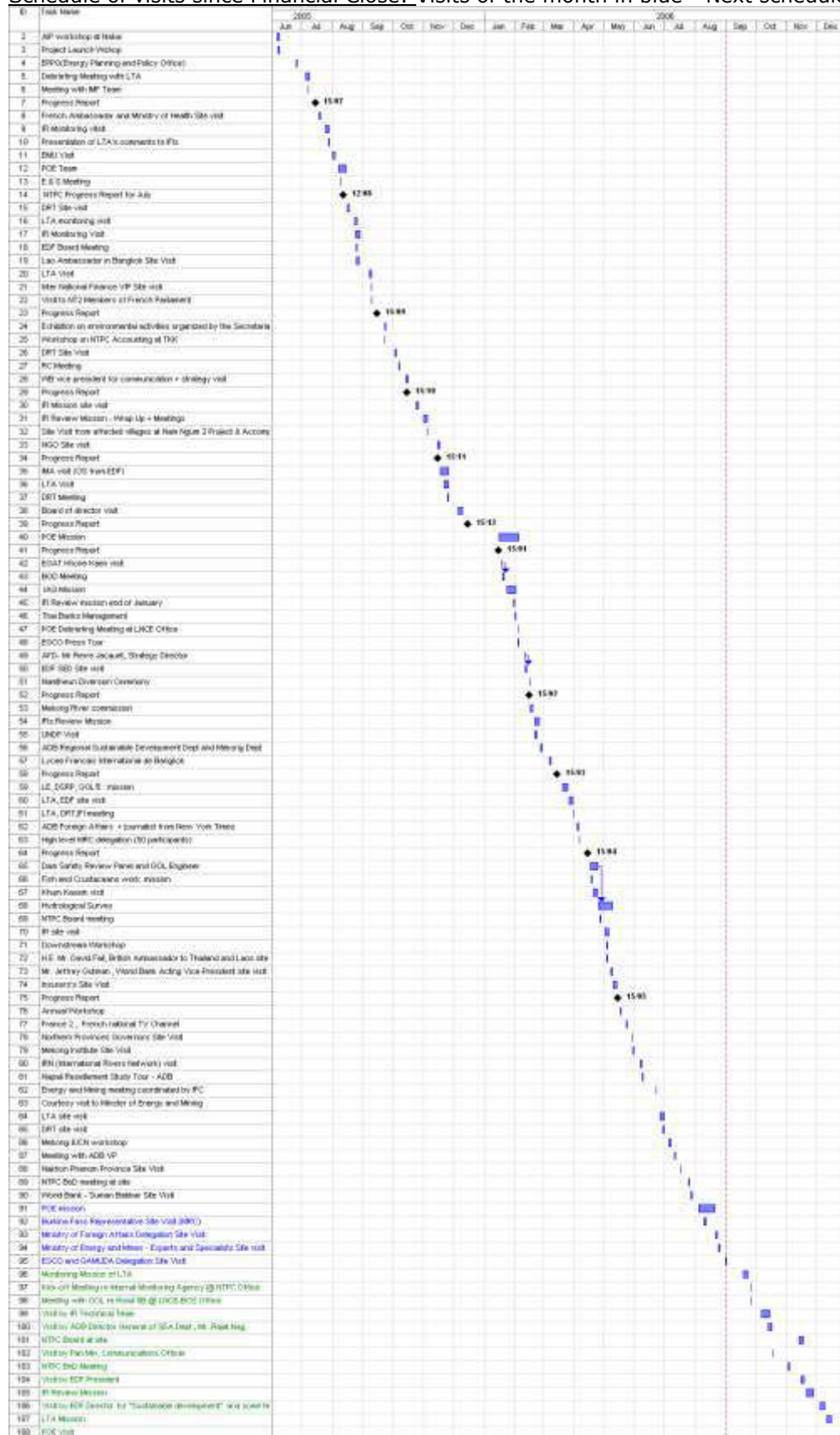
3.5 EMO's activities linked to construction

The environmental activities linked to construction works are part of the Construction Progress Report (Part B of NTPC's Monthly Progress Report).

Internal, External Monitoring

4 Internal and External Monitoring

Schedule of visits since Financial Close: Visits of the month in blue - Next scheduled visit in green.



GOL Related Activities

5 GOL related activities

5.1 Watershed Management Protection Authority (WMPA)

The field work of the WMPA has been lessened during the rainy season, as anticipated. WMPA has been busy finalizing the upcoming annual work plan and budget and has been focusing on the finalization of these plans as well as finalizing the audit for the past years' expenses. The WMPA Board of Directors Meeting is scheduled for 29 September 2006 on the Nakai Plateau. It is expected that the BOD will approve both the annual workplan and budget. Once the BOD approves these documents, then the Independent Monitoring Agency (IMA) is expected to endorse these documents. The BOD approval and IMA endorsed plans are then sent to NTPC for the qualification of the WMPA annual payment. It is expected that NTPC should receive this request in the first half of October 2006 and will effect payment within 30 days. NTPC has sent audit confirmations and reporting of all WMPA incurred expenses over the past year to ensure that both entities' records and statements are consistent.

5.2 Optimization of Salvage Logging on the Nakai Plateau

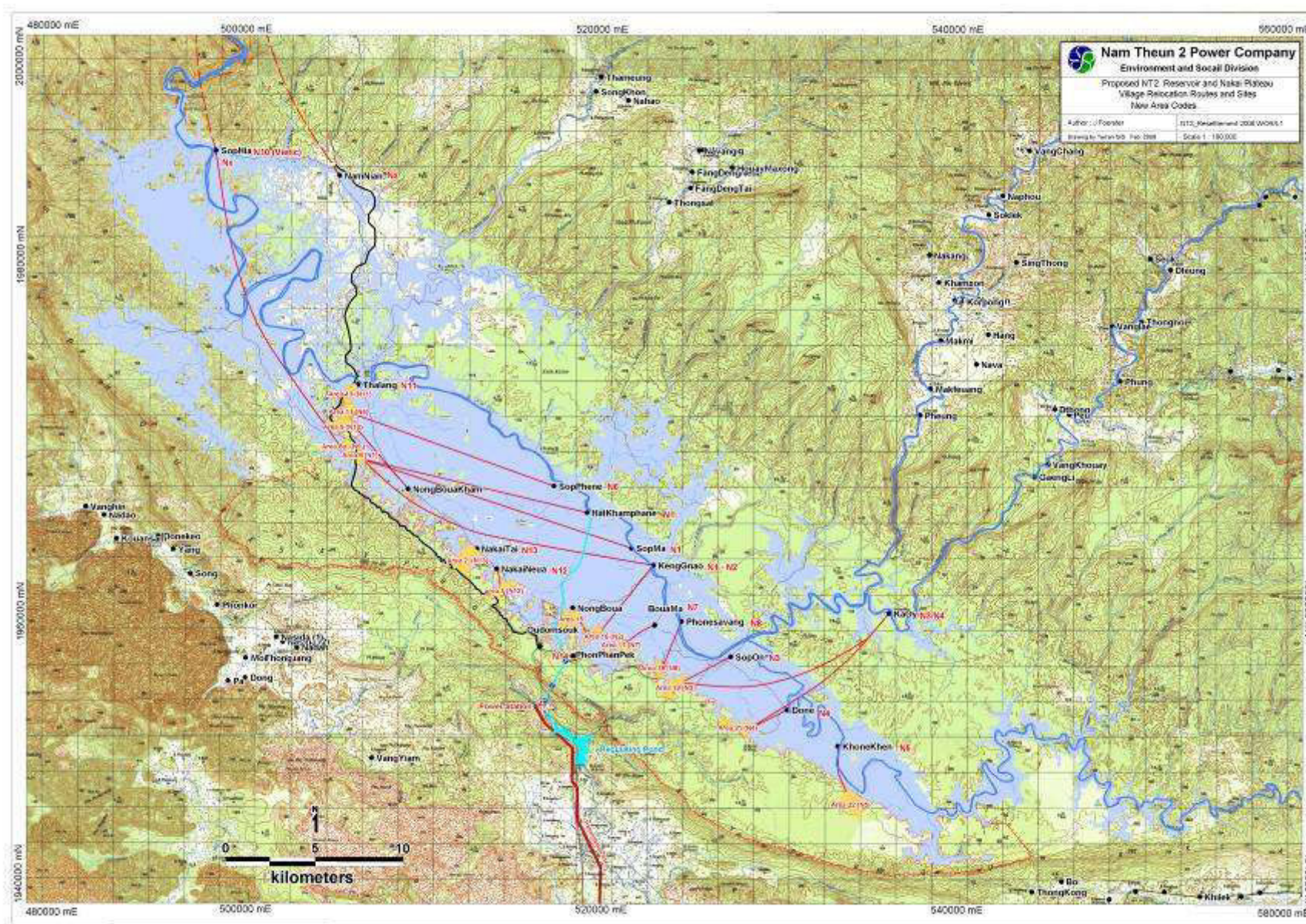
The GOL has arranged with Contractors, who are directly employed by GOL, to be responsible to cut and deliver timber to the Second Landing from Blocks A & C commencing on, or possibly slightly before, 1 October 2006 depending on actual weather conditions. Blocks A & C near the Nam Malou Area of the Nakai Plateau, or the Northwest Areas of the Reservoir will open around this date. The timber will then be auctioned to bidders at the Second Landing. The buyers of this timber have been informed that to exit the Plateau they should use Road 8B to Laksao. The GOL has authorized the export of unprocessed timber in the special case of the Salvage Logging of the NT2 Reservoir and as a result it is anticipated that most of this timber will be exported to Vietnam, although attempts will be made to process as much as reasonably possible in Laksao so the GOL can retain as much added value to its timber resources as possible. Other areas, or blocks, of the reservoir will be opened to cutting and transporting to the Second Landing at a later date, most likely towards the end of 2006. Once the monsoon season is completely finished the new dirt track to Ban Thongkong will be upgraded so that it is capable of handling logging truck traffic down to Road 12. Strict controls by GOL and participation by WMPA at the checkpoints are expected to be in place prior to truck traffic using this dirt track. The VFA is also organizing patrol units along its forestry borders to assist in the management and protection of VFA forest lands during the Salvage Logging Operations.

5.3 Social issues (RMU & DWG)

A Resettlement Committee (RC) meeting was not held in August. RMU submitted an updated organization chart for the RMU so that it now includes 3 Main Areas: Nakai Plateau Resettlement, Project Lands, and the Downstream Program. The total number of staff in the RMU organization is about 26 people, not including the District Working Groups. The new manager of the RMU is now well acquainted with the Project and is strengthening the teams and the administration and reporting of RMU to be more closely in line with the CA requirements. Prior to year-end, RMU will review their current budget and expenses and adjust the budget from Jan 2007 – COD as necessary, considering past expenditures as well as current staffing needs. An organization chart for the District Working Groups is expected by year end 2006. A fisheries expert from the Ministry of Agriculture and Forestry is in the process of being recruited to assist with the fisheries program and with the Reservoir Management Authority.

Annexes

Proposed NT2 Reservoir Nakai Plateau Village Relocation Routes



Transition Resettlement Schedule

