

# Independent Advisory Panel Report

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Project Number: 41924-014  
August 2015

## Nam Ngiep 1 Hydropower Project (Lao People's Democratic Republic)

### Report Number 5 on the Fifth Site Visit, 3-10 May 2015

Prepared by the Independent Advisory Panel for the Asian Development Bank.

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of the Independent Advisory Panel  
on the Nam Ngiep 1 Hydropower Project,  
Lao PDR  
Fifth Site Visit, 3-10 May 2015**

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**Original report: 6 June 2015**

**Revised report: 13 July 2015**

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## List of acronyms and abbreviations

ADB	Asian Development Bank
BKY	Bolikhambxay Province
CA	Concession agreement
CIA	Cumulative impacts assessment
DEQP	Department of Environmental Quality Promotion
DFO	District forestry office
DFRM	Department of Forest Resources Management
DG	Director-general
DONRE	District office of natural resources and environment
E&S	Environment and social
EGATi	Electric Generating Authority of Thailand International Company
EIA	Environmental impacts assessment
EMP	Environmental management plan
ESMMP-CP	Environmental and social management and monitoring plan construction period
EMO	Environmental Management Office
EMU	Environmental Management Unit
EPF	Environmental Protection Fund
ERM	Environmental Resources Management (consulting company)
ESD	Environment and Social Division
ESIA	Environmental and social impacts assessment
GOL	Government of Lao PDR
ha	hectare
IAP	Independent Advisory Panel
IFC	International Finance Corporation, World Bank Group
IP	Indigenous people
ISP	Integrated spatial planning
<i>Kum baan</i>	Group of focal development villages
LR	Lower reservoir
MEM	Ministry of Energy and Mines
MONRE	Ministry of Natural Resources and Environment
MRC	Mekong River Commission
NAFRI	National Agriculture and Forestry Research Institute
NBCA	National biodiversity conservation area / conservation forest
NNP1	Nam Ngiep 1 hydropower project
NNP2	Nam Ngiep 2 hydropower project
NNP1PC	Nam Ngiep 1 Power Company
NPA	National protected area
NTFP	Non-timber forest product
NTPC	Nam Theun Power Company
PAP	Project affected people
PFA	National protection forest area
PONRE	Provincial office of natural resources and environment
PP	Project proponent
PPA	Provincial protected area
PRMLCRC	Provincial Resettlement Management and Living Condition Restoration Committee
REMDP/REDP	Resettlement and Ethnic Minority Development Plan
RMU	Resettlement Management Unit
ROW	Right-of-way
SEA	Strategic environmental assessment
SMO	Social Management Office
TD	Technical Department of NNP1PC
THPC	Theun-Hinboun Power Company
UR	Upper reservoir
USEPA	United States Environmental Protection Agency
XSB	Xaysomboun Province

# Report Number 5 of the Independent Advisory Panel on the Nam Ngiep 1 Hydropower Project, Lao PDR

## Fifth Site Visit, 3-10 May 2015

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### Introduction

1. The Independent Advisory Panel (IAP) was pleased to be working with representatives of the Asian Development Bank (ADB) and the Lenders' Technical Advisors (LTA) again during the IAP's site visit in May 2015. The ADB representatives consisted of the following specialists: Ms. Kurumi Fukaya, Ms Joyce Munsayac, Mr Seiji Noda, and ADB consultants Ms Elisabeth Mann, Mr William Robichaud, and Mr Matthew Corbett. The LTA social and environmental safeguards specialists, Ms Karen Jacobs and Mr Ettore Romagnoli, also participated in the IAP site visit.
2. The IAP noted some **positive** developments during the site visit:
  - The IAP noted that many of the Lao and non-Lao professionals that were recruited by Mr. François Demoulin, a former senior social manager who worked at Nam Ngiep 1 Power Company (NNP1PC) for about one year and whose contract was not extended by NNP1PC in December 2014, have remained with the project. Since the senior social manager's departure, they have demonstrated a high level of professional commitment to implementing a high quality hydropower development project by (i) implementing plans that the former senior social manager prepared before his departure; and, (ii) applying lessons learned from their work at other successful hydropower development projects in Lao PDR.
  - Working together with the ADB and LTA specialists, the IAP was able to bring improved clarity to important resettlement and biodiversity offset issues during the site visit. Specifically: (i) The NNP1PC Concession Agreement (CA) is clear that NNP1PC is responsible for resettling project affected people (PAP) living in Zone 2LR at Houay Soup (Zone 5) or paying compensation to PAP to undertake self-resettlement; and, (ii) ADB has recognised constraints in resolving the biodiversity offset issue and has appointed two consultants to work with the NNP1 Company on biodiversity issues and watershed management planning.
  - The IAP notes that important pre-resettlement actions are being implemented including announcing the cut-off-date to PAP and conducting PAP asset surveys in all zones in the project area.
  - The IAP notes that NNP1PC is maintaining good relations with the RMU in Bolikhamxay province.
3. The IAP also notes the following **challenges** that NNP1PC is facing:
  - Continued unnecessary delay in official approval and public announcement of unit compensation rates throughout the project area. This delay has the potential to obstruct the resettlement schedule which will in turn delay construction activities. During the most site visit in May 2015, the IAP observed that many PAP continued to construct new structures and install other fixed structures, even after knowing the official cut-off-date and having completed their asset surveys.

- Once again several NNP1PC managers expressed serious concern to the IAP about the internal flow of funds and confusing financial management. This obstruction has had serious negative impacts on project implementation during the 2014-2015 dry season.
  - Several senior NNP1PC employees mentioned to the IAP that they were planning to leave NNP1PC because of a poor work environment.
  - NNP1PC did not prepare a 2015 Annual Implementation Plan (AIP). An AIP reviews shortcomings from the AIP implemented during the previous year and sets objectives, targets, and budgets for the following year in an integrated development plan that senior management must ensure is implemented in a collaborative manner.
4. This report consists of two parts: Part 1 presents the activities and actions of the Independent Advisory Panel on the Nam Ngiep 1 Hydropower Project in Lao PDR; and, Part 2 presents a summary of the resettlement, social, environmental, and biodiversity issues related to the construction of the Nam Ngiep 1 Hydropower Project in a matrix format. Four separate annexes present detailed findings of individual members of the IAP.
  5. The report was edited by Mr. Anthony M. Zola, the Resettlement Specialist and Chairman of the IAP. The annexes were prepared by individual members of the Independent Advisory Panel.

## Part 1: Independent Advisory Panel Actions

6. The Independent Advisory Panel (IAP) on the Nam Ngiep 1 hydropower project (NNP1) in Lao PDR undertook a fifth visit to NNP1 on 3-10 May 2015. The IAP members participating in the fifth visit included the following:
  - Dr. Songwit Chuamsakul, Social Specialist
  - Dr. Richard Frankel, Environment Specialist
  - Dr. Kathy MacKinnon, Biodiversity Specialist
  - Mr. Anthony M. Zola, Resettlement Specialist
7. The IAP proposed to the Nam Ngiep 1 Power Company (NNP1PC) and NNP1PC (the Developer) agreed that the sixth site visit would be on 6-13 December 2015. Subsequent site visits are proposed as follows:
  - Visits in 2016: May and December
8. This IAP report to NNP1PC and the ADB covers the following topics: (i) issues of concern to the IAP; and, (ii) actions by NNP1PC that are recommended by the IAP based on the NNP1 Concession / License Agreement, official / legal documents of the Government of Lao PDR (GOL), and international best practices. Actions recommended by the IAP are time-based; meaning that NNP1PC is obligated to or should undertake and/or complete these actions within a specific period of time.
9. The IAP categories of concern are as follows:
  - **High / Very High / Urgent** category of concern requires the Developer to act **immediately**;
  - **Medium** category of concern requires that the Developer act within **1-2 months**; and,
  - **Low** category of concern requires action **before the next visit** of the IAP.

The categories of concern are consistent with those applied at other international standard hydropower projects in Lao PDR.

10. Copies of this IAP report will be submitted to the following individuals:
- (i) Mr Yoshihiro Yamabayashi, Managing Director, NNP1PC
  - (ii) Ms Kurumi Fukaya, Asian Development Bank, Private Sector Operations
  - (iii) Mr Seiji Noda, Senior Safeguards Specialist, Asian Development Bank
11. The fifth IAP site visit was undertaken over an eight day period; from Sunday, 3 May to Sunday, 10 May 2015. The IAP travel schedule was as follows:
- **Saturday, 2 May**
    - Arrivals in Vientiane: Mr Zola, Dr MacKinnon. Overnight in Vientiane
  - **Sunday, 3 May**
    - Arrival in Vientiane: Dr Frankel, Dr. Songwit
    - IAP initiating meeting at Hotel Khamvongsa
    - IAP meeting with ADB representatives and the LTA social safeguards specialist at Hotel Khamvongsa
    - Overnight in Vientiane
  - **Monday, 4 May**
    - Briefing by NNP1PC managers and staff at the Nam Ngiep 1 Hydropower Project office in Vientiane on (i) measures taken related to actions required and recommended by the IAP during the 4<sup>th</sup> IAP site visit in December 2014; and, (ii) overall progress on NNP1 project implementation and issues of concern.
    - The IAP resettlement and social specialists traveled to Lone Xang District, Xaysomboun Province: overnight in Lone Xang District.
    - Environmental Specialist travels with EMO Representative, LTA and ADB Environment Consultants to Paksan; short meeting with EMO team to begin review of work progress and changes in organization chart; overnight in Paksan
    - Biodiversity Specialist: Had follow up meetings re Biodiversity and Watershed Management. Meeting between IAP, EMO Watershed and Biodiversity Team (Viengkeo, Souane and Hendra) and ADB environmental team (S. Noda, W. Robichaud and M Corbett) on Biodiversity Offset follow up. Meetings at MONRE with Peter Jensen and DEQP staff re ISP for XSB (DG Khampadith Khammoumheuang, Dep. DG Lonkham Atsanavong). Meeting with Biodiversity Baseline Survey consultant, Dr Chanthavy Vengkhomheng). Overnight in Vientiane.
  - **Tuesday, 5 May**
    - The IAP resettlement and social specialists and ADB and LTA representatives met with the deputy district governor and other officials of Hom District in Palavek village to discuss resettlement issues related to PAP in the Zone 2LR.
    - The IAP resettlement and social specialists and ADB and LTA representatives visited impacted villages in the Zone 2LR area; conducted village consultations with PAP.
    - Overnight in Lone Xang District.
    - Environment Specialist: Resume EMO Presentation and meeting with Environmental Inspection, Monitoring, and Waste Management Team Leaders. Meet with EMU of Bolikhamxay Province; Depart with EMO, LTA and ADB Environmental Specialists to Xaysomboon; overnight in Anouvong District, Xaysomboon Province.
    - Biodiversity Specialist: Meeting with DFRM, MONRE re Watershed Management Action Plan (Saysamone Phothisat). Meeting with Mme Bounphama Photisane (Dep. Director) re Environmental Protection Fund. Travel to Anouvong, Xaysomboun. Overnight at Anouvong
  - **Wednesday, 6 May**
    - The IAP resettlement and social specialists and ADB and LTA representatives traveled to Anouvong District, Xaysomboun Province to meet with the Vice Governor of Xaysomboun Province, provincial officials, and members of the Xaysomboun Resettlement Management Unit (RMU); to discuss resettlement issues related to PAP in Zone 2LR and Zone 2UR.
    - Travel to Paksan; overnight at Paksan.
    - Environment Team: Meeting with Vice Governor, Xaysomboon Province. Also met with newly appointed Members of EMU, PONRE, Xaysomboon Province.

Return trip to Paksan. Short meeting at EMO Offices, Paksan. Overnight at Paksan.

- Biodiversity Specialist: Meeting with XSB Provincial Vice Governor re Social and Environment issues, XSB PONRE and EMU attend. Travel Anouvong to Thaviengxay (2 UR villages B Pou, B.Hatsamkhone and B. Piengta) to assess condition of watershed (much of area under continuing shifting cultivation). Return via Thathom to Paksan
- **Thursday, 7 May**
  - The IAP resettlement and social specialists and ADB and LTA representatives traveled to Thathom District, Xaysomboun Province, for consultations with PAP from three villages in Zone 2UR. Travel to Paksan; overnight at Paksan.
  - Environment Specialist: Visit and inspection of all construction works from Access Road to reclamation dam site, work camps of all Sub-contractors (Song Da, TCM, RT, and Sino-Hydro Camps). Also viewed state of construction for Obayashi OC and future NNP1-PC camps. Visited dam site, bypass tunnel, crossed over temporary bridge and visited sites of sanitary landfill, baotching plant, and quarry. Returned to Paksan with visits along Dam Access Road. Overnight at Paksan.
  - Biodiversity Specialist: Work at EMO office, Paksan on Watershed Management Action Plan (Konglee Manokaun, Pangkham Vilayphanh). Visit Houay Ngua PPA to assess status of protection and further clearing in protected forests. Overnight in Paksan.
- **Friday, 8 May**
  - The IAP resettlement and social specialists and ADB and LTA representatives traveled from Paksan to Zone 3.
  - The IAP resettlement and social specialists met with PAP in Ban Thaheua, Ban Had Gniun, and Ban Hatsaykham villages in Zone 3, located near the NNP1 powerhouse and dam; to discuss project impact issues.
  - The IAP resettlement met with the Governor of Bolikhan District and the Chairman of the RMU of Bolikhamxay Province to discuss social and environmental impacts from the NNP1 construction project. Travel to Vientiane; overnight at Vientiane.
  - The IAP social specialist met with the Vice President of the Lao Front for National Construction and his staff, in Vientiane Capital. Overnight at Vientiane.
  - Environment Specialist: Meeting with General Manager Obayashi and Construction Manager. Reviewed outstanding environmental issues including need to appoint dedicated Environmental Manager. Return to Paksan office for closing meetings with EMO staff. Depart and return to Vientiane. Overnight at Vientiane.
  - Biodiversity Specialist: Visit PONRE WMO to discuss PONRE priorities and challenges in BKY watershed. Discussions with EMO on Watershed Management and Biomass Clearance plans. Return Paksan to Vientiane. Overnight at Vientiane.
  - The IAP resettlement and social specialists met with ADB and LTA representatives to prepare for the meeting with NNP1PC management and staff.
- **Saturday, 9 May**
  - Morning: Internal IAP meeting at the Hotel Khamvongsa.
  - IAP prepared individual debriefing presentations for NNP1PC staff.
  - Afternoon: IAP debriefing for NNP1PC management and staff at Nam Ngiep 1 Hydropower Project office in Vientiane.
  - Overnight in Vientiane.
- **Sunday, 10 May**
  - Morning: IAP wrap-up meeting at the Hotel Khamvongsa.
  - Afternoon: Follow-up technical discussions by individual specialists.
  - Evening: Return travel to home bases.

12. The remainder of this report consists of the following:

- (i) Part 2: a summary of resettlement, social, environmental, and biodiversity issues, including the IAP's recommendations and level of concern; and,
- (ii) The findings of the IAP in the form of individual technical annexes as follows:

- Annex 1: Resettlement issues
- Annex 2: Social issues
- Annex 3: Environmental issues
- Annex 4: Biodiversity issues

## Part 2: Summary of IAP issues, requirements, and recommendations

### Summary of Resettlement Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R1	Site visits: 7-14 December 2014 3-10 May 2015  Houay Soup Resettlement Area Initial Environmental Examination	Depleted and degraded soil at the Houay Soup resettlement site is the single most important issue for PAP to be resettled  Need to redesign land use in the Houay Soup resettlement area	<ul style="list-style-type: none"> <li>The Developer's Pilot Plan farm at Houay Soup continues to operate.</li> <li>Many PAP in Zone 2LR report that visits to the Pilot Plan farm continue, but most are not convinced that the area is adequate to meet food security needs.</li> </ul>	<ul style="list-style-type: none"> <li>The IAP notes that ADB considers the current IEE for Houay Soup "irrelevant."</li> <li>The revised IEE needs to reflect revised land use plans for Houay Soup area; delivered to Technical Department in November 2014.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>The IAP recommends again that NNP1PC continue to conduct overnight visits to Pilot Plan farm at Houay Soup. Visits should be organized with a focus on, widows, young men and women, and vulnerable families.</li> <li>The IAP recommends that IEE for Houay Soup area be completed before beginning construction of access roads or other facilities.</li> <li>The IAP recommends that mitigation measures proposed in the IEE be implemented at the Houay Soup resettlement site.</li> </ul>	High
R2	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Need to upgrade up to 500 ha designated for grazing of large livestock; prior to arrival of PAP with cattle and buffalo	<ul style="list-style-type: none"> <li>The IAP was informed that soils designated for grazing of PAP large livestock (approx. 500 ha) will be upgraded and planted with pasture grasses and legumes before the resettlement of PAP.</li> <li>New experienced staff has been engaged from other hydropower projects in Lao PDR with previous experience in animal husbandry and pasture development.</li> </ul>	<ul style="list-style-type: none"> <li>The IAP will visit Houay Soup resettlement site during site visit in December 2015 to inspect site development and observe mitigation measures being implemented according to the revised IEE.</li> <li>The area for pasture development will be determined after "choice survey" at 2LR determines number of PAP families and livestock to be resettled.</li> </ul> <p><b>Recommendations:</b></p> <ul style="list-style-type: none"> <li>The IAP recommends that tropical grasses and legumes be used to establish grazing areas during the 2015 wet season.</li> <li>The IAP recommends that NNP1PC establish fodder gardens in residential areas of the Houay Soup resettlement area that can be used as cut-and-carry fodder for resettled livestock immediately upon arrival.</li> </ul>	Low
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Resettlement Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R3	<p>Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015</p> <p>Concession Agreement, Annex C, Appendix 3, Table 1-1, b</p>	<ul style="list-style-type: none"> <li>• Designation of the Houay Soup area as resettlement site by GOL authorities</li> <li>• Revision of the Houay Soup IEE</li> <li>• Inclusion of adjusted size and land use plan for Houay Soup in revising the IEE</li> <li>• Significantly smaller size of Houay Soup area that is available for PAP resettlement</li> <li>• Preliminary village layout for Hmong village at Houay Soup</li> <li>• Size of PAP houses at Houay Soup resettlement area</li> </ul>	<ul style="list-style-type: none"> <li>• GOL certificate granted to NNP1PC for 1,745 ha at Houay Soup resettlement area outside national protection forest area (PFA); additional 648 ha to be degazetted from PFA by MONRE. Total area for resettlement is 2,393 ha</li> <li>• 3,715 ha remains in PFA; will be managed through an integrated Natural Resources Management Plan</li> <li>• Asset registration completed in Houay Soup area. PAP have not been compensated for assets because Xaysomboun Governor has not approved unit compensation rates (separate from the rates used for the dam access road used in 2014)</li> <li>• Bolikhamxay RMU is following up with Xaysomboun RMU on unit compensation rates and may proceed to compensate Houay Soup PAP using unit rates applied for dam access road approved in 2014. Adjustments can be made following approval of new unit compensation rates</li> <li>• IEE for Houay Soup needs to be revised and updated to include 648 ha to be degazetted from the PFA and use of remaining PFA</li> </ul>	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>• The unit rates of compensation for PAP assets should be finalized and approved by GOL authorities immediately.</li> <li>• Unit compensation rates should be based on consultations with PAP in impacted zones 2LR, 2UR, 3, and 5.</li> <li>• New land use plan should be prepared for the Houay Soup resettlement area and the IEE revised to reflect the new plan <b><i>BEFORE</i></b> any construction activities begin including construction of any access roads.</li> <li>• The IAP recommends that careful attention be given by the social and technical departments on the layout of the Houay Soup village; consultations with PAP are necessary to ensure the village layout is acceptable. The proposed layout of the Houay Soup resettlement village should be reviewed and approved by the LTA.</li> <li>• The IAP requires that PAP housing at Houay Soup be according to the CA: with kitchens and bathrooms separate from and outside the main house structure. NNP1PC social management staff should be very careful on this matter. Housing plans should be reviewed by the LTA.</li> </ul>	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended.</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R4	Site visits: 7-14 December 2014 3-10 May 2015  Concession Agreement, Annex C, Appendix 3, Table 1-1, b	A large number of PAP in Zone 2LR have stated repeatedly that they prefer not to resettle at the Houay Soup resettlement area; that instead they will self-resettle	<ul style="list-style-type: none"> <li>• Xaysomboun provincial and Hom district officials and the RMU have approved of self-resettlement as an option</li> <li>• According to the CA, NNP1PC is responsible only for two options, namely: (i) resettlement of PAP to Houay Soup; or, (ii) paying cash to PAP for self-resettlement based on unit compensation rates approved by the PRMLCRC; the Governor of Xaysomboun Province is chairman</li> <li>• Official cut-off-date for the project area is 11 April 2014; this date has been disseminated among PAP</li> <li>• PAP at 2LR interpret the cut-off-date as being the day they receive compensation payment for assets</li> <li>• PAP assets survey is underway at 2LR</li> </ul>	<ul style="list-style-type: none"> <li>• NNP1PC should clarify to stakeholders that it is responsible for implementing provisions of the CA only, namely: resettlement at Houay Soup or cash compensation for self-resettlement.</li> <li>• The IAP expects resettlement will take place one year before reservoir inundation.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>• The IAP recommends that NNP1PC make clear to all stakeholders that NNP1PC is responsible only for (i) resettlement to Houay Soup; or, (ii) paying cash for self-resettlement.</li> <li>• Prior to undertaking a Choice Survey, NNP1PC social staff should provide PAP in Zone 2LR with a graphic comparison between cash compensation for self-resettlement and the resettlement package for Houay Soup.</li> <li>• NNP1PC should conduct a Choice Survey in Zone 2LR to allow PAP to choose self-resettlement or resettlement at Houay Soup. The survey will determine the level of development needed at Houay Soup and allocation of land to PAP from Zone 2LR and Zone 3 (to Zone 3 PAP who have not yet received compensation for assets at Houay Soup).</li> <li>• The IAP recommends that the assets survey at 2LR should be completed as soon as possible.</li> <li>• The IAP recommends that updated resettlement action sub-plans be prepared in consultation with PAP based on the REDP for zones 2LR, Zone 3-HSK, and 2UR and should be reviewed by the LTA.</li> </ul>	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R5	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Impacts and disturbance of PAP in Ban Hatsaykham hamlet from Developer's base camp, dam access road, and construction of dam and powerhouse.  Positive impact from livelihood activities throughout Zone 3	<ul style="list-style-type: none"> <li>• A social management and mitigation plan and livelihood development activities are being implemented in Ban Hatsaykham</li> <li>• A police sub-station has been established at Ban Hat Gniun village with 6 district police assigned to the unit</li> <li>• Construction workers are prohibited from entering Ban Hatsaykham</li> <li>• A social management action program (SMAP) is being implemented at Ban Hat Gniun village and Ban Hatsaykham hamlet</li> <li>• NNP1PC SMO has frequent contact and a good working relationship with Ban Hatsaykham PAP</li> <li>• Ban Hatsaykham cannot be moved to the Houay Soup resettlement site until late 2015 / early 2016</li> <li>• Areas of Houay Soup to which PAP from Ban Hatsaykham have access have been defined and PAP informed</li> </ul>	The IAP has recommended since 2013 that PAP at Ban Hatsaykham be moved early to the Houay Soup resettlement area or be relocated temporarily to another part of Ban Hat Gniun village to minimize impacts from construction activities. This move has not taken place for various reasons. The IAP is very disappointed that a temporary relocation was not undertaken. <b>Recommendations</b> <ul style="list-style-type: none"> <li>• The IAP recommends that NNP1PC make every effort to ensure social protection of Ban Hatsaykham PAP until resettlement of the PAP has been achieved.</li> <li>• The IAP recommends that NNP1PC prepare a site-specific REDP for PAP from Ban Hatsaykham, prior to resettlement. This REDP should be reviewed by the LTA and the ADB. <i>The REDP is different and separate from the revised IEE for Houay Soup.</i></li> <li>• The IAP expects that NNP1PC will pay compensation to Ban Hatsaykham PAP immediately for extra land used along the right of way (ROW) of the Dam Access Road when PAP are compensated for agriculture land. .</li> <li>• The IAP recommends that the livelihood team be strengthened to continue very positive work that is on-going in Zone 3 villages. Specifically: (i) hire two additional technicians already listed on the SMO organization chart: off-farm income technician and marketing technician. Also, NNP1PC management should encourage use of both Lao and Hmong speaking university students as summer interns to assist with livelihood development activities.</li> </ul>	Medium
<b>* Level of Concern:</b> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended.</li> </ul>					

## Summary of Resettlement Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R6	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Commercial development by camp followers around the Developer's base camp and other labor camps will have a negative impact on PAP in host villages located near those construction camps	<ul style="list-style-type: none"> <li>• The "zero tolerance" policy has been adopted by the Developer.</li> <li>• A code of conduct is attached to every contract and emphasized by an instruction from the Bolikhan District Governor on social behavior by construction workers</li> <li>• A SMAP is being implemented</li> <li>• Experienced social staff are employed to implement social management activities among PAP and camp followers</li> <li>• The number of restaurants and beer bars has decreased at Ban Hat Gniun and Ban Hatsaykham</li> <li>• A police sub-station has been established to provide law enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• The IAP is satisfied that sufficient actions have been taken by all parties to reduce unethical and immoral social behavior by all employees of the Developer (including consultants and advisors), the Head Contractor, and all sub-contractors.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>• The IAP recommends that NNP1PC holds regular meetings with police and law enforcement officials to review unethical and immoral social behavior by all employees and to discuss and implement plans for providing social protection for communities and workers.</li> <li>• The IAP recommends that small upgrades be undertaken at the police sub-station in Ban Hat Gniun to ensure high morale and efficiency of police services.</li> </ul>	Low
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended.</li> </ul>					

## Summary of Resettlement Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R7	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>• Demarcation of fully supply level of the Nam Ngiep 1 reservoir</li> <li>• Water supply system for NNP1 impacted villages</li> <li>• Relocation and livelihood restoration of PAP in three villages in Zone 2UR</li> </ul>	<ul style="list-style-type: none"> <li>• Demarcation of the full supply level of the Nam Ngiep 1 reservoir is the highest PAP priority</li> <li>• Development of village water supply in each village is a high priority</li> <li>• The PAP earlier reported to IAP that they would relocate within their villages and diversify livelihood activities with support from NNP1PC. Some households have completed self-relocation of residences.</li> <li>• NNP1PC has agreed to support land development and alternative livelihood activities beginning in January 2015</li> <li>• Issues related to use of drawdown zones (DDZ) need to be addressed</li> <li>• The new NNP1PC livelihood development team is in place</li> </ul>	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>• Demarcation of the full supply level of the Nam Ngiep 1 reservoir by NNP1PC engineers should be completed as a high priority.</li> <li>• The IAP recommends NNP1PC conduct consultations with PAP to develop a community-based village water supply system that provides a year-round supply of potable water to impacted villages with support from NNP1PC.</li> <li>• The IAP recommends that a mini-RAP (<i>relocation action plan that includes a livelihood restoration plan</i>) be formulated in a participatory matter with PAP and district and <i>kum baan</i> officials; ensuring participation by women and youth. The mini-RAP should be based on individual household consultations on developing sustainable alternative livelihoods that are linked to markets.</li> <li>• The IAP recommends that the assets survey at 2UR should be completed before the next IAP visit in December 2015.</li> <li>• The IAP recommends strong management support for and strengthening of the livelihood development team at 2UR.</li> </ul>	Medium
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended.</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R8	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Organizational and institutional issues related to both NNP1PC and the GOL</li> <li>Coordination between NNP1PC director and Xaysomboun RMU</li> <li>Familiarization of Hom District officials with NNP1 issues and procedures</li> </ul>	<ul style="list-style-type: none"> <li>Xaysomboun RMU reports lack of coordination by NNP1PC director with RMU</li> <li>Hom District officials report lack of knowledge of NNP1 project details</li> </ul>	<ul style="list-style-type: none"> <li>The project is making progress in many areas.</li> <li>Lao staff recruited by the former senior social manager (Mr. Francois Demoulin) are implementing the pre-resettlement plans that he prepared and are being guided well by experienced professionals recruited from NTPC and THPC.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>The IAP recommends that NNP1PC directors, managers, and team leaders identify key official contacts at the provincial, district, and village levels and coordinate more closely with those individuals, particularly in Xaysomboun province.</li> <li>The IAP recommends that NNP1PC managers and team leaders provide orientation and familiarization to recently appointed Hom District officials to facilitate NN P1PC's ability to work in the area.</li> <li>The IAP recommends that NNP1PC assign an experienced staff member to begin development of a framework for the 2016 Annual Implementation Plan (AIP); as an integrated document prepared in consultation with appropriate GOL officials</li> </ul>	Medium
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Resettlement Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
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No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
R9	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Internal management and institutional structures needed to organize and implement the resettlement program are weak</li> <li>The flow of funds to support important and time-sensitive field operations is being obstructed by some financial staff</li> <li>Some SMO, EMO, and Technical Department staff are reportedly unfamiliar with NNP1PC financial procedures</li> </ul>	<ul style="list-style-type: none"> <li>Several experienced staff planned to leave NNP1PC during May and June 2015; with poor working conditions given as the reason for their departure</li> <li>Release of funds for SMO and EMO field activities continues to be delayed by finance department staff resulting in delays in field operations related to preparations for resettlement</li> </ul>	<ul style="list-style-type: none"> <li>The IAP has pointed out that the multi-cultural, multi-ethnic, multi-national, and experienced staff working at NNP1PC requires management using modern and professional procedures and processes.</li> <li>A higher level of commitment is needed by NNP1PC senior management to ensure the effectiveness both staff efforts and costly NNP1PC social and environmental programs.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>The IAP recommends that NNP1PC engage a management consultant to assist with overcoming current management challenges that negatively affect morale, performance, and effectiveness of staff and NNP1PC funded field activities.</li> <li>The IAP recommends that the management consultant introduce modern and professional management measures to improve the flow of funds and integration of TD, SMO, and EMO.</li> </ul>	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Social Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
S1	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Changing the Hmong lifestyle is not easy and will take time</li> <li>Agricultural and handicraft products and the market</li> </ul>	<ul style="list-style-type: none"> <li>In Ban Hatsaykham and Ban Thaheua of Zone 3, livelihood programs have been initiated including fish and chicken raising and vegetable and mushroom growing. The volume of products is still small compared to local demand from communities and construction workers.</li> <li>In Zone 2UR PAPs are concerned about markets for their products, especially handicrafts.</li> </ul>	<p>The Deputy Governor of Thathom District and the Women Group Chairperson of Thathom District recommended the Project to find agricultural and handicraft markets for PAP products.</p> <p><b>Recommendation</b> For sustainable development, the GOL and NNP1PC should identify markets for PAP agricultural outputs. This is a strong recommendation also from the Xaysomboun Governor.</p>	High
S2	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Hmong graves survey</li> </ul>	The IP (the Hmong) graves have been surveyed and registered 90% of them in Zone 2LR. Currently, the Project has started to survey the Hmong graves in Zone 2UR. The grave compensation rate is ongoing.	<p><b>Recommendation</b> The IAP recommends that lessons learned from other related projects be considered. The GOL must participate in negotiation and reach agreement, especially RMU; the Governor of each province and each district, Lao Front for National Construction of each district, province and national levels. Negotiations also can be done through elders of each clan. Several small graves within the same clan can be performed by a single grave ceremony.</p>	High
S3	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>The area for PAP resettlement at the Houay Soup resettlement area needs to be clarified</li> </ul>	The total land of Houay Soup Resettlement Site is 6,000 ha of which a significant portion is inside a protection forest. The land outside the protection forest is 1,745 ha, of which some 808 ha will be allocated to PAP; remaining 937 ha land will be used for livelihood restoration; of which 88 ha (5%) is unusable. PAP are aware of the amount of land available at Houay Soup.	<ul style="list-style-type: none"> <li>The Xaysomboun Province Head of the Lao Front for National Construction and the Head of the RMU and the Director of the Department of Land Administration, and the Head of RMU of Bolikhamxay Province are all aware of this issue.</li> </ul> <p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>The IAP recommends that usable land at the Houay Soup area available for livelihood restoration should be clarified to the PAP as soon as possible.</li> </ul>	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Social Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
S4	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Food security is a major concern of the PAP</li> <li>Soils at Houay Soup need improvement</li> <li>Additional investigations are needed on the use of the whole resettlement site</li> </ul>	<ul style="list-style-type: none"> <li>The Pilot Plan site / demonstration farm is managed by a Hmong manager who understands local customs and traditions; he can demonstrate how PAP can prosper at Houay Soup</li> <li>Livelihood Programs have been initiated in Zone 3. The programs such as, fish and chicken raisings, mushroom and vegetable growing are undertaken at the site. The PAPs both Hmong and Lao Loum appreciate the programs</li> </ul>	<p><b>Recommendation</b></p> <p>The IAP recommends that the Project should initiate the livelihood programs in Zone 2LR and Zone 2UR as soon as possible. The PAPs in the 2 zones are waiting for such programs for a long time. This will build trust between the Project and the PAPs. At the same time the programs can generate income and support more food for PAPs.</p>	High
S5	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Drug abuse spreads among IP (the Hmong) youth in Ban Hatsaykham of Zone 3 and the number is increasing: according to the elder, several Hmong youth have started to use amphetamines in the village.</li> <li>There are more newcomers of IP (Hmong) moved into Ban Pou of Zone 2UR and Ban Hatsaykham of Zone 3</li> </ul>	<ul style="list-style-type: none"> <li>Drug use has caused crime, fighting, and theft in Hatsaykham causing concern among Hmong elders</li> <li>The village headman can do nothing since newcomers come to visit their clans; but stay and do not return to their village</li> </ul>	<p><b>Recommendation</b></p> <ul style="list-style-type: none"> <li>The IAP recommends the Project discusses and solves the issue with village leaders, local committees, police, and Bolikhan authorities. If not, drug abuse will impact not only Hatsaykham but Project workers and Lao Loum communities; this issue requires close observation and investigation</li> <li>The IAP recommends that it is required to enforce the Lao Laws. The Project has to work closely with the village headmen, the district and provincial authorities.</li> </ul>	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Social Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
S6	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<u>Compensation and unit rates</u> Unit Compensation Rate: The PAP in Zone 2LR cannot accept the unit rate. According to the PAP, the unit rate that proposed by the GOL on 14 July, 2014 was very low	The Deputy Governor of Xaysomboun Province promised PAPs that a new official unit rate will be proposed around May 15, 2015. According to Deputy Governor, the official unit rate will be the same in both Xaysomboun and Bolikhamxay. The delay in issuing the unit rate is due to poor cooperation among the Project, RMU, the districts and provinces, as well as different cost of the unit rates between the 2 provinces. It is required to discuss among related organizations. According to the headman of Ban Soppouan and his villagers, the paddy land unit rate in his village must be the same as Zone 2UR because resettlement is required by the GOL, not the PAP.	<b>Recommendation</b> The IAP recommends that negotiation and discussion with PAP follow the methodology outlined in the REMDP and be used to finalize unit compensation rates.	High
S7	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	176 households of PAP of Ban Sopyuok, Ban Soppouane, and Ban Houaypamom in Zone 2LR have insisted to self-resettle.	The PAP have insisted to self-resettle to their old villages. Some will move to Houay Sai Samsao, a Hmong village nearby. Some will move to Nam Joi in Bolikhamxay. PAP say that only 1,745 ha is available for resettlement at Houay Soup which may be inadequate for the PAP. This has created tensions and pressures for them. According to the Vice President of the Lao Front for National Construction, the Deputy Governor of Xaysomboun Province, and other higher officials, the PAP of Ban Sopyuok insist not to resettle to Houay Soup because many of them are decorated heroes of the civil war.	<b>Recommendation</b> The IAP recommends that land use planning in Houay Soup resettlement area be clarified. Cash payment for compensation for the PAP should be clarified to resolve the resettlement issue. This is also a strong recommendation from the Vice President of the Lao Front for National Construction.	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended.</li> </ul>					

## Summary of Social Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
S8	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Collaboration with Xaysomboun Province has improved. However, better collaboration with the province and the PAP is needed in Zone 2LR. Project officials must understand the PAP and their issues.	The RMU of Xaysomboun Province requires 3 officials from the Project to be stationed and work at with the RMU, as well as 2 officials from the Project to be posted to Hom District Office, including company staff working in finance, administration, and field operations.	The IAP recommends that the Project work through the RMU, Vice Governor, and Governor of Xaysomboun Province; this is legally required. Whenever Project staff visit the site, they should inform the Governor of Hom District and related officials in the district. In addition, Project personnel should visit village leaders, Hmong elders, head of the women's group, head of the youth group in the villages. This is also a strong recommendation from the Vice President of the Lao Front for National Construction.	High
S9	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Hmong staff	Additional Hmong staff have been engaged by NNP1PC to work on the project.	The IAP is pleased that NNP1PC has made progress on this issue. This is a good reputation for the project since most directly PAP are Hmong ethnic group.	Medium
S10	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Cut-off-date	<ul style="list-style-type: none"> <li>The previous cut-off date was announced on July 14, 2014 and it was not effective because the unit rate was not accepted by the PAP, especially in Zone 2LR.</li> <li>According to the Deputy Governor of Xaysomboune Province, the cut-off date will be announced to each household after the asset registration has been finalized.</li> </ul>	There should be an official announcement and dissemination of the cut-off-date to PAP in the villages.	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Environmental Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of Concern
E1	<p>ESIA of NNP1</p> <p>Site visits:            7-12 January 2013            17-24 November 2013            4-11 May 2014            7-14 December 2014            3-10 May 2015</p> <p>National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR, No. 561/CPI, June 2005</p>	<p>There are four hydropower projects under construction that will affect water quality, water use and water availability along the Nam Ngiep river. An organizational arrangement is needed to manage the watershed resources and enable communications and cooperation between the hydropower companies.</p>	<ul style="list-style-type: none"> <li>• MONRE prefers to manage natural resources based on established levels of government administration, namely, central, provincial and district levels. Overlapping concessions, cumulative and trans-boundary impacts from hydropower and other development projects necessitate GoL authorities to consider developing an integrated management plan and monitoring arrangement for the Nam Ngiep watershed.</li> <li>• NNP1PC plans to convene a meeting with MONRE, together with provincial and district officers, to discuss future management issues of the watershed, together with representatives of Project Proponents. The outputs of the meeting are to develop a plan and budget for watershed management and implementation, and how participants can share data and improve communications between stakeholders.</li> <li>• A meeting was scheduled for February 2015 to share results of the Climate Change Vulnerability Assessment for the Nam Ngiep River Basin, at which NNP1 would have discussions on setting up an annual meeting among the four hydropower projects. No information or follow up was made in the NNP1PC February or March 2015 Monthly Progress Report.</li> </ul>	<p><b>Recommendation</b></p> <p>The IAP recommends that NNP1PC continues its efforts to contact all Project Proponents of the four hydropower projects being developed along the Nam Ngiep River and organize an annual meeting to be hosted by NNP1PC during 2015 to discuss sharing water flow and water quality data among the four Project Proponents and any other issues of interest or concern to the four Project Proponents.</p>	Low
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended.</li> </ul>					

## Summary of Environmental Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of Concern
E2	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	NNP1PC is expected to contribute to capacity building of MONRE and assist in establishing the EMU staffed by provincial and district representatives from project affected areas	<ul style="list-style-type: none"> <li>IAP discussions with the EMU of Bolikhamxay indicate that NNP1 is a priority project for GOL and EMU would like to join in monthly monitoring site visits to contractors' camps and construction sites. No funds have been received from NNP1PC to start compliance monitoring. NNP1PC confirmed that the first payment for capacity building was made in February to MONRE (US\$189,440), but MONRE has not distributed funds back to Bolikhamxay EMU even though both PONRE and DONRE have accounts.</li> <li>The EMSP, MONRE, funded by the Finland Ministry of Foreign Affairs, sponsored an EMU capacity building workshop in Vientiane in February 2015 based on "lessons learned" from Nam Theun 2 and Theun-Hinboun hydropower projects. Three reps from Bolikhamxay attended but no invitation was sent to Xaysomboun Province.</li> <li>The IAP also visited the newly formed EMU of Xaysomboun Province. No capacity building funds have been received there either; the EMU lacked copies of project documents (Annex C of CA and ESMMP-CP which were distributed by the EMO that day). Xaysomboun has not received any NNP1 monitoring reports and unfortunately there has been no training program organized to include the Xaysomboun EMU in compliance monitoring and site inspections.</li> </ul>	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>The IAP recommends that NNP1PC contact MONRE to enquire about distribution of capacity building funds to the EMUs of Bolikhamxay and Xaysomboun so that NNP1PC can develop a training program for both Provincial EMUs, which should include copies of EMO Monthly Monitoring Reports and relevant Compliance and Monitoring Reports which show environmental issues that need to be improved by the Contractor. The EMU should be invited to join in the monthly joint inspections made by the EMO together with the Contractor and be informed of the proposed changes by the Contractor to correct the environmental issues and outstanding non-compliances. The EMU can thus witness the compliance and monitoring approach used by EMO to ensure that the Contractor and all Sub-contractors meet with the conditions of Annex C of the CA and the ADB SPS.</li> <li>The IAP again recommends that NNP1PC convene a workshop combining the EMUs of both provinces and MONRE to review duties of the EMU for Nam Ngiep watershed. MONRE should be invited as workshop organizer to review "lessons learned" from Nam Theun 2 and the Theun-Hinboun projects, and include the expanded mandate of MONRE to oversee integrated environmental conservation interests of water, forest, and biodiversity protection at the regional and district levels. It is believed that this training emphasizing "lessons learned" from the two most important EMUs in hydropower development in Lao PDR will serve as a very effective topic to begin capacity building of the EMUs. This should be followed by a planned visit to the Theun-Hinboun hydropower project in Bolikhamxay Province together with the EMU for the Theun-Hinboun project to review their responsibilities, their learning experiences, weaknesses, strengths, and to include field exercises with them to witness mitigation measures, review their experiences, and findings. The workshop would greatly benefit the Company and the capacity building efforts of the project. Funds spent for this workshop would be well spent and beneficial to all parties.</li> </ul>	Medium
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

## Summary of Environmental Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of Concern
E3	Site visits: 7-14 December 2014 3-10 May 2015	The management of the Environment is not in compliance with (1) the CA Obligation 2.2 Obligation to Implement Environmental Measures which states that the Company (NNP1PC) must ensure that the HCCEMMP is prepared by the Head Construction Contractor in accordance with the Concession Agreement . . . , and ensure that the Head Construction Contractor implements the approved HCCEMMP; and (2) the ADB Safeguard Requirements 1: Environment, Section 2. Environmental Planning and Management, para. 15, which states that when a third party's involvement (meaning a contractor, or an operator of an associated facility) will influence implementation of the EMP, the borrower/client (meaning NNP1PC) has control or influence over the actions and behavior of the third party, and will collaborate with the third party to achieve the outcome consistent with the requirements for the borrower/client.	<ul style="list-style-type: none"> <li>The Main Contractor (CWC) has not hired an experienced Environmental Manager to manage and oversee the environmental obligations of the CWC and its Sub-contractors (e.g. solid wastes and hazardous wastes management, wastewater collection and treatment systems, erosion and sediment control, etc.) in accordance with the CA and the ADB Safeguards. The IAP has met twice with the CWC and mentioned this requirement, but finds again that the Construction Manager is assigned to be the Environment and Safety Manager for the CWC as well. Thus, supervision of environment affected activities of the CWC and its Sub-contractors are not being done by CWC in accordance with best practices and the Contractor is in violation of the ESMMP-CP.</li> <li>CWC is dependent upon NNP1 to provide all technical inputs, monitoring, and reporting, plus meeting with the Sub-contractors to implement acceptable solutions to environmental issues. CWC is not operating in accordance with ADB Safeguards or IFI Performance Standards.</li> </ul>	<p>The IAP believes that the CWC is non-compliant with ADB's Environmental Safeguards and IFC Performance Standards. However, CWC's non-compliance is the borrower/client's non-compliance as far as ADB and other lenders are concerned.</p> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>The IAP recommends that NNP1 comes to an agreement promptly with the CWC to carry out its environmental management obligations in accordance with best practices. This means that the Technical Department (TD) of NNP1 should have a supportive cooperative working relationship with the EMO and not be in conflict with their requests for improved CWC environmental responsibilities to oversee and manage their sub-contractors.</li> <li>The IAP recommends that TD urgently locates an environmental engineering consultant that can provide the technical inputs needed to resolve design and operation problems with the solid waste management (landfill) and the wastewater treatment systems of the sub-contractors. The EMO should obtain a copy of the USEPA Guidelines for design and operation of landfills.</li> <li>The IAP again insists that the CWC be required to appoint an Environmental Manager for the duration of the construction period. The Environmental Manager should be experienced in environmental management and familiar with Annex C of the CA, ADB SPS guidelines, and the ESMMP-PC. He needs to be supported by a team of inspectors who are trained to follow the commitments of the ESMMP-CP.</li> </ul>	Very High
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High – Highest priority for action</li> </ul>					

## Summary of Environmental Issues

No.	Reference Document	Issue	Status	IAP Comments and Recommendations	Level of Concern
E4	Site visits: 7-14 December 2014 3-10 May 2015	Management of wastes from construction sites and camps of sub-contractors is not compliant with guidelines of the ESMMP-CP and do not meet the requirements of Annex C to the CA. NNP1 has not prepared and approved a SSES MMP for the Landfill Management Plan and submitted it to MONRE prior to commencing construction work covered by the SSES MMP (see <i>Clause 68 of Annex C to the CA</i> ). NNP1PC has obligations to minimize and recycle waste (see <i>Clause 57 of Annex C, CA</i> ).	Several violations of the standards were evident: 1) Solid wastes were being dumped into the temporary pit of the NNP1PC landfill without being inspected for hazardous materials and without separation of recyclable wastes for reuse or sale to recycle firms; 2) The temporary pit was unlined and did not have a leachate collection system. The pit should be covered and protected from rainwater seeping or draining into the pit; and, 3) Septic tanks wastes from sub-contractor septic tanks are temporarily being collected and disposed of by outside contractors. Disposal requests are being managed by NNP1PC and disposal sites and lime treatment is approved by NNP1 until a proper sewage treatment plant is installed on-site.	The Main Contractor, Obayash, must understand it is responsible to ensure all sub-contractors meet waste treatment and waste management standards agreed upon in the CA and EMP for all types of construction and worker wastes (air, liquid, solids and hazardous wastes). <b>Recommendations</b> <ul style="list-style-type: none"> <li>The IAP recommends that TD obtains the services of an experienced licensed environmental engineer to design the NNP1PC landfill. The design was made without reference to international standards and should have a compacted clay lining to encircle the pit and minimize seepage plus an impervious liner below a leachate collection system (<i>standard for landfills receiving mixed construction, industrial, domestic wastes; see USEPA Guidelines</i>). The leachate drains to a treatment system or series of ponds to maximize evaporation during wet season.</li> <li>Work should proceed quickly on completing the final design, then concurrence with the CWC to complete construction and operation of the sanitary landfill for the NNP1 project.</li> </ul>	Very High
E5	Site visit: 3-10 May 2015	<ul style="list-style-type: none"> <li>Poor cooperation and support from TD to implement corrective actions by CWC and sub-contractors on outstanding environmental issues.</li> <li>The DM of Compliance &amp; Monitoring is not accompanying staff on field visits to foster capacity building, improve timely responses, and develop appropriate solutions to outstanding environmental issues and non-compliances.</li> </ul>	<ul style="list-style-type: none"> <li>Visits to construction camps and work sites by the IAP and LTA Environmental Specialists illustrated that numerous environmental issues exist throughout the project footprint.</li> <li>Too much communication time for the cycle of inspection monitoring is being taken for: the process of report filing, meeting contractors to discuss issues at a scheduled meeting time, finding an agreeable solution and timeframe for implementation, getting TD to approve and transmit environmental issue or non-compliance reports to the CWC, and getting back a response with the agreed upon corrective action and time frame for its implementation.</li> </ul>	Review of EMO Monitoring and Inspection Team activities and reports shows that closer cooperation and support from TD are needed to implement corrective actions by CWC and sub-contractors on outstanding environmental issues. <b>Recommendations</b> <ul style="list-style-type: none"> <li>The IAP recommends that NNP1PC environment managers visit field activities at least once each week. Managers must use inspections and field visits to build capacity within EMO and environmental support staff of contractors. References should be provided to contractors to clarify needed pollution control systems. The monitoring program is key to measuring progress, reducing adverse environmental impacts, and announcing success of implemented mitigation measures. Dedicated environmental staff by CWC would improve both the monitoring system and compliance to environmental safeguards and best practices. An Environmental Manager of CWC should be inspecting all work sites and camps of subcontractors to ensure environmental performance standards.</li> </ul>	Medium
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High – Highest priority for action</li> </ul>					

## Summary of Biodiversity Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B1	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	Options for implementing a biodiversity offset	Still a need to identify realistic biodiversity offset options. ERM offset options review and the Biodiversity Offset Framework emphasize XSB watershed for potential offset sites but may need to find sites outside the watershed. New deadline for Offset sites is 30 September 2015.	<b>Recommendations</b> <ul style="list-style-type: none"> <li>There is a critical need to assess real biodiversity values of watershed and identify alternative options for offset sites - see below</li> </ul>	Very High
B2	Site visits: 7-12 January 2013 17-24 November 2013  4-11 May 2014 3-10 May 2015	Activities along the dam access road need to be managed to reduce impacts ( <a href="#">on-going issue</a> )	<ul style="list-style-type: none"> <li>Degradation, logging and forest clearance for agriculture along access roads.</li> <li>NNP1C provided some support to Provincial and District Forest Offices for checkpoints and patrols but forest clearance continues at Houay Ngua</li> </ul>	<b>Recommendation</b> <ul style="list-style-type: none"> <li>Work with provincial authorities to limit forest clearance along new dam access road (still an issue). <a href="#">Monitor effectiveness of Houay Ngoua checkpoint</a></li> </ul>	High
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High – Highest priority for action</li> </ul>					

## Summary of Biodiversity Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B3	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014 3-10 May 2015	<ul style="list-style-type: none"> <li>Poor knowledge of wildlife populations and distribution in project area.</li> <li>Surveys in Nam Ngiep watershed are needed to determine a) suitability of are for offset and b) needs for mitigation activities,</li> </ul>	<ul style="list-style-type: none"> <li>Information on wildlife in watershed largely based on literature surveys and limited primate survey (ERM report). Critical need for additional biodiversity surveys.</li> <li>BIORAP team finally identified but still not mobilized</li> </ul>	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>The need for more detailed surveys of wildlife in lower NNP watershed has been identified since the 1<sup>st</sup> IAP visit in Jan 2013, and is now urgent.</li> <li>Mobilize BIORAP team immediately – data will inform watershed management plan</li> </ul>	Urgent
B4	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 7-14 December 2014  3-10 May 2015	<ul style="list-style-type: none"> <li>Data on NTFPs collection</li> </ul>	Surveys ongoing in December 2014	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>ERM and SMO to work together to survey NTFP use, especially in Houay Soup (ongoing)</li> </ul>	Medium
B5	Site visits: 7-12 January 2013 17-24 November 2013	Workers and construction traffic removing forest resources, illegal logs and wildlife	Prohibition of illegal harvesting and trade is covered in the Developer's Code of Conduct	The Developer should enforce a zero tolerance policy on illegal logging, hunting and wildlife trade by the employees of the Developer, Contractor, and all sub-contractors	High
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High/Urgent – Highest priority for action</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B6	Site visits: 7-12 January 2013 17-24 November 2013 4-11 May 2014 3-10 May 2015	Introduction of potentially invasive species as part of reforestation, agriculture schemes	<ul style="list-style-type: none"> <li>Plans for aquaculture in reservoir to improve livelihoods</li> <li>Vetiver grass used for soil stabilization along access roads</li> </ul>	<b>Recommendations</b> <ul style="list-style-type: none"> <li>The Developer should check to make sure that the proposed species to be introduced are NOT potentially invasive</li> <li>Need careful review to ensure no introduction of exotic species with likely negative impact on native fish fauna.</li> <li>Check that vetiver grass is non-invasive form</li> </ul>	Low
B7	Site visits: 7-12 January 2013 17-24 November 2013  7-14 December 2014	NTFPs used by PAP for food security and cash income	PAP at all impacted villages are highly dependent on NTFPs	<b>Recommendations</b> <ul style="list-style-type: none"> <li>Protect sufficient natural forest within and adjacent to the resettlement sites for villagers to harvest NTFPs or provide alternative sources of income</li> <li>Identify potential of Houay Soup forests for NTFPs and assess opportunities for domestication in agroforestry systems</li> </ul>	High
B8	Site visits: 7-12 January 2013 17-24 November 2013	Awareness of importance of natural forests to the quality of life of PAP	PAP have a low awareness of the importance of the quality of forest to their lives and livelihood	<b>Recommendation</b> Raise awareness among resettled villagers of the value of natural forests for protecting water quality and other ecosystem services	Low
B9	Site visits: 7-12 January 2013 17-24 November 2013  3-10 May 2015	<ul style="list-style-type: none"> <li>Monitoring of biodiversity</li> <li>Capacity of provincial and district EMUs for monitoring</li> <li>Community engagement in monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Biodiversity values are not monitored by anyone</li> <li>EMUs in project provinces have limited capacity and resources</li> <li>Hmong villagers have good local knowledge</li> </ul>	Reservoir will give access to new areas above water line <b>Recommendations:</b> <ul style="list-style-type: none"> <li>Additional wildlife surveys should be undertaken in the upper watershed during construction to define protection and monitoring needs</li> <li>Hmong villagers should be hired to assist with monitoring biodiversity within resettlement areas and nearby forests</li> <li>Strengthen capacity of provincial EMUs to monitor impacts on biodiversity and environment. (still valid for BIORAP)</li> </ul>	Medium  High
<b>* Level of Concern:</b> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended.</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B10	Site visits: 4-11 May 2014  7-14 December 2014  3-10 May 2015	Realistic baselines for biodiversity monitoring (unresolved issue)	Continued degradation of Houay Ngua and other watershed forests  Out of date faunal information for watershed – need updating based on field surveys	Need accurate status of forest conditions at start of construction phase <b>Recommendations</b> <ul style="list-style-type: none"> <li>Get satellite imagery and map accurate remaining forest areas for Houay Ngua and other watershed forests</li> <li>Updated satellite imagery to be used for baseline maps – share with PONREs</li> </ul>	Closed
B11	Site visits: 4-11 May 2014 7-14 December 2014 3-10 May 2015	Suitability of Watershed as Biodiversity Offset (unresolved issue)	Updated BOF still identifies XSB watershed as potential offset site – critical to get biodiversity assessment underway as soon as possible to determine suitability.	Delay decision on Biodiversity Offset to await further field data from the watershed and continue to review alternative options	Very high
B12	Site visits: 4-11 May 2014  7-14 December 2014 3-10 May 2015	Appropriate and integrated Watershed management activities  Initiate development of ISP for XSB	The watershed now falls mainly within the boundaries of XSB Province which lacks an integrated spatial plan	<b>Recommendation</b> Work with MONRE and environmental offices in XSB to develop ISP for province to guide development activities and watershed management investments (starting May 2015). Critical input to watershed management plan	Very high
B13	Site visits: 4-11 May 2014  7-14 December 2014	Construction activities and increased access will lead to further habitat loss in watershed and along ROW for transmission lines	Villagers already clearing forests around dam site to expand agricultural activities	ROW route will avoid elephant habitat in Phou Khao Khouay national protected area <b>Recommendation</b> Develop guidelines and mitigation plans to minimise habitat loss due to construction activities and for restoration and rehabilitation of impacted areas.	High
<p>* Level of Concern:</p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High – Highest priority for action</li> </ul>					

## Summary of Biodiversity Issues

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
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No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B14	Site visits: 4-11 May 2014  3-10 May 2015	Working with MONRE to manage watershed management activities	Current budget request from MONRE focuses mainly on vehicles and salary supplements; need refocus on actions Watershed Management Action Plan prepared and budget s released to PONRE	<b>Recommendations</b> <ul style="list-style-type: none"> <li>Budgets allocated to MONRE should be based on agreed, targeted and monitorable activities for watershed management.</li> <li>Revise and simplify action plan in line with PONRE mandates and capacity(see below)</li> </ul>	Very High
B15	Site visit: 4-11 May 2014	Capacity of environmental units at MONRE to manage watershed management activities	MONRE has very limited capacity at all levels (especially at province and district levels).	<b>Recommendation</b> Developer's EMO to work with MONRE to seek capacity and mentoring opportunities (e.g., involvement of provincial officers in XSB ISP)	High
B16	Site visit: 4-11 May 2014  7-14 Dec 2014  3-10 May 2015	Alternative options for credible, realistic, and manageable biodiversity offsets	Watershed area not suitable for biodiversity offset because of conflicting development issues.  Continue to review options other than watershed	<b>Recommendations</b> <ul style="list-style-type: none"> <li>Follow up with Environmental Protection Fund (EPF) to assess suitability for biodiversity offset window, targeting funds to proposals with monitorable biodiversity outcomes.</li> <li>Use EPF funds to test mechanism for delivering biodiversity offset outcomes</li> <li>Discuss with EPF potential to target EPF funds to biodiversity offset site outside NNP1 watershed</li> </ul>	Closed
B17	Site visits: 7-14 Dec 2014 3-10 May 2015	Appoint Biodiversity Offset Committee of technical experts with appropriate expertise	<ul style="list-style-type: none"> <li>Outstanding issue</li> <li>Required by 31 December 2014 according to financial agreement with ADB</li> </ul>	<b>Recommendation</b> Essential to appoint credible committee as soon as possible. Biodiversity cannot be a subset under watershed management committees ( <b><i>still outstanding</i></b> )	Very high
B18	Site visits: 7-14 Dec 2014 3-10 May 2015	Watershed Management Plan should include Houay Soup forests and be integrated with ISP for XSB	MONRE require 4,250 ha of protection forest in Houay Soup resettlement area to remain as forest	<b>Recommendations</b> <ul style="list-style-type: none"> <li>EMO and SMO to work together to identify options for forest management at Houay Soup</li> <li>Activities in Houay Ngua and Houay Soup to be implemented and funded under Watershed Management Plan</li> </ul>	Very High
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High – Highest priority for action</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B19	Site visits: 7-14 Dec 2014 3-10 May 2015	Collaboration with NNP2 on watershed management	Developments at NNP2 impact on watershed, including water quality and aquatic biodiversity	<b>Recommendation</b> Initiate <b>further</b> contact with NNP2 to facilitate collaboration and complementarity of watershed management	High
B20	Site visit: 7-14 Dec 2014	Maintain distinct Biodiversity Team in EMO	Biodiversity Offset cannot be subsumed under watershed management	<b>Recommendation</b> Biodiversity team to be responsible for Biodiversity Offset process and biodiversity monitoring both within Watershed and Biodiversity Offset area (agreed)	Closed
B21	Site visit: 7-14 Dec 2014	Improve communication and information sharing within EMO and with SMO	Currently lack of report sharing within team and with SMO	<b>Recommendation</b> Essential that all members of teams share relevant information including IAP reports. Also need senior staff to make regular visits to field including with IAP	Closed
B22	Site visit: 7-14 Dec 2014	Strengthen collaboration and information sharing between EMO and SMO	Overlap of information collection	<b>Recommendation</b> Need better collaboration especially on surveys of NTFPs, fisheries, monitoring of water quality, and soil erosion	Closed
B23	Site visit: 3-10 May 2015	Biodiversity Offset Framework and Choice of Offset Site	Not new issue but important to reopen discussions on potential offset site beyond watershed	<b>Recommendation</b> Advise MONRE and PONRE that need to review potential offset sites outside watershed	Very High
B24	Site visit: 3-10 May 2015	Watershed Management Plan	Not yet started but decisions already made on budget and resource allocations	<b>Recommendation</b> Initiate preparation asap, recruiting consultants and utilizing relevant inputs, including data from BIORAP and ISP	Very High
B25	Site visit: 3-10 May 2015	Watershed Management Action Plan	Action plan and activities agreed before Watershed Management Plan in place	<b>Recommendation</b> Prioritise activities in line with PONRE mandates and capacity	Very High
B26	Site visit: 3-10 May 2015	Potential Offset Site outside Watershed	Reopen discussion for offset site outside watershed but within XSB/BKY	<b>Recommendation</b> Likely not to be suitable offset site in watershed. In parallel to BIORAP surveys, prepare options paper for other potential and realistic offset sites within XSB/BKY	Very High
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>• Low - action recommended within 6 months</li> <li>• Medium - action recommended within 1-2 months</li> <li>• High - immediate action recommended</li> <li>• Very High – Highest priority for action</li> </ul>					

No.	Reference Document	Issue	Status	IAP comments and recommendations	Level of concern*
B27	Site visit: 3-10 May 2015	Biodiversity Offset Management Plan	<a href="#">Revised deadline for Offset management plan now extended to 1 May 2016.</a>	<b>Recommendation</b> Develop realistic time frame for plan depending on results from watershed surveys and review of other offset options	High
B28	Site visit: 3-10 May 2015	Budgets for Watershed Management and Biodiversity Offset	Modest budgets allocated but decisions <a href="#">and</a> allocations already being made before adequate plans in place	<b>Recommendations</b> <ul style="list-style-type: none"> <li>Funding to be allocated according to clear objectives and outcomes.</li> <li>Once plans developed, review need for supplemental funding</li> </ul>	High
B29	Site visit: 3-10 May 2015	Staffing for Watershed Management and Biodiversity team	Still vacant positions	<b>Recommendation</b> Fill team positions, with competent staff and work more closely with other EMO and SMO staff to avoid constant need to outsource activities to consultants	High
B30	Site visit: 3-10 May 2015	Financial flows and procurement issues	Serious delays on contracting essential activities e.g. BIORAP survey and BOAC due to procurement delays	<b>Recommendation</b> <a href="#">NNP1PC Finance Department</a> needs to work with EMO to facilitate contracts and speedy mobilization of activities.	Urgent
<p><b>* Level of Concern:</b></p> <ul style="list-style-type: none"> <li>Low - action recommended within 6 months</li> <li>Medium - action recommended within 1-2 months</li> <li>High - immediate action recommended</li> <li>Very High/Urgent – Highest priority for action</li> </ul>					

# Annex 1: Resettlement Issues

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## Background

The reservoir of the Nam Ngiep 1 hydropower project (NNP1) will inundate the houses and productive lands of five villages and impact an additional three villages and one hamlet as follows:

- Four villages in the Lower Section of the Reservoir (LR) in Xaysomboun Province (Zone 2LR);
- Three villages in the Upper Section of the Reservoir (UR) in Xaysomboun Province (Zone 2UR); and,
- One hamlet in the Construction Area in Bolikhamxay Province (Zone 3).

The number of project affected people (PAP) to be resettled from villages in Zone 2LR and Zone 3 is estimated at 2,953 from 417 households; consisting of 2,735 people from 384 households in Zone 2LR; and, 218 people from 33 households in Zone 3.

The resettlement site for the PAP is an area of approximately 2,393 ha called Houay Soup (Zone 5), defined in the Concession Agreement. The Houay Soup resettlement area is located on the right bank of the Nam Ngiep river under the administrative jurisdiction of Ban Hat Gniun, Bolikhan District, Bolikhamxay Province.

An as yet unspecified number of PAP in three villages in Thathom District, Xaysomboun Province will be required to undertake “internal relocation,” namely PAP from Ban Pou, Ban Hatsamkhone, and Ban Piengta (Zone 2UR). Most villagers’ houses would not be impacted and mostly agricultural production land will be impacted. The PAP in Zone 2UR are seeking the following: (i) compensation from the Developer to relocate impacted houses within the village; (ii) access to old agriculture lands that will remain above the reservoir inundation level; and, (iii) change and diversification of livelihood, from agriculture to other occupations. Discussions on resettlement, relocation, and compensation entitlements continue between PAP and NNP1PC. The assets survey is scheduled to be undertaken in Zone 2UR during the second and third quarters of 2015.

Resettlement is the responsibility of NNP1PC’s Environment and Social Department (ESD), specifically the Social Management Office (SMO). The ESD director is interacting with the Provincial Resettlement Management and Living Condition Restoration Committee (PRMLCRC), as well as resettlement management units (RMUs) established by the GOL in Xaysomboun and Bolikhamxay provinces, to prepare for and organize PAP resettlement and relocation in a manner that meets ADB safeguards and other international standards.

## Current Resettlement Issues and IAP Recommendations

**Issues of concern to the IAP at the Houay Soup resettlement area include the following:**<sup>1</sup>

1. **Issue:** Until recently, the size of the Houay Soup resettlement area was estimated at 6,108 ha, of which an estimated 420 ha was to be designated as suitable for lowland

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<sup>1</sup> The letters and numbers in parenthesis after each issue (e.g., R1) refer to the item number on the issues, requirements, and recommendations matrix in Part 2.

rice production. The GOL has now officially allocated only 1,745 ha of the Houay Soup area – with an additional 648 ha promised – for resettlement by PAP from Zones 2LR and 3. The remaining 3,715 ha is a national protection forest area (PFA). According to Decree 333/PMO, villagers will have access to the PFA to collect non-timber forest products (NTFPs) as well as for passive agriculture, forest development, and natural agriculture. In this context, PAP who choose to resettle at Houay Soup will be able to use PFA forestry resources within the framework of an integrated Natural Resources Management Plan being prepared by NNP1PC.

2. The IAP was informed in December 2014 that NNP1PC Technical Department had completed a draft revised land use plan for the Houay Soup resettlement area. Review of this plan by SMO and EMO should have been completed by May 2015, but it was not presented to the IAP. The IAP expects that the LTA and ADB also will review the revised plan. The IAP expects that NNP1PC's efforts to demonstrate the viability of land-based livelihoods at Houay Soup (Zone 5) will continue, including overnight visits for women, widows, young men and women, and vulnerable families to the demonstration center (Pilot Plan farm). **(Issue R1)**

**Recommendations:**

- The IAP recommends overnight visits for selected PAP from Zone 2LR to the Pilot Plan demonstration farm to show the livelihood restoration model.
  - The IAP recommends intensifying investments in soil improvement of land designated for rice production during the upcoming 2015 wet season.
3. **Issue:** PAP to be resettled from Zone 2LR and Zone 3 (Hatsaykham hamlet) are expected to have several hundred head of large livestock (cattle, buffalo) that will need to be resettled. Livestock will be under stress after resettlement and require grazing areas and supplies of forage and fodder as well as vaccinations upon arrival. Further, the reduced size of the Houay Soup resettlement area available for livelihood restoration will result in less land being available for livestock grazing. The IAP understands that NNP1PC has advised PAP that each family will be able to resettle a limited number of their livestock. **(Issue R2)**

**Recommendations:**

- The IAP recommends intensifying investments in soil improvement of livestock grazing areas including pasture development on suitable land beginning during the 2015 wet season.
  - The IAP recommends that NNP1PC establish fodder gardens in residential areas of the Houay Soup resettlement area that can be used as cut-and-carry fodder for resettled livestock immediately upon arrival.
4. **Issue:** The NNP1 Concession Agreement mentions specifically that NNP1PC is mandated to resettle PAP at the Houay Soup resettlement area. As noted above, the GOL has authorized 1,745 ha (of the original approximately 6,108 ha) of land for resettlement of NNP1 PAP, with an additional 648 ha promised. The IAP is eager to see the revised land use plan for the Houay Soup resettlement area that takes into consideration the mitigation measures from the revised IEE and measures for implementing the Integrated Natural Resources Management Plan. The Houay Soup resettlement village layout and design of PAP housing and community buildings need to be completed as soon as possible and reviewed by the ADB, LTA, RMU, and appropriate district officials.
  5. Approval of the final unit compensation rates continues to be delayed by the Provincial Resettlement Management and Living Condition Restoration Committee

(PRMLCRC). Subsequent to the IAP site visit in May 2015, the IAP learned the Bolikhamxay Provincial Governor issued, and to which the Xaysomboun Provincial Governor agreed, an instruction that the January 2014 Access Road Unit Compensation Rate to be used as an interim measure while unit rate negotiations with PAPs in 2LR are ongoing, so that work can proceed in the 230kV T/L and Zones 3 and 5. Therefore in the end there will only be one rate. Once PRLRC issues the final unit compensation rates, Bolikhamxay RMU and NNP1PC will calculate any differences between the 2014 road rates and the final PRLRC rates, and pay any difference to PAPs. PSOD Project Team is agreeing to this approach given that (i) the Bolikhamxay rates were acceptable to access roads PAPs, (ii) the rates although one year old are still considered high compared to other projects; (iii) these rates were issued when the Bolikhamxay Provincial Governor was the Chair of the PRLRC and therefore authorized by the PRLRC; and, (iv) NNP1PC commits to pay the difference and will not request the PAPs to return excess payments should the new unit rates be lower (which is unlikely). This result should benefit NNP1PC since most of the Developer's future work will be in Zones 3 and 5 (Bolikhamxay Province). Application of separate unit compensation rates allows NNP1PC to proceed with land development at Houay Soup. **(Issue R3)**

**Recommendations:**

- The IAP recommends that the revised land use plan for Houay Soup be approved **BEFORE** any access roads are constructed through Houay Soup for transmission lines or other development activities related to PAP resettlement and hydropower development.
  - The IAP recommends that NNP1PC should complete a draft of the revised land use plan as soon as possible for review by ADB and LTA. Special attention should be given to the village layout. Since almost all PAP to be resettled are ethnic Hmong, the village layout should be designed consistent with their cultural practices and traditions.
  - The IAP recommends that the Houay Soup resettlement village layout be prepared in consultation with PAP. Similarly, designs and blueprints for PAP housing and community buildings should be strictly in line with the CA.
6. **Issue:** Many PAP in Zone 2LR have stated repeatedly during consultations that they prefer not to resettle at the Houay Soup resettlement area, mainly due to poor quality of soils at the resettlement site. Xaysomboun provincial and Hom district officials and the RMU have stated to the IAP that they have no objection to self-resettlement as an option. As a result, many PAP plan to undertake self-resettlement. The CA mandates that NNP1PC either (i) resettle PAP from Zones 2LR and 3 at the Houay Soup resettlement area (Zone 5); or, (ii) pays compensation to PAP who choose to self-resettle. The IAP sees self-resettlement as a matter to be worked out between community leaders and appropriate GOL officials. **(Issue R4)**

**Recommendations:**

- The IAP recommends that NNP1PC make clear to all stakeholders that NNP1PC is responsible only for (i) resettlement to Houay Soup; or, (ii) paying cash for self-resettlement.
- The IAP recommends that NNP1PC should conduct a "Choice Survey" of PAP in Zone 2LR when unit compensation rates are approved by the chairman of the Provincial Resettlement Management and Living Condition Restoration Committee (PRMLCRC). The Choice Survey should take place after consultations with PAP wherein NNP1PC social staff should provide PAP with a comparison between cash compensation and a resettlement package for Houay Soup. This will allow PAP to choose self-resettlement or resettlement to Houay

Soup. The verbal presentation should be made in both the Lao and Hmong languages.

- The chairman of the PRMLCRC should approve unit compensation rates for PAP in the project area as soon as possible, but only following consultations with PAP in Zones 2LR and 2UR.

7. **Issue:** Beginning with the first visit of the IAP in January 2013, the IAP was concerned that PAP at Ban Hatsaykham hamlet would be impacted negatively by construction of the dam access road and Head Contractor's camp near the hamlet. In fact, a large number of construction workers live in construction camps. Several incidents have occurred that have impacted negatively on people at Hatsaykham. In response, NNP1PC and district officials have collaborated well to address community health and safety issues including enforcing the corporate code of conduct on all construction workers; enforcing commercial registration and tax collection regulations; conducting a social management action program among PAP with a focus on women and youth; conducting awareness sessions for sex workers among the camp followers; and, establishing a police sub-station in Zone 3 to ensure effective law enforcement. **(Issue R5)**

**Required:** The IAP repeats its requirement that NNP1PC prepares a site-specific environmental and social action plan (E&S Action Plan or resettlement action plan -- RAP) for resettlement of PAP from Ban Hatsaykham, prior to resettlement. This Action Plan should be reviewed by the ADB and the LTA. The E&S Action Plan is needed to promote engagement with affected communities on potentially negative issues and to implement social and environmental mitigation measures; and, to ensure that relevant environmental information and social entitlements are disseminated to PAP in a timely manner, consistent with IFC Performance Standard 1.

**Recommendations:**

- The IAP requires that NNP1PC makes every effort --- and records every effort --- to ensure the social protection of PAP at Ban Hatsaykham hamlet until resettlement of the PAP has been achieved.
  - The IAP recommends that NNP1PC pay compensation to Ban Hatsaykham PAP immediately for extra or additional land used along the recently constructed Dam Access Road, for which compensation has not yet been paid.
  - The IAP recommends that the livelihood team working in Zones 3 and 5 be strengthened, specifically: (i) hire two additional technicians already listed on the SMO organization chart: one off-farm income technician and one marketing technician. This staff should be shared with the livelihood program in Zone 2UR. Also, NNP1PC should hire both Lao and Hmong speaking university students as summer interns to assist with livelihood development activities.
8. **Issue:** Similar to commercial development around construction sites and contractors' camps at other hydropower projects in Lao PDR, the IAP initially observed an expansion of restaurants and bars along the dam access road at Ban Hat Gniun and near Ban Hatsaykham hamlet. Although initially incidents occurred in both villages, NNP1PC staff and district officials have made significant progress to minimize impacts from commercial development by camp-followers. NNP1PC adopted a code of conduct for all employees and the employees of contractors and sub-contractors, which includes a policy of zero tolerance of depraved social behavior. As a result, villagers interviewed by the IAP during the May 2015 site visit report that illicit behavior is better controlled. Contributions to a significantly improved situation include: NNP1PC's SMAP activities; strengthening and dedication of the SMO; and,

strong enforcement of the rule of law by district officials, including operations of a police sub-station at Ban Hat Gniun, have.

The IAP is very pleased with the improvement in the community health and safety due to the efforts of NNP1PC's SMO staff led by professionals with experience from other hydropower and mining projects in Lao PDR. Their efforts to implement the SMAP and implementation of measures to minimize the impacts of camp followers are consistent with GOL social policies, the NNP1PC code of conduct, and with IFC performance standards. **(Issue R6)**

**Recommendations:**

- The IAP recommends NNP1PC continue to give strong support to the efforts of SMO staff implementing activities related to community health and safety. Like the livelihood development people working in Zone 3, they are making a major contribution to improving the public image of NNP1PC.
- The IAP recommends that NNP1PC and police assigned to the sub-station at Ban Hat Gniun have regular meetings to review unethical and immoral social behavior by all Lao and foreign employees and construction workers and to discuss and implement plans for providing social protection for PAP and for improving community and worker health and safety.
- The IAP recommends that small upgrades be undertaken at the police sub-station in Ban Hat Gniun to ensure high morale and efficiency of police services.

**Issues of concern to the IAP in the 2UR villages in Thathom District, Xaysomboun Province include the following:**

1. **Issue:** An estimated 170 households in Ban Pou, Ban Hatsamkhone, and Ban Piengta villages located in Zone 2UR will be impacted by the project. PAP have decided to either (i) undertake internal relocation; or, (ii) change their livelihood with support from NNP1PC SMO livelihood development staff. About 20 households are expected to lose all of their land as a result of reservoir inundation. The IAP understands that there is no land available for relocation thus making cash compensation for self-relocation or a change of livelihood necessary. **(Issue R7)**
2. The principal issues brought to the attention of the IAP during consultations with numerous PAP at Zone 2UR during the site visit in May 2015 include the following:
  - **Development of village water supply:** Each village has a limited water supply that does not meet minimum GOL standards or the United Nations Millennium Development Goals (MDGs).
  - **Demarcation of full supply level of Nam Ngiep reservoir:** The last demarcation of the full-supply level of the reservoir in the 2UR villages was in 2007. Many markers have disappeared or have been removed. Design changes in the dam since 2007 also may affect the full-supply level.
  - **Asset registration:** PAP asset registration survey is expected during the period June to November 2015.
  - **Sustainable alternative livelihood development:** PAP specifically requested that NNP1PC livelihood staff conduct Individual household consultations on new livelihoods options as soon as possible.

**Recommendations:**

- The IAP recommends that NNP1PC develop, implement, and support a community-based rural water supply program with each impacted village. This is the highest priority of each village, expressed during the consultations.

Assistance should be sought from Nam Papa Lao, who are experienced in this field.

- The IAP recommends that the NNP1PC Technical Department immediately undertake a survey to demarcate the full-supply level of the Nam Ngiep 1 reservoir in Zone 2UR so that PAP understand how the reservoir will impact their homes, agricultural lands, and livelihoods.
- The IAP recommends that a mini-RAP (relocation action plan that includes a livelihood restoration plan) be formulated in a participatory matter with PAP and district and *kum baan* officials in Zone 2UR. *The type and level of support NNP1PC will provide for livelihood development should be clarified by SMO before consultations are undertaken.* The RAP should show clear linkages to markets for agricultural products being promoted and also include marketing considerations consistent with the draft 8<sup>th</sup> Social and Economic Development Plan (8<sup>th</sup> NSEDP) and the Agricultural Development Strategy to 2025; and include organic and clean agricultural development, Good Agricultural Practices (GAP), post-harvest technologies, and family- and community-based value added processing. The RAP should (i) address how reservoir drawdown zones will be managed by communities; and, (ii) provide an institutional framework and action plan for community-based reservoir fisheries management.
- The IAP recommends strengthening of the 2UR livelihood team, which should share the off-farm income technician and marketing technician recruited to work in Zone 3 and Zone 5.

**Organizational and institutional issues of concern to the IAP include the following:**

1. **Issues:** The IAP is pleased to note that NNP1PC SMO staff is making progress in implementing the detailed pre-resettlement plans developed by the previous senior social manager. The IAP remains concerned about the following organizational issues related to resettlement activities (**Issue R8**):
  - Continuous delays in resettlement of the PAPs from Hatsaykham hamlet.
  - Failure to revise the IEE for Houay Soup after six months (since the last site visit in December 2014)
  - Failure of officials to finalize and approve unit compensation rates for PAP assets in Zones 2LR and 2UR.
  - Lack of an integrated (TD+SMO+EMO) 2015 Annual Implementation Plan.

**Recommendations:**

- The IAP recommends that the NNP1PC ESD Director maintains a strong, constructive, and collaborative relationship with the Xaysomboun RMU and with district officials at Hom District. Establishment of offices at Anouvong and Hom districts should improve coordination between NNP1PC and the RMU and district officials as well as with the chairman of the PRMLCRC.
  - The IAP recommends that NNP1PC make plans now to prepare a 2016 AIP that demonstrates the comprehensive integration of TD, SMO, and EMO activities.
2. **Issue:** The IAP is concerned about the resignation of additional experienced professional international staff from NNP1PC due to management issues, work environment, and intra-company integration issues. The IAP expects that SMO's loss of several wise and experienced international staff in May and June 2015 will result in reduced efficiency and effectiveness of preparations for resettlement. These losses therefore are significant to SMO operations. The IAP understands that NNP1PC is obligated to maintain staff levels that were presented to the ADB just prior to financial close in late 2014. The IAP predicts that these significant losses of professional SMO staff will reduce the capacity of NNP1PC to meet ADB social safeguard standards,

IFC performance standards, and compromises NNP1PC's ability to implement a resettlement program that is consistent with the Equator Principles. **(Issue R9)**

3. The IAP fully expects that NNP1PC to implement social, economic, livelihood, and environmental mitigation measures and to meet obligations according to international standards, best-practices at other hydropower projects in Lao PDR, and commitments made to the Government of Lao PDR under the Concession Agreement; ADB under the Facility Agreement (August 2014); and, to shareholders. The persistent pressure on SMO staff by other divisions and departments of NNP1PC is cause for concern by the IAP and should be addressed immediately by senior NNP1PC management.

**Recommendations:**

- The IAP recommends that NNP1PC engage a management consultant to facilitate internal company operations; focusing on relations among professional staff that include many nationalities and cultures and that is ethnically diverse.
- The IAP recommends that NNP1PC engage a financial management consultant to examine and recommend measures to address flow of funds issues that continue constrain the implementation of field activities.
- The IAP recommends that the organization chart and terms of reference for environment and social management staff submitted to ADB to achieve financial close be used to operate NNP1PC programs for at least 18-24 months before any significant modifications are made. This organization chart demonstrates NNP1PC professional capacity to meet legal commitments to the ADB.

# Resettlement and Social Photos



PAP in Zone 2LR during consultations with the IAP, ADB, LTA, and NNP1PC staff during the IAP site visit in May 2015



New buildings continue to be in Ban [Sopyouak](#), Zone 2LR even after PAP have been informed of the official cut-off-date and asset surveys have been completed



Erosion at the bridge on the Dam Access Road at Ban [Thaheua](#), Zone 3



Safety signs in Ban [Hat Gniun](#), Zone 3



The NNP1PC livelihood development program (catfish raising) has had a significant impact on livelihood of PAP in Ban [Thaheua](#), Zone 3



IAP in consultation with PAP in Ban [Hatsamkhone](#), Thathom District, Xaysomboun Province, Zone 2UR

# Annex 2: Social Issues & Indigenous Peoples' Issues

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## Summary of Social Specialists Inputs

### Introduction

1. This is a progress report of the 5th site visit to the Nam Ngiep 1 Power Company (NNP1PC). The site visit took place during 3-10 May 2015. Again, as the IAP Expert on Indigenous People (IP), The IAPI visited four directly affected villages (three villages in Zone 2LR: Ban Sopyouak, Ban Sopphouan, and Ban Houaypamom in Hom District, Xaysomboun Province; and, Ban Hatsaykham of Zone 3 in Bolikhan District, Bolikhamxay Province). The IAP met approximately 110 directly affected villagers in both formal meetings and informal meetings.
2. The IAP also visited four indirectly affected villages (Ban Thahuea in Zone 3 in Bolikhan District, Bolikhamxay Province; and, three villages in Zone 2 UR; Ban Pou, Ban Phiengta, and Ban Hatsamkhone, Thathom District, Xaysomboun Province). The IAP met approximately 140 indirectly affected villagers in both formal meetings and informal meetings.
3. The IAP had four formal meetings with higher levels of the GOL, as follows:
  - May 5, 2015: Formal meeting with the Vice Governor of the Hom District, Head of the Lao Front for National Construction of Hom District, and Secretary of Hom District, Xaysomboun Province.
  - May 6, 2015: Formal meeting with the Vice Governor of the Xaysomboun Province; including the Head of the RMU of Xaysomboun Province and Head of the Lao Front for National Construction of Xaysomboun Province, and PONRE Director of Xaysomboun Province.
  - May 7, 2015: Formal meeting with the Vice Governor of the Thathom District, Head of the Thathom District Women's Group, Xaysomboun Province.
  - On May 8, 2015: Formal meeting with the Vice President of the Lao Front for National Construction and his staff, in Vientiane Capital.
4. **5th site visit:** The IAP had formal meetings and individual discussions with PAP in each village as well as formal meetings with the GOL. The IAP Social and IP Specialist seriously interviewed numerous PAP and observed many cultural and social aspects of critical issues of the PAP. The schedule of meetings with PAP and the GOL follows:
  - 3 May 2015:
    - Arrive Vientiane, Lao PDR; pre-meeting with IAP and preparing for NNP1PC debriefing meeting and site visit
  - 4 May 2015:
    - Formal debriefing meeting with NNP1PC Director and staff at NNP1PC Head Office in Vientiane Capital
  - 5 May 2015 :
    - A formal meeting with the Vice Governor of the Hom District, Head of the Lao Front for National Construction of Hom District, and Secretary of the Hom District, Xaysomboun Province
    - A formal meeting with 3 directly affected villages in Zone 2LR: Ban Sopyouak, Ban Sopphouan, and Ban Houaypamom in Hom District, Xaysomboun

Province. Met Hmong headmen and elders both men and women (approximately 110 persons).

- 6 May 2015:
  - Formal meeting with the Vice Governor of the Xaysomboun Province; including Head of the RMU of Xaysomboun Province and Head of the Lao Front for National Construction of Xaysomboun Province, and PONRE Director of Xaysomboun Province.
- 7 May 2015:
  - Had three formal village meetings in Zone 2 UR; Ban Pou, Ban Phiengta, and Ban Hatsamkhone in Thathom District, Xaysomboune Province; met approximately 140 indirectly affected villagers.
- 8 May 2015 :
  - Informal meeting with the direct affected village in Zone 3(Ban Hatxaykham) and an indirect affected of Zone 3 in Ban Thahuea, Bolikhan District, Bolikhamxay Province.
  - Formal meeting with the Vice President of the Lao Front for National Construction and his staff, in Vientiane Capital.
- 9 May 2015:
  - Formal meeting with NNP1 PC for presentation of facts and discussions.
- 10 May 2015:
  - Working on NNP1PC documents and returning to Bangkok, Thailand

The work of the IAP Social and IP Specialist included interpretation from Hmong to English and English to Hmong for the Social Team from ADB, Manila, Philippines (Miss Jocelyn Erlinda S. Munsayac, Senior Safeguards Specialist)

5. **Summary of IP and Social Issues:** The highest priorities as expressed by officials and PAP include the following: fixing of unit compensation rates; payment of compensation for lost assets; official cut-off-date; quality of the resettlement site at Houay Soup; sites available for self-resettlement; food security; Hmong graves; livelihood programs; community participation; drug abuse; and, cooperation between NNP1PC Staff and GOL officials; among other issues.
6. **Requirements and my Recommendations:** The IAP Social and IP Specialist has provided recommendations and comments on the summary matrix included in Part 2 of this report.
7. **Next visit:** The Sixth site visit of the IAP is scheduled for 6-13 December 2015. During the next site visit the IAP Social and IP Specialist would like to meet the following people:
  - Governor of Hom District
  - RMU and Governor of Xaysomboun Province
  - Governor of Bolikhan District
  - RMU and the Governor of Bolikhamxay Province
  - PAP in 7 villages (4 villages in Zone 2LR: Ban Namyouak, Ban Soupyouak, Ban Soppouan, and Ban Houaypamom; and, 3 villages in Zone 3(Ban Hatxaykham, Ban Hat Ngiun, and Ban Thahuea)
  - Visit the Houay Soup resettlement area

# Annex 3: Environmental Issues

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**Organizational, institutional and mitigation environmental issues of concern to the IAP include the following:**

1. **Issue: The Developer is expected to contribute to capacity building of MONRE and to financially assist in establishing an Environmental Management Unit (EMU)**, which will be staffed by provincial and district officials from project affected areas. The role of the EMU is to monitor implementation of the EMP and to report on its adequacy and effectiveness to MONRE and the Developer. The EMU monitoring reports would include findings, deviations (if any) from the EMP and the Concession Agreement (CA) commitments, and villager concerns and grievances. The EMU includes representatives from the Departments of Land Planning, Forest Resource Management, and Water Resources Management. Thus, PONRE and DONRE staff assigned to serve on the EMU will be reporting on related environmental issues as part of their compliance monitoring duties.

The IAP met with the EMU representatives of Bolikhamxay Province (Mr. Samleuang Vongsolaseune, Deputy Director, Department of Natural Resources and Environment, PONRE, Mr. Outhorn Singhadoungbanya, Head of Environmental Management Division, and Mr. Thayvanh Saythummy, Head EMU, Bolikhamxay Province)<sup>2</sup>. The EMU stated that they have received all Quarterly Monitoring Reports from NNP1, but have not started compliance monitoring because no budget payment has been received.

NNP1 stated that the first payment for capacity building as per the CA budget was made to MONRE in mid-February 2015. However, no distribution to PONRE or DONRE has been received from MONRE. The EMU asked NNP1 to please contact MONRE and inquire when funds would be distributed to the EMU. Mr. Samleuang stated that NNP1 is a priority project for the Lao government. PONRE and DONRE would like to join with the EMO and participate in joint monthly monitoring of the contractors and construction activities. The EMO responded positively and invited the EMU to join with the IAP, LTA, and EMO in inspecting all construction sites and camp facilities on Thursday, May 7, as a first joint compliance monitoring activity.

The EMU reported that they did receive some capacity building training in compliance monitoring from MONRE in February 2015. Three EMU members attended an 8 day workshop (5 days in Vientiane and 3 days in the field) covering both environmental and social monitoring of hydropower projects based on “lessons learned” from the Nam Theun 2 and Theun-Hinboun hydropower projects (organized by the EMSP, MONRE, with financial support from the Ministry of Foreign Affairs, Embassy of Finland).

The IAP also met with the newly established EMU of Xaysomboun Province (Agreement of Xaysomboun Province Governor on the Assignment of the Responsibility of the Committee of Environmental Management Unit of NNP1 Project, No. 473/XSB P, Xaysomboun, dated April 28<sup>th</sup> 2015). The Meeting was attended by Mr. Sengmoua Thophienglouang, Director of PONRE (Steering person) and Mr. Phongsavath Vanglaopsoiveu, Chief of Natural Resources and Environment Section (Chief of EMU Site Office). The EMU in Xaysomboun is waiting for information from MONRE about a

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<sup>2</sup> The EMU consists of 4 persons from PONRE plus 3 in the “field” (DONRE assigned persons) in Boulikhamxay Province. As noted in Annex C Social and Environmental Commitments of the CA, the EMU is required to monitor all environmental aspects of project development and operation except resettlement. Monitoring of the environmental situation is to ensure that the company complies with the Lao laws.

strategy plan or action plan for the newly established EMU. They have received the MONRE Agreement on the organization and activities of the Environmental Management Unit (EMU) of NNP1 Project, No. 4537/MONRE, Vientiane Capital, dated 15/07/2013. But the EMU in Xaysomboun has not received a notice of payment of funds for capacity building in 2015 from NNP1 to MONRE nor have any funds been transferred from MONRE to the Xaysomboun EMU for the NNP1 Project. The EMU stated that they did not have a copy of Annex C of the CA nor the ESMMP-CP (in the Lao language) for the NNP1 Project. Copies were handed out by the EMO to the EMU Chief. The EMU stated that they have not received copies of the NNP1 monitoring reports (the EMO confirmed that NNP1 monitoring reports have not been sent to the Xaysomboun PONRE because construction works have not started in the province and thus the monitoring reports have been concerned only with project activities in Bolikhamxay Province).

Lastly, the Xaysomboun EMU reported that they were not invited to the MONRE capacity building workshop in February 2015 dealing with compliance monitoring training for the EMU based on “lessons learned” from the Nam Theun 2 and Theun-Hinboun hydropower projects. Unfortunately, the EMU for the NNP1 Project was not yet assigned by the Xaysomboun Province at the time of the workshop.

**Recommendations:** The IAP recommends that the Company, as part of its capacity building efforts, convenes a workshop combining the EMUs of both provinces and MONRE to review the duties of the EMU for the Nam Ngiep watershed. MONRE should be invited as Workshop organizer again to review “lessons learned” from Nam Theun 2 and the Theun-Hinboun hydropower projects, and include the expanded mandate of MONRE to oversee *integrated environmental conservation interests* of water, forest, and biodiversity protection at the regional (PONRE) and district (DONRE) levels. The workshop would be an appropriate time to discuss how best to make use of NNP1 funds to be contributed as per CA commitments (versus recent EMU and MONRE budget requests), how to monitor impacts on water and forest resources from other hydropower project developments, and how best to make use of future monitoring reports to inform project-affected-persons of monitoring results. These activities would be of interest to a future Nam Ngiep River Basin Committee comprising representatives of private and public sector development projects in the Nam Ngiep river basin.

At the proposed meeting, the IAP recommends that NNP1 includes *compliance monitoring training* of the EMUs by illustrating actual “environmental issues” found at the contractor camps or construction sites of NNP1, how the Inspection and Compliance Monitoring Report is developed, discussed and approved with the Contractor and a date agreed upon for corrective actions to correct the environmental issue so that a “non-compliance” is not issued by the Company. The EMO then returns to inspect the environmental issue with the Contractor on the date committed by the Contractor to complete the correction. The EMO would then invite the EMU to join with them during the inspection and compliance monitoring missions. As part of the capacity building training, the EMO should take time to review environmental issues of concern during the construction phase and what “best practices” say about mitigating these same issues. Then take the EMU representatives to the field visits to witness and gain hands-on experience in auditing these same environmental issues at the construction sites and camps. The site visits should of course be led by appropriate EMO representatives. The NNP1 monitoring reports (covering environmental monitoring and adequacy of contractor mitigation measures to minimize or control pollution, etc.) would illustrate to the EMU that all contractors are complying with Lao environmental standards and CA requirements. In the event that the EMU finds non-compliances to commitments, they are responsible to hold a meeting in the province to consider and solve the problem among stakeholders. Feedback from the EMU should then go to NNP1 for their response and clarification of what actions the Company will take to correct the non-compliance.

In summary, such assistance to the training of the EMUs will benefit both PONREs and serve to build confidence in the communities of their benefits from the project and the establishment of a workable grievance mechanism to solve potential environmental problems.

## **2. Issue: Waste management in project impacted communities and future resettlement villages**

The EMU discussed with the IAP the problem of solid waste collection and management in impacted communities affected during the construction period and in outside areas, where both local residents and outsiders were investing in new buildings of shops, restaurants, bars, and service centers. Expansion of service facilities has resulted in generation of large amounts of solid wastes of all kinds and wastes are accumulating along the roadsides of these expanding communities. The EMU requested technical and financial support for a landfill in the Thaheua, Hat Gniun and Hatsaykham (Zone 3) area to establish a waste disposal system for these villages. The EMO has provided some technical assistance by organizing a workshop in waste management in late February 2015.

The EMO is developing a project wide solid wastes separation and recycle system. A report presenting options for the project waste disposal was developed by NNP1-EMO and submitted to CWC in February 2015. An inventory of all types of construction and camp wastes generated and being sold (including hazardous wastes) is also being kept by EMO. These data will be important for decision making on the future waste management system for the project.

**Recommendations:** The EMO should continue to assist the EMU to work with the Heads of each village and to set up a Committee in each village to reach agreement on how best to manage a collection and separation system. The Company (NNP1) should continue to provide technical assistance for developing a management plan with the Committees, then the [company should provide adequate transportation for trucking this waste to the municipal waste disposal site earmarked for these villages as an incentive to encourage improved attention to waste management and recycling, and work with the village Committees collecting and transporting waste so that the living conditions in the villages are not adversely impacted due to increase in MSW resulting from the project.](#) This is a worthy environmental project for these project impacted communities and the lessons learned by both the EMU and the EMO can be carried over into the new resettlement villages of NNP1 in the future.

## **3. Issue: Health Care and Safeguards**

Considering the large work force of the CWC and sub-contractors, it appears essential to implement at site a proper health clinic. This is especially important given the limited medical facilities available at Paksan, the distance and time needed to reach Paksan (or Vientiane in the case of a severe injury). The situation for NNP1 dictates that a well-equipped and adequately staffed health clinic should be established at the main camp site.

**Recommendations:** NNP1 should assist the CWC to establish a proper health clinic at the main camp, adequately equipped and staffed, and available for all workers, to be able to treat injuries and manage more serious cases until they can be transported by a standby ambulance to a suitable hospital with appropriate medical facilities. The time needed to reach Paksan or Vientiane in the case of a severe injury dictates that a well-equipped and adequately staffed health clinic be established at the main camp site. The

health clinic can be made available to local villagers also during the interim period before the Houay Soup health clinic is established.

According to IFC Environment, Health, and Safety Guidelines (2007), the Company (NNP1PC or as contracted with the CWC) should ensure that first aid attendants are available for the facility as well as medical equipment suitable for the personnel, type of operation, and the degree of treatment likely to be required prior to transportation to hospital.

NNP1PC should ensure that qualified first-aid can be provided at all times. CWC should ensure that appropriately equipped first-aid stations are easily accessible throughout the project construction sites. These first-aid stations include:

- Eye-wash stations and/or emergency showers should be provided close to all workstations where immediate flushing with water is the recommended first-aid response
- Where the scale of work or the type of activity being carried out so requires, dedicated and appropriately equipped first aid room(s) should be provided. First aid stations and rooms should be equipped with gloves, gowns, and masks for protection against direct contact with blood and other body fluids; and
- Remote sites should have written emergency procedures in place for dealing with cases of trauma or serious illness up to the point at which patient care can be transferred to an appropriate medical facility.

#### **4. Issue: NNP1PC Management of Environmental Issues**

The IAP site visit allowed for numerous observations of cooperation and technical support from Management and the Technical Department to the EMO. But also there were instances of friction and misunderstanding that would benefit from improved communications and support among the various Departments.

##### **Recommendations:**

- 1) NNP1PC should improve communications and information sharing between the Technical Division and the EMO, including development and implementation of joint planning and monitoring of issues of common concern, including overseeing the Contractor and Sub-contractors environmental impacts from construction and the Contractors' proposed plans to correct or improve needed control or management systems.
- 2) The Technical Department should provide environmental engineering support for pollution control systems required of the Contractor and Sub-contractors. The EMO does not have this expertise and needs consulting engineers with considerable environmental engineering design experience to assist them. This includes the need to collect composite waste generation information (i.e. BOD load) from each sub-contractor camp in order to design each wastewater treatment system correctly. Current monitoring of effluent samples and analysis are insufficient to provide organic load criteria needed for design information.
- 3) At this stage it is very important to improve the design and construction of the wastewater treatment plants at all the contractor and sub-contractor camps by providing experienced environmental engineering design support. The Company should locate and hire a short term Consultant to handle these activities, assign one of its Technical Department staff to work closely with the Consultant so that he/she can follow up in the future, provide more frequent monitoring support for the management of the wastewater systems and include composite monitoring to understand the organic loads being discharged from each camp to the system.

- 4) Likewise an experienced design engineer is needed to clarify and verify the landfill design and its operation needs for the combined management of all project solid wastes (construction wastes, camp wastes, and hazardous wastes from work sites and repair facilities). NNP1PC should then make suitable arrangements for management, separation, storage, sale of recyclable wastes, and separate handling of hazardous wastes.
  - 5) The monitoring activities of the EMO should be more frequent (this includes sampling and analysis of wastewater effluents), problem oriented, reactive and must adapt monitoring timing and locations to the changing characteristics of the construction process. Managers need to be more active in the field, meet with Contractor and Sub-contractor Environmental Managers and staff and explain what is missing, what is not working, and what is needed for improvements. The Compliance and Monitoring staff need technical references to clarify to Sub-contractors their needed pollution control systems or required “best practices” solutions.
  - 6) Follow up of non-compliances with the contractors appears to be too slow. Time laps are too long between notification of an environmental issue and correction by the Contractor. More cooperation for the EMO is needed by the Technical Department. The Contractors need to be reminded that implementation of environmental mitigation measures is an integral part of the construction program and its measurement of progress (and approval of payments).
  - 7) NNP1PC must stress the need for Obayashi to strengthen its E&S organization on site. The Contractor is non-compliant to the CA and ADB SPS. The Contractors Environmental Manager must regularly check the subcontractors’ performance on environmental aspects, particularly wastewater treatment and waste management (both construction and hazardous wastes).
    - (i) Obayashi Corporation be required to officially hire an Environmental Manager and designate a full time person for this position.
    - (ii) The Environmental Unit of Obayashi should have a team of permanent inspectors to oversee their construction camps and sites and those of all the subcontractors as called for in the ESMMP-CP.
5. **Issue: The EMO needs to build and operate its own Environmental laboratory** to monitor and enforce contract commitments. This is a repeat of the same issue from the IAP Site Report #4. The staff of EMO are competent, well trained and able to carry out environmental monitoring work and do most environmental analyses on their own, including key water, wastewater, and other waste parameters (air quality, noise, vibration, and even future Greenhouse Gas monitoring requirements). There are currently four staff trained and well qualified. Analytical testing of parameters by the EMO staff would then reduce the need for samples to be sent to UAE, Bangkok, for analysis, and the Lab could better support the Contractor’s (subcontractors’) work with on-site monitoring of ambient environmental conditions, thus overseeing daily supervision work. Parameters that are currently measured by NNP1 Environmental Team include temperature, dissolved oxygen, pH, conductivity, turbidity, and Total Dissolved solids. Additional parameters that should be measured by the “future” laboratory include total suspended solids, BOD, and bacteria (total coliform, Ecoli, and Fecal coliform). All three bacteria parameters should be included as the Lao drinking water standards reference all three parameters. EMO staff are capable of doing environmental testing and analysis of these parameters, but these staff are only collecting and preserving samples for analysis by outside labs at this time. The equipment for dust (particulates PM10), noise and vibration monitoring will hopefully be fully operational soon.

**Recommendation:** The IAP recommends that NNP1 should build and operate its own environmental laboratory at the EMO Offices, Paksan. In-house analysis benefits the company in two ways: one, for supervising the contractors to ensure that they are

meeting their contract requirements, and two, saves money (payback in a few months to a few years to recover capital costs vs. paying for these analyses by outside laboratories).

In summary, the IAP also met with key EMO staff of the three divisions: (1) watershed biodiversity team, (2) compliance and environment team (environmental monitoring and compliance staff overseeing contractors), and (3) database and control staff, and reviewed several proposed plans (e.g., the sanitary landfill, biomass removal plan, water quality monitoring, auditing of contractor camps and work sites, solid wastes management in the villages, recycle opportunities for the sanitary landfill, etc.). The IAP believes that the EMO is competent and that the combined Lao and Thai staffs are experienced and capable of carrying out all their responsibilities in a professional manner that meets international "best practices". Again it is stressed that a Professional Environmental Engineer be consulted for the design of both the wastewater treatment plants and names of recommended suppliers of package wastewater treatment plants in the region that include backup training and maintenance services.

# Environmental Photos



Above: Location of sanitary landfill for the NNP1 project to be operated by the Main Contractor (Obayashi Corp.). Picture shows one “temporary pit” partially filled with construction and camp wastes and covered with a soil layer. These wastes were not separated for recovering recyclable materials. The temporary pits need to be emptied into properly designed and constructed landfill pits, which are double lined with compacted clay and covered with an impervious liner. A leachate collection system needs to be installed and connected to a series of leachate evaporation ponds. The NNP1 Landfill Site should also include a temporary storage facility for separation and storage of recyclable materials, and toxic and hazardous wastes. Obayashi Corp. will manage the site for the entire construction period.



Photo shows improper storage facility for hazardous materials and wastes. Oil drums are exposed to outside weather conditions, no roof covering, drain and runoff area not banded, and connection to an oil/water separator is without a control valve. This is one of several locations where sub-contractors are not following standard environmental protection practices.

Photo shows the improperly designed and operated oil/grease separator. There is no control valve at the intake. Oil is both drained and washed into the oil separator from an open oil storage area. This area needs the protection bunding and covered roof. Sub-contractor is aware that this facility does not meet environmental safeguard standards.



Photo shows package treatment unit for treating sediment wastewaters from tunnel excavation works. Unit is operated to remove suspended solids from tunnel wastewaters and produces both an acceptable effluent and a pressure filter sludge cake for easy disposal. However, the capacity of the package treatment unit is inadequate to handle the large wastewater discharge from the tunnel. Without a holding pond to equalize the flow to the package treatment unit, a large portion of the tunnel excavation wastewaters is bypassed to the Nam Ngiep river without treatment! This is unacceptable. The package treatment unit needs to be relocated to a lower area where more open land is available to permit construction of a large equalization pond to hold the tunnel excavation wastewaters and permit feeding of wastewaters to the treatment unit over a 24 hour period.

# Annex 4: Biodiversity Issues

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## **Biodiversity Issues: Fifth IAP visit to NNP1 3-10 May 2015**

This report is based on visits by the Biodiversity expert and other IAP members to the Nam Ngiep watershed, discussions with the Project Developer, the NNP1 EMO Biodiversity and Watershed teams, ADB Environment team (ADB), Lenders Technical Advisory (LTA) team, Environmental Protection Fund, and Department of Forest Resources Management of MONRE and provincial PONREs.

It is worrying that several of the major recommendations from the 4<sup>th</sup> IAP visit in December 2014 and earlier visits are still outstanding – see issues table. Further delays in starting implementation of the biodiversity assessment in the watershed and ongoing uncertainty and confusion about potential sites for a biodiversity offset are particular concerns. It is helpful that ADB has recognised these constraints and appointed two consultants to work with the NNP1 Company on biodiversity issues and watershed management planning.

### **Summary**

Since the last IAP visit in December 2014 there has been some limited progress on key issues. The project has now purchased satellite imagery for the whole NNP1 watershed, including the Houay Soup area. The Company has been granted 1750 ha of land at Houay Soup with ongoing discussions for release of a further 648 ha of protection forest for resettlement. Unfortunately the wildlife survey has not yet started even though this activity is essential for a proper assessment of the biodiversity values remaining within the NNP1 watershed. Nevertheless the project has developed an updated Biodiversity Offset Framework, (agreed by MONRE and ADB in March 2015). The framework now covers both biodiversity offset and watershed management, including provincial institutional and fund flow arrangements. NNP1 has also worked with MONRE (DFRM) and the provincial PONREs to develop a Watershed Management Action Plan, with agreed activities and budgets and is already supplying vehicles, equipment and other resources to provincial PONREs. This latter activity seems premature before development of an agreed watershed management plan.

These activities and decisions seem to have been initiated at least partly to meet deadlines in the Facility Agreement (FA) with ADB but are worrying since there still remain misunderstandings and confusion within MONRE, [provincial agencies](#), and [NNP1PC](#) on location of the offset site. This is compounded by earlier assertions (e.g., [original Biodiversity Offset Framework](#), [ERM](#) handover presentations) that the offset will be in the watershed, even though it may not be possible to find a viable offset site within the watershed.

**Issue:** The updated **Biodiversity Offset Framework**, approved by MONRE and ADB in March 2015, includes plans for both the biodiversity offset and the watershed management plan. It also includes arrangements for a Biodiversity Offset Management Committee chaired by the Provincial Vice-Governor and all offset funds will be channeled through PONRE. Given that the FA requires a decree from Xaysomboun (XSB) by June 2015 on the watershed and biodiversity offset, *the expectation within the province and even within the company is that the offset will be in the watershed within XSB*. This is a matter of serious concern since there is still no reliable biodiversity information for the watershed.

The biodiversity assessment in the watershed is long overdue and needs to be started immediately. More than 50% of the area is described as *Unstocked Forest* i.e. areas degraded by slash and burn agriculture, activities which are still ongoing in spite of government policies. The watershed also includes production forests and lands allocated for

mining exploration and other development options. Given these conflicting land uses, it is likely that it will be impossible to identify and establish a suitable offset within the watershed area. The FA conditions were subsequently amended (March 2015) to allow for consideration of alternative offset sites outside of the watershed if needed. This information needs to be relayed to the GoL and provincial agencies to avoid unrealistic expectations.

### **Recommendations:**

1. The Rapid Biodiversity Assessment should be started immediately, so that meaningful results can be available by August 2015. The team has been identified but delayed by procurement issues within NNP1C. The company needs to issue contracts and mobilize the survey team urgently.
2. NNP1C to advise MONRE (DFRM) and provincial PONREs (XSB and BKY) that the biodiversity survey will be used to inform the watershed management plan but that alternative sites outside the watershed also need to be considered for a realistic biodiversity offset.

### **Issue: Watershed Management**

NNP1 has put in place a competent watershed management and biodiversity team though some staff positions still need to be filled. The consultant for the watershed management plan has not yet been recruited and there is no Watershed Management Plan in place. Nevertheless a Watershed Management Action Plan was agreed between NNP1 and MONRE (DFRM), and the provincial PONREs in March 2015. This action plan is awaiting signature by the Vice Minister. Normally such an action plan would be agreed only *after* the overall watershed plan was in place but NNP1 has already made funding allocations and delivered vehicles, equipment and resources to national and provincial agencies in line with the action plan.

It is good that ADB has appointed a watershed management consultant, Matt Corbett, to work with the watershed management planning team and refine and simplify the action plan, in line with competencies and capacity within the provincial PONREs. NNP1C should recruit the watershed management consultant team and government consultant as soon as possible to develop the overall watershed management plan, including the Houay Soup and Houay Ngua protection forests. There are several important inputs to the watershed management planning process.

- The Integrated Spatial Plan (ISP) for the XSB province, including the watershed, being prepared through collaboration between XSB and DEQP (MONRE). Training will begin in late May with expected completion of the spatial plan by January, 2016.
- New satellite imagery obtained by NNP1C for whole catchment, including Houay Ngua and Houay Soup. The Company should share maps and information on forest cover with the PONREs and agencies working on the XSB ISP so that all agencies are working from same maps.
- Surveys on forest use and NTFP collection in the lower watershed and resettlement areas, collected by the EMO and SM) teams.
- The Biodiversity Assessment survey within the watershed to identify any areas of remaining biodiversity value, threats and appropriate management measures (results due August 2015)
- A consolidated, realistic and simplified watershed management action plan with activities prioritized in line with PONRE capacity within the two provinces.
- Most of the watershed management will be necessary mitigation activities targeted to the lower Nam Ngiep watershed (the project area) as defined in the ERM report

According to the Concession Agreement the Watershed Management Fund has an allocation of \$6.24m over 27years. NNP1C has already allocated \$1.6m for 2015 and

supplied vehicles and equipment to government agencies and the newly established Watershed Management Offices (WMO) within PONREs. The action plan suggests a total budget of \$1.2m for institution and capacity building; this may need review and justification if adequate funds are going to be available for field operations. Any further decisions on budget allocations and equipment should be linked to the final approved watershed management plan with activities prioritized against PONRE capacities, clear objectives and verifiable indicators. Project watershed management activities such as reforestation, habitat protection, sedimentation control in the lower watershed should also be aligned with the ISP for XSB.

Any activities in the protection forests of Houay Soup and Houay Ngua should be identified and supported under the integrated water shed management plan. Hoauy Ngua is already degraded and cannot be regarded as part of the biodiversity offset.

NNP1 has already been in contact with NNP2 with a joint meeting on climate change but there needs to be much greater contact and collaboration for cost-effective management of the watershed and riverine resources.

#### **Recommendations:**

1. Recruit the Watershed Management team as soon as possible, including the GoL consultant.
2. Minimize the number of sub-plans to ensure one integrated watershed management plan.
3. Ensure that inputs and data from the ISP XSB and watershed Biodiversity surveys are fully integrated into the watershed management plan.
4. PRIORITISE activities with clear roles and responsibilities. Identify key activities consistent with PONRE/WMO mandates and capacity e.g. monitoring illegal logging, protecting forest.

#### **Issue: Houay Soup and Houay Ngua Protection Forests**

Within the 6000 ha originally proposed for the Resettlement Site, 1750 ha has already been allocated for the resettlement site and the Department of Land Management has agreed in principle to allocation of a further 648 ha. The remaining area within the Houay Soup site will retain protection forest status and needs to be managed accordingly. Plans for land use, should be integrated with the Watershed Management Plan, be consistent with GoL regulations for protection forest and be decided through participatory discussions with the community. The EMO and SMO should work together to define appropriate activities within these protection forests, including sustainable forest management, NTFP collection and agroforestry.

For a time NNP1 provided financial support to PONRE for manned checkpoints on the dam access road and for regular patrols; this support seems to have stopped and checkpoints are now manned by forestry students. NNP1 should work with provincial authorities to increase protection and monitoring of all remaining watershed forests as well as the degraded Houay Ngua area.

#### **Recommendations:**

1. Activities to be implemented in the protection forests within Houay Soup and Houay Ngua should be designed and funded as part of the Watershed Management Plan
2. Continue support to PONRE BKY for check points and spot checks for vehicles and require contractors to implement a **zero tolerance** policy for illegal removal of logs, NTFPs, wildlife. (ongoing)

## Issue Selection of Biodiversity Offset

ADB safeguards require the project proponents to avoid loss of critical habitats and to mitigate the impacts of the development. *In addition to mitigation to minimize environmental impacts caused by construction and operational activities, NNP1 is required to establish a biodiversity offset to compensate for biodiversity losses attributable to the development.*

Residual loss cannot be estimated on a hectare by hectare basis of habitat lost. It is impossible to adequately compensate for project impacts on aquatic biodiversity since there are no pristine rivers elsewhere in Laos. Salvage logging, construction activities and biomass clearance are likely to lead to further sedimentation while biomass decomposition in the flooded reservoir will have further impacts on aquatic resources and fisheries. The project has been under consideration for more than 10 years and it is difficult to assess impacts of access roads, illegal logging and agricultural encroachment on habitat and wildlife over that time. Moreover access roads and the new reservoir will provide new access to currently inaccessible areas and lead to further degradation unless there is adequate resourcing and strong political will to stop such encroachment. The footprint of the project is MUCH greater than habitat cleared and flooded (7600 hectares according to ERM report). The project needs to identify a credible high biodiversity value offset, additional to watershed mitigation activities. The need for a high value biodiversity offset is compounded by information provided in the existing EIA and Biodiversity Offset Framework that the watershed contains populations of many Red List species including 15 mammals, 6 reptiles and 7 fish species, including elephants, tigers, black bear, gibbons and hornbills. Even though this information is based on out-of-date grey literature the project will now be held to account for any loss of or reduction of these species in the watershed area.

Based on earlier documentation there is an expectation in MONRE and the province that the biodiversity offset will be within the watershed in XSB. To avoid further confusion it is imperative that the issue of an offset site is resolved as soon as possible. The rapid biodiversity assessment should be mobilized **immediately** to determine remaining biodiversity values, threats and conservation opportunities within the NNP1 watershed area (habitats and wildlife populations); results will inform the watershed management plan. The team has been identified but not yet mobilized due to delays in awarding contracts (a procurement problem within [NNP1PC](#)). Any further decisions re a biodiversity offset should be made under guidance and in consultation with the independent Biodiversity Offset Advisory Committee (BOAC); unfortunately mobilization of the BOAC is also delayed due to contractual delays in [NNP1C](#).

Given that an offset in the watershed may be unrealistic, NNP1 needs to initiate a separate and parallel review of other potential offset sites within the two provinces, Xaysomboun and Bolikhamxay and advise MONRE and the provincial authorities accordingly. A realistic biodiversity offset needs to be ecologically viable, manageable, and cost effective with potential for a sustained biodiversity outcome. Criteria for potential sites should include:

- High Biodiversity Value ([based on](#) expert opinion, KBAs, IBAs, conservation plans Lao PDR)
- Viable and effective management unit (size, manageability, no overlap with proposed development)
- Sustainable (strong commitment from GoL, PONRE and communities; likely to leverage other financial and technical support)

## Recommendations:

- [Contract and mobilize the BIORAP Survey and Biodiversity Offset Advisory Committee urgently](#)
- Develop a realistic work plan and timings for developing a Biodiversity Offset Management Plan
- Prepare options paper on potential offset sites outside the watershed but within XSB and/or BKY.

### **Issue: Budgets available for Biodiversity Offset**

According to budget tables in the Concession Agreement there are \$3.7m potentially available for biodiversity activities; this is a very modest amount to establish and maintain a realistic biodiversity offset. NNP1C needs to think seriously about whether additional resources can be mobilized or leveraged to support the designated offset site.

The CA also allocates a designated payment to the Environmental Protection Fund (EPF) of US\$990,000. \$180,000 has already been released to EPF for disbursement against projects in 2015; EPF advises that it will probably be released according to \$50,000 XSB; \$50,000 BKY; and, \$80,000 to other areas in Lao PDR. NNP1C should consult with EPF to determine whether it would be possible to earmark the remaining \$880,000 to proposals that would support, or reduce pressures on, a designated offset site.

### **Recommendations:**

1. Follow up with the EPF on potential for grant applications to target the biodiversity offset area.
2. Select a realistic biodiversity site with potential to leverage other financial (and technical) support.

### **Other Issues:**

**Vetiver Grass** to being used to combat soil erosion along access routes. NNP1C need to check that the vetiver grass used is the non-invasive (non-seeding) variety.

**Biomass clearance:** A good process has been outlined for biomass clearance, based on lessons from other dams and good practice guidelines. It is intended to use much of the biomass (mainly bamboo) to create biochar which can be used to improve soil fertility at the resettlement site.

**Salvage logging areas:** NNP1 should work with DFRM and other agencies to get data on proposed salvage logging sites and their status, and logging plans so that the provincial PONREs can monitor to prevent illegal logging beyond concession areas.

**Procurement issues:** NNP1 needs to work on financial flows and resolve procurement issues to mobilize the biodiversity field survey, biodiversity advisory committee and watershed soonest.

**Staffing:** Complete staffing on Biodiversity and Watershed teams as soon as possible.