

Resettlement and Ethnic Minority Development Plan

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Nam Ngum 3 Hydropower Project (Lao Peoples Democratic Republic)

Prepared by Nam Ngum 3 Power Company

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RESETTLEMENT & ETHNIC MINORITY DEVELOPMENT PLAN
OF
THE NAM NGUM 3 HYDROPOWER PROJECT

NAM NGUM 3 POWER COMPANY

July 2011

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LIST OF ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AP	Affected Person/People
COD	Commercial Operation Date
EGAT	Electricity Generating Authority of Thailand
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
ESMO	Environmental and Social Management Office
FSL	Full Supply Level
GAP	Gender Action Plan
GMS Lao	Greater Mekong Subregion Lao Company Ltd., principal developer shareholder
GoL	Government of Lao PDR
GTZ	Deutsche Gesellschaft fuer Technische Zusammenarbeit GmbH (German Government Technical Assistance)
HH	Household
HIV/AIDS	Human Immune Virus/Auto Immune Deficiency Syndrome
IFC	International Finance Corporation
IFI	International Financing Institution
Lao PDR	Lao People's Democratic Republic
LWU	Lao Women's Union
MAF	Ministry of Agriculture & Forestry
masl	Metres above sea level
MoNRE	Ministry of Natural Resources and Environment
MOL	Minimum Operation Level
MoU	Memorandum of Understanding
NGO	Non-Government Organisation
NN1	Nam Ngum 1 Hydropower Project
NN2	Nam Ngum 2 Hydropower Project
NN3	Nam Ngum 3 Hydropower Project
NN5	Nam Ngum 5 Hydropower Project
NNRBC	Nam Ngum River Basin Committee
NSC	National Statistics Centre
NTFPs	Non-Timber Forest Products
PA	Protected Area
PCR	Physical Cultural Resources
PHAP	Public Health Action Plan
REMDP	Resettlement & Ethnic Minority Development Plan
SAP	Social Action Plan
SEATEC	Southeast Asia Technology Company Limited
SMEC	Snowy Mountains Engineering Corporation
SIA	Social Impact Assessment
SMP	Social Management Plan
SPS	Safeguards Policy Statement (ADB)
STEA	Science, Technology & Environment Agency (now MoNRE)
UXOs	Unexploded Ordnances
WREA	Water Resources & Environment Administration (now MoNRE)

GLOSSARY

LAO TERMS

Gnueng	Serow
Het	Mushroom
Hoi Khan	Freshwater Snail
Hong Nai Baan	Deputy Village Head
Kum Ban	Village Cluster
Mai	Tree
Mai Ketsana	Agarwood
Mak Fai	<i>Baccaurea ramiflora</i>
Mak Naeg	Amomum
Maw Tam Yae	Traditional Birth Attendants
Nai Baan	Village Head
Neo Hom	Lao National Front for Construction (responsible for ethnic minorities)
Pak (also Khmu)	Peaf
Pba Dek	Fish Sauce
Sahaphan Maeying	Lao Women's Union (village mass organisation)
Sao Haek	First Post of House
Sao Khwan	Spirit Post of House
Sao Noum	Lao Youth (village mass organisation)
Thamluat	Police
Thong Ya Baan	Village Health Workers

KHMU TERMS

Duengraeng	Reciprocal Labour Exchange between Individuals or Groups
Glav	Algae
Greuh	Thanksgiving Ceremony to Mother Earth & Father Sun & All Different Spirits Around Them
Handray	Thunder
Handreuy	Wind
Hla	Leaf
Hroey Brri	Forest Spirit
Hroey Kung	Village Spirit
Hroey Gang	House Spirit
La Va	Leaf Used in Condiments
Lavang	Sky
Pléloot	Kind of Sour Berry
Pléphru	Wild Sour Fruit
Pndreh	Organising People to Be Together
Sinta	Patrilineal Exogamous Clan

HMONG TERMS

Dab	Household Spirits
Txiv neeb	Shamans
Xeem	Patrilineal Exogamous Clans

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RESETTLEMENT & ETHNIC MINORITY DEVELOPMENT PLAN
OF
THE NAM NGUM 3 HYDROPOWER PROJECT

EXECUTIVE SUMMARY

NAM NGUM 3 POWER COMPANY

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1 INTRODUCTION

1. **Overall situation.** The Nam Ngum 3 Hydropower Project (NN3) will be located along the Nam Ngum River in Vientiane and Xieng Khouang Provinces of Lao PDR, upstream of NN1 and NN2 (both operational), downstream of NN5 (under construction), and downstream of NN4 (in the planning phase). The Project is set 130 km north of Vientiane, about 4.5 km upstream of the confluence of the Nam Ngum River with the Nam Pha.
2. **Schedule of construction.** Main construction activities of NN3 are scheduled to start in October 2011. The NN3 reservoir is planned to be filled during the rainy season of 2016. Electricity will be generated from Commercial Operation Date (COD) in January 2017 onwards during a concession period of 27 years.
3. **Project history.** The Project was identified by the Mekong Secretariat in the 1970s. Developers were selected to develop the site under a Memorandum of Understanding signed with GoL in 1994. The feasibility study, including environmental studies, was finalized by Snowy Mountains Engineering Corporation Limited and Southeast Asia Technology Company Limited in 1995. Resource Management and Research was engaged in 1998 to carry out an Impact Analysis to provide the Developer with detailed Social Action and Environmental Management Plans. These documents were used as a basis for two rounds of public workshops in 2002 and resulted in environmental approval by STEA allowing the Developer to start construction. However the SE Asia financial crisis interrupted the development until 2006. By that time, the environmental and social baseline situation had changed and required an update of the environmental and social documentation, which was undertaken from 2007 to 2009 by EcoLao and Norplan.
4. **Shareholders.** Four Companies are the shareholders of the NN3 Power Company: (i) GMS Lao (27 %), (ii) Ratchaburi (25 %), (iii) Axia Power Holdings B.V. (25 %), and (iv) Lao Holding State Enterprise (LHSE) (23 %).
5. **Legal Framework.** The Lao legislation, policies, and regulations regarding environmental and social requirements for hydropower development have been put in place during the last 10 years and provide a good framework for the development, construction and operation of such projects. The E&S documentation of the project aims at compliance with this legal framework, the ADB Safeguard Policy Statement, effective since Jan. 2010, and the requirements of other proposed lenders, including IFC.

2 DESCRIPTION OF THE PROJECT

6. **Design and Location Alternatives.** The present dam site and power station location were confirmed in the original Feasibility Study (SMEC/SEATEC, 1995) on the basis of technical, financial, and economic considerations for electricity generation and subsequent export to Thailand. Subsequent detailed design ensured that basic safety standards for high hazard dams were applied to guarantee that no uncontrolled release of water will take place by: (i) enabling the passage of the maximum probable flood, and (ii) ensuring that the structure can withstand loads applied for the maximum credible earthquake.
7. **Dam and Reservoir.** NN3 will build a 220 m high dam located in the Nam Ngum River just west of Ban Long Cheng. The NN3 catchment is 3,769 km² at the dam site. NN3 reservoir will be narrow, long and deep. The reservoir storage capacity will be 1,407 million m³ at Full Supply Level (FSL, 723 masl) and its active storage, 1,070 million m³. At this level the total surface area of the reservoir will be 27.51 km². The Minimum Operation Level will be at 660 masl at which level the reservoir will cover an area of 9.4 km². The total length of the reservoir at FSL will be about 55 km.
8. **Waterways.** Water will be withdrawn from the reservoir hypolimnion. The invert level of the reservoir water off take is 645 masl. Water from the reservoir off take will be channelled by a 10.6 km diversion tunnel to the power station, where it will be discharged in the Nam Ngum River. Each year, from August to October spills over the dam will occur.
9. **Power Station.** An underground power station will be sited on the right bank of the Nam Ngum River 15.5 km downstream of the dam. The power station will have an installed capacity of 440 MW. The average annual energy production is estimated to be 2,128 GWh.
10. **Transmission Line.** The 500 kV transmission line, 100 km long, will connect the switchyard at the power station to the Nabong substation. For a large part the NN3 transmission line will run in parallel with the NN2 transmission line. At Nabong substation the NN3 and NN2 transmission lines will link to the joint transmission line for power transmission to recipients in Thailand (See Figure 1.2 in the REMDP).
11. **Construction.** NN3PC intends to award three main construction contracts. 3,000 to 4,000 workers will be engaged in construction work over a 5 year period. They will be based at two camps: one at the dam site and one at the power station site.
12. **Operation.** The Commercial Operation Date is presently planned in January 2017. The power station will operate on a daily basis in an intermittent mode. The exact production mode will depend on the actual availability of water in NN3 reservoir and dispatches by EGAT.

3 ENVIRONMENTAL AND SOCIAL BACKGROUND

13. **Climate.** Lao PDR has a tropical monsoon climate. At elevations of the NN3 reservoir area three main seasons prevail. The rainy season lasts from May to October. From November to February it is cool and dry and from March to April it is hot and dry. The southwest monsoon arrives in Laos between May and July and lasts into October. The mean annual rainfall in the NN3 catchment varies from about 1,200 mm in the north-east of the catchment to about 2,700 mm at the dams site. High daily rainfall occurs generally during the months of September and October when typhoons from the South China Sea hit the coast at Vietnam and peter out in Lao PDR.

14. **Topography.** The NN3 catchment area consists of deeply incised valleys and step-sided ridges. The altitudes vary between 280 masl and 1,500 masl. The main channel of the Nam Ngum River drains the northern part of the catchment, flowing in a south-westerly direction to the confluence with the Nam Ting River. NN5 hydropower dam is under construction in the Nam Ting. Below the confluence with the Nam Ting, the Nam Ngum flows in southern direction to the dams site. Below the dams site the river continues through mountainous terrain with no settlements before it reaches the NN2 reservoir.

15. **Geology and Soil.** The project is located in an area dominated by sediment rocks of Jurassic-Cretaceous age to the west of the reservoir. In the east the geology is dominated by Devonian, Carboniferous and Silurian rocks. Mining concessions have been granted at both sides of the Nam Ngum draining into the lower and the mid part of the NN3 reservoir, including the large Phou Bia mining concession area.

16. **Hydrology.** The Nam Ngum River discharges depend on the pronounced differences in rainfall during the wet and dry seasons. High discharges occur towards the end of the wet season with the highest daily rainfalls. Low Nam Ngum discharges occur at the end of the dry season. Average monthly inflow in the Nam Ngum reservoir range from 22.4 m³/s (April) to 286.9 m³/s. (August). The average flow at the dam site is 96.5 m³/s.

17. **Sedimentation.** The rate of sediment transport of the Nam Ngum allows for a lifetime of the NN3 reservoir of at least 70 years. When the NN5 and NN4 hydropower projects are operational, the sediment inflow to the NN3 reservoir will be significantly reduced, causing an increase of the lifetime of the reservoir.

18. **Water Quality.** In general the water quality in the Nam Ngum is very good, with a low content of nutrients, indicating oligotrophic conditions. In the rainy season the quality declines as a result of sediment loads increasing turbidity. Nitrate and phosphate concentrations are low throughout the year. The iron content and the concentrations of coliform bacteria indicate that seasonally the Nam Ngum water quality does not meet the water quality standards for drinking water.

19. **UXOs.** The main project construction sites (dam & power station) are considered to have a relatively low risk of UXOs. It is however a serious concern at other locations, in particular in project impacted villages that used to have an airstrip during the 1970s, such as at the villages of Long Cheng, Ban Xiengdet, Nam Sam, and Xam Thong.

20. **Physical Cultural Resources.** Physical resources of archaeological and cultural significance have been identified in Ban Xiengdet (ruins of the former temple of Vat Vangxieng, foundation of Vat Xiengdet, graveyard, spirit), but not at other villages surrounding the NN3 reservoir area.

21. **Vegetation and Land Use.** Little mature stands of dense Moist Upper Mixed Deciduous Forest or Mountain Rain Forest are found in and around the reservoir area. More than 50 % of the land is covered by vegetation classified as temporarily unstocked, resulting from decades of extensive practice of shifting cultivation and logging. The area around the future reservoir has been a major battlefield during the war in the 1970s.

22. **Protected Areas.** None of the Nam Ngum river terrestrial and aquatic habitats to be inundated by the reservoir or located within the relevant part of Nam Ngum catchment are protected, or fall within any Lao National Protected Areas (NPAs) or Province Protected Areas (PPAs). Approximately 40km of the 100km length NN3 transmission line will run through the Phou Khao Khouay National Protected Area (PKK NPA), declared by the Prime Ministerial Decree No 164 in 1993.

23. **Wildlife.** Due to the insecurity that has prevailed in and around the NN3 catchment, comprehensive wildlife surveys have not been undertaken. As such, much of the known information has been taken from secondary sources (literature review, interviews with local villagers and forest officers). Wildlife is impacted by hunting, particularly mammals. The temporarily unstocked forest has not been described as supporting a high diversity of wildlife, but of common inhabitants of river valleys in Lao PDR, although species of note have been observed or reported. Further work is required to establish a current baseline.

24. **Aquatic Ecology and Fish.** Different aquatic habitats in the Nam Ngum River sustain at least 44 fish species in the section of the Nam Ngum close to the NN3 power station site, and at least 48 fish species occur in the Nam Ting at the upper end of the planned NN3 reservoir. Long distance migrating fish species that migrate from the Mekong River have lost access to the Nam Ngum River upstream of the NN1 reservoir when the NN1 dam was constructed in the early 1970s, and for the ones able to move from the NN1 reservoir upstream, with the recent closure of the NN2 dam. The reduction of discharges in the Nam Ting by the NN5 project under construction will affect household fish catch at Ban Xiengdet, before the NN3 impacts occur.

25. **Ethnicity.** Lao-Tai groups constitute 42% of the 2,552 households living in Ban Xiengdet, 4 Peri-reservoir, 7 Downstream, and 17 Upstream Villages. Lao-Tai groups are not considered as ethnic minority groups since the Lao language is their native language and their traditions are part of the dominating Lao culture. Khmu represent 33 % (830 households) and Hmong 25% (643 households); both groups fall under the ADB definition of indigenous people as these groups have customary cultural, economic, social, or political institutions that are at variance with those of the dominant upland Lao-Tai groups. The human population of Ban Xiengdet and of the 4 peri-reservoir villages was established after the end of the war in 1974. During the war, Ban Long Cheng and Ban Xam Thong were the headquarters of the “special forces” fighting the Pathet Lao. At that time Ban Long Cheng was Lao’s second biggest “city” after Vientiane. These “special forces” abandoned the villages in 1974. Other villages as Ban Xiengdet and Ban Xieng Nga were destroyed by air bombing and abandoned during the war.
26. **Health.** Most villages potentially affected by NN3 have health service within 3 hours of travelling. Three downstream villages (Nong Pou, Mouang Phoun, and Hom Xay) report 8 hours of travel to reach their nearest health centre. The most common causes of death are age, respiratory diseases, intestinal infections, accidents, and malaria. Potential serious threats to long-term health status in the Nam Ngum River Basin are malnutrition and the increase of sexually transmitted infections, in relation with the numerous infrastructure and mining activities in the area.
27. **Education.** All villages have a primary school within their village, but of variable qualities. Some teach up to Grade 2, while others have classes up to Grade 8. The number of teacher per students varies considerably from a student teacher ratio of 53 in the downstream village of Nam Xan to a ratio of 11 in Long Cheng. The primary school attendance for children in schooling age is high with an average of 96 percent for both girls and boys in peri-reservoir villages, and 88 percent for downstream villages. The secondary school attendance drops considerably in all villages and more so for girls (39 percent) than boys (69 percent). Secondary school attendance is much influenced by the walking distance to the school.
28. **Agriculture.** Glutinous rice is the most common crop. Other crops include maize, peanut, sweet potato, chilly, cucumber and pumpkin. Most of the agriculture crops are for household consumption, and the surplus is sold to nearby markets or to merchants coming into the villages. At most villages not all households produce sufficient rice for consumption. Ban Xiengdet and the 4 peri-reservoir villages can be considered to be non opium producers.
29. **Livestock and Poultry.** Animal raising is common, but with a number of animals per household which varies much. On average each household has 0.8 buffalo, 2.3 cattle, 2.1 pigs and 7.0 chickens. Larger livestock such as buffalos and cattle are normally owned only by a few households considered as relatively well off in the villages.
30. **Forest Utilization.** Households rely on collection of NTFPs for daily food, household utilization, and for cash income. Important NTFPs collected in nearby forests include firewood, cardamom, rattan, mushrooms, bamboo shoots, broom grass, and *Imperata cylindrica*.
31. **Fisheries.** None of the households in the project area fish as the primary activity for household income. Apart from soldiers, no or few households fish in the Nam Ngum River. At Ban Xiengdet nearly all households fish in the Nam Ting. Depending on access to markets, households fish for consumption and/or sell fish for cash. The household fish catch in some upstream and downstream villages is extremely low.
32. **Income.** The total annual income (cash and imputed) for an average household at Ban Xiengdet is 27 million Kip, with most of it coming from agriculture, livestock, and timber/fuel wood. The total annual income for a poor household amounts to about 16 million Kip, while better-off households earn more than 4 times that of the poor ones.
33. **Gender.** Marketing exchanges including both the purchase and sale of goods in distant towns are predominantly male activities. Positions in village leadership are mostly held by males. Some women in ethnic minority communities in the project area lack both the confidence and language skills to communicate effectively with Lao-speaking health care workers and extension workers.

4 ENVIRONMENTAL AND SOCIAL IMPACTS

34. The main environmental impacts during impoundment and project operation are caused by the inundation of land, changes in water discharges, and changes in water quality, affecting both terrestrial and aquatic habitats, and therefore agricultural activities and fisheries.
35. By building the NN3 Dam a 64 km section of the Nam Ngum River will be changed from a running river with several rapids into a reservoir with hydrological features halfway between a slow flowing river and a lake. The reservoir will fluctuate between an area of 27.5 km² at FSL 723 masl and an area of 9.4 km² at MOL, 660 masl, creating a drawdown zone seasonally flooded. Under the current proposed design, the first 4.8 km reach of the Nam Ngum from the dam site to the confluence with the Nam Pha will have an average monthly discharge reduced to less than 1 m³/s for all months of the year at the exception of the months of August and September when spills are expected. Thermal stratification is expected in the reservoir, with anoxic conditions in the deeper layers.
36. A total of 10.5 km² of forest will be flooded by the reservoir and about 1 km² of forest impacted by the clearance of the transmission line corridor. The destruction and degradation of these habitats will in turn impact the associated terrestrial and aquatic wildlife.

37. 29 villages are directly and indirectly impacted by the Project:
- Xiengdet is the only village that needs to be resettled as part of the village area (residential area and some agricultural lands) will be periodically inundated by the reservoir. The main impacts are as follows: seasonal flooding of part of the village area., residential area, including fixed assets as houses, home gardens, pig pens, fruit trees, and chicken coops; seasonal and partial inundation of physical and cultural resources; seasonal flooding of part of paddy fields, agricultural land, vegetable gardens, fish ponds, banana orchards, and fruit trees; seasonal flooding of part of village area consisting of governmental land, potentially impacting cattle grazing, collection of Non Timber Forest Products (NTFPs), and hunting wild life.
 - The 4 peri-reservoir villages (Nam Sam, Xieng Nga, Xam Thong and Long Cheng) will have only limited governmental lands periodically flooded each year by the reservoir. About 6 households at Nam Sam are expected to be impacted by potential losses in land use of this governmental land as seasonal cattle grazing. Cattle grazing land will not be affected at the other 3 peri-reservoir villages. Only at Long Cheng, household income from collection of NTFPs and hunting of wild life will be partially impacted through flooding of hunting and collection areas. Household fish catch could be positively impacted at Nam Sam and Xieng Nga at the upper end of NN3 reservoir.
 - The 7 downstream villages (Louang Phan Xay, Phan Xay, Nam Pha, Nam Xan, Nong Pou, Mouang Phoun, Hom Xay) might experience impacts on their fish catch.
 - The 17 upstream villages (Nam Ting, Phouvieng Noi, Phouvieng Nyai, Xayoudom, Somboun, Nam Chat, Bang Pang, Maang, Yong Tang, Souy, Chomsi, Sak Sort, Na Khuan, Nong Kang, Xong, Dook, Xay) could experience a positive impact in terms of fish catch.
38. 782 households are potentially physically and/or economically impacted by the project. From these 782 households:
- 144, living at Ban Xiengdet, will need to be resettled,
 - 10 living along the access road to Ban Xiengdet, will need to be resettled,
 - 40 are potentially impacted along the public road from Nam Ngone to Long Cheng, and
 - Approximately 5 households might need to be physically displaced due to the construction of the transmission line.
 - For the remaining 77%, the households will not be relocated and should experience impacts valued at less than 10% of their annual income.
39. The environmental and social impacts associated with the construction activities of a project of this nature will be avoided, minimized, and mitigated through the implementation of an environmental, health, and safety program and of a Public Health Action Plan, a Gender Action Plan and the Construction Social Management Plan.

5 ENTITLEMENT POLICY

40. The overall policy of NN3PC is to provide, whenever it is possible, in-kind compensation for the impacts created by the Project. Cash compensation will only be considered as a last resort option or if some impacted families wish to relocate outside of the Project area, something which has not been expressed so far. In general terms, this means that houses that will be directly impacted by the project and the associated residential lands will be replaced with new houses and with replacement residential lands, properly titled, at no cost for the impacted households. Similarly the lost agricultural lands will be replaced by new agricultural lands that will be developed by the Project and shall be of comparable agricultural value, all this at no cost again for the impacted households. The livelihoods of the impacted households shall be restored and improved through agricultural support programmes that shall be in place until after the commercial operation date of the project. In the case of plantations that might be impacted along the alignment of the Transmission Line, existing timber and products will be purchased at market value and cash compensation shall be provided to replace these plantations on replacement lands that shall be identified and the value of the concession right restored by the Project. (See section 5.3 of the REMDP for a detailed description of the entitlements of the affected households).

6 PUBLIC CONSULTATION AND DISCLOSURE

41. As of July 2011, there have been numerous public consultation and participation briefings, presentations and meetings, which have taken place at the local, regional and national levels (See Table 6.2 of the REMDP). A dialogue has been established with the various stakeholders directly and indirectly involved in the Project and interested in the Project's public consultation programme. Meaningful consultations were undertaken with affected people, including affected ethnic minorities, in the various project impact areas. These consultations shaped the entitlements package in the REMDP and the public health action plan, gender action plan, construction social management plan. The NN3 HPP require the physical relocation of ethnic minorities in one village – Ban Xiengdet. NN3PC has obtained the consent of the affected ethnic minorities in Ban Xiengdet to the social and resettlement programme developed with them, including the dispute resolution mechanism. The views and concerns of affected people have influenced the project design, the

entitlements and benefits package in the REMDP and shaped the future consultation activities to be conducted during the REMDP update process and its subsequent implementation. Public consultation and disclosure will continue during the construction and operation phases of the project. For other project components for which the alignment or final design has not been prepared, the REMDP includes arrangements to obtain the consent of affected ethnic minorities who will be physically displaced.

7 COMPENSATION, LIVELIHOOD RESTORATION & RELOCATION

42. Eight action plans have been formulated to address the various impacts identified: (i) the Public Health Action Plan, (ii) the Gender Action Plan, (iii) the Construction Social Management Plan, (iv) the Resettlement Action Plan for the public road Nam Ngone – Long Cheng, (v) the Resettlement Action Plan for the Transmission Line, (vi) the Ban Xiengdet Resettlement Action Plan, (vii) the Peri-Reservoir Action Plan, and (viii) the Downstream Action Plan. These are presented in more details in the section 7 of the REMDP.

43. Each contractor will be required to prepare an environmental management plan, which includes thematic sub-plans and site specific environmental plans, regularly updated. The environmental and social requirements set by the Company are the Environmental, Health, and Safety guidelines formulated by the IFC. NN3PC will monitor the compliance of the various construction activities with its requirements. Attention will be given to the management of the social impact of construction activities, in particular of camp followers.

8 BUDGET

44. The environmental and social budgets of the NN3 project total US\$32.2M, including US\$22M before COD and US\$10.2M after COD, and detailed below:

	Pre-COD	Post-COD	TOTAL
ESD overall management, coordination & communication	4,327,400	2,392,450	6,719,850
Integrated Watershed Management	990,000	2,562,000	3,552,000
Water quality monitoring and management programme	1,350,000	350,000	1,700,000
Construction Social Management Plan	290,000	20,000	310,000
TOTAL ENVIRONMENT BUDGET	6,957,400	5,324,450	12,281,850
ESD overall management, coordination & communication	4,387,600	2,756,450	7,144,050
Public Health Plan	880,000	350,000	1,230,000
Ban Xiengdet Resettlement and Development Plan	8,280,000	906,000	9,186,000
Peri-reservoir and downstream action Plan	650,000	898,000	1,548,000
Management of the social impacts of the TL and new/upgraded public roads	845,000	0	845,000
TOTAL SOCIAL BUDGET	15,042,600	4,910,450	19,953,050

9 INSTITUTIONAL ARRANGEMENTS AND IMPLEMENTATION

45. NN3PC will establish the Environmental and Social Division responsible for implementing and coordinating the environmental and social activities of the Project. The ESD will be headed by an E&S Manager reporting to the Project Manager. This person shall be responsible for the overall implementation of the environmental and social obligations set in the Concession Agreement, the REMDP and the 8 Action Plans describe therein, and of the necessary interactions and coordination with the numerous parties involved (See figure 9.1 of the REMDP).

46. The ESD will consist of the Environmental Management Office, dealing with all purely environmental issues, including in particular (i) the construction sites environmental compliance, (ii) the biomass clearance programme, (iii) the UXO clearance, and (iv) an environmental monitoring laboratory and the Social Management Office, dealing with (i) the resettlement and relocation programme, (ii) the infrastructure programme, (iii) the livelihood restoration programme, (iv) the social programme, and (v) community liaison.

47. The ESD will have three offices: (i) at the NN3 project office in Vientiane, (ii) an Environmental, Health and Safety Unit based in Xaysomboun District, and (iii) a Community and Livelihood Development Unit based in Phou Kout District or at the Xiengdet village.

48. The Project's intention is to work closely with the Provincial Coordination Committees, the District/Kum Ban working groups, and with the Village Development Coordination Committees, but also with Nam Ngum River Basin Committee (NNRBC), its Secretariat and its Hydropower and Mining Forum that are currently being established under the auspices of MoNRE.

10 MONITORING AND REPORTING

49. Internal monitoring will be undertaken by the NN3PC Environmental and Social Division who will report to GOL (MoNRE), ADB and other lenders on a regular basis. This reporting will cover the various environmental and social

activities undertaken during this period and related to the implementation of the active environmental and social programmes. It will present progress against the schedules and milestones set, identify potential difficulties and corrective measures taken, and present the results of its own monitoring against the obligations set in the Concession Agreement and other agreed protocols (e.g. with lenders). With respect to resettlement, ESD will monitor not only its own progress in resettlement and compensation activities for affected households against an agreed schedule, but also the changes in household income (cash and imputed) from affected land uses, as well as from livelihood restoration and development activities.

50. An independent monitoring team comprised of well qualified experts in environmental and social monitoring will be contracted with the objective to ensure compliance of the Company activities with its environmental and social contractual obligations. This monitoring will be undertaken mainly for GOL agencies, IFIs, lenders, affected communities, and the general public. The independent monitors will receive the NN3PC monthly progress reports. The team will visit the different project sites during the construction and operation phase of the project on a bi-annual basis.

51. Six-monthly external monitoring reports of the Independent Monitoring Team will be made available for public disclosure, either on the project's website, and/or that of MoNRE, and/or that of the ADB and other lenders website. Other reports for public disclosure include Annual Project Implementation Reports and updated safeguards documents.

1 Introduction

1. The Nam Ngum 3 Hydropower Project (NN3) will be located along the Nam Ngum River in Vientiane and Xieng Khouang Provinces, between other hydropower projects in the Nam Ngum River Basin: upstream of NN1 and NN2 (both operational), downstream of NN5 (under construction), and downstream of NN4 (in the planning phase). Another hydropower project is planned on the tributary Nam Pha; the Nam Pha has its confluence with the Nam Ngum between NN3 dam site and NN3 power station site.
2. Main construction activities of NN3 are scheduled to start in October 2011. The NN3 reservoir is planned to be filled during the rainy season of 2016. Electricity will be generated from Commercial Operation Date (COD) in January 2017 onwards during the concession period of 27 years.

1.1 Project History

3. The Nam Ngum 3 Hydropower Project was identified as a potentially valuable development by the Mekong River Secretariat, and as early as in 1979 the Government of Lao PDR (GoL) was actively considering its construction.
4. A project developer was selected to develop the site under a Memorandum of Understanding (MoU) signed with GoL in 1994. The feasibility study of NN3, including environmental studies, was finalized by Snowy Mountains Engineering Corporation (SMEC) and Southeast Asia Technology Company Limited (SEATEC) at the end of 1995.
5. The consulting company Resource Management and Research (RMR) was engaged in 1998 to carry out an Impact Analysis and provide the Developer with detailed Environmental and Social Action Plans. These documents were issued in 2002 resulting in STEA's (now the Ministry of Natural Resources and Environment) issuance of the NN3's environmental compliance certificate allowing start of construction activities.
6. The South-East Asian financial crisis brought the NN3 project preparation process to a slow down. When the project planning was picked up again in 2006 some of the conditions on which the RMR studies were based had changed, including changes in environmental and social regulations, changes in the environmental and social baseline situation, changes in project design, and rapid progress of other hydropower developments and mining activities in the Nam Ngum River Basin (NN2, NN4, NN5, and Phou Bia mining). In the mean time also the Environmental Certificate of NN3 expired.
7. The consulting companies Norplan and Ecolao were engaged during 2007 and 2008 to strengthen the consultation process and finalize the environmental and social safeguard documents for NN3. They submitted their final REMDP in February 2009 to WREA (now MoNRE) and ADB. Subsequently environmental and social policies of WREA (now MoNRE) changed with the Prime Minister's Decree No. 112/PM, dated February 2010 on Environment Impact Assessment and Regulation 99/PM with updated Resettlement Guidelines in March 2010. ADB issued a new Safeguard Policy Statement (SPS) in June 2009, effective from 20 January 2010.
8. Four companies are the shareholders of the NN3 Power Company (the Company): (i) GMS Lao (27 %), (ii) Ratchaburi (25 %), (iii) Axia Power Holdings B.V. (25 %), and (iv) Lao Holding State Enterprise (23 %).
9. NN3 construction works up to the beginning of April 2011 consist of (i) a bridge over the Nam Ngum to the power station site, (ii) exploratory adit at the power station site, and (iii) upgrading of the two existing access roads from the public road to the dam site and to power station site. These works have been initiated in accordance with the re-issued environmental certificate. An environmental and social compliance audit was undertaken for these existing facilities.

1.2 Legal Framework: National Laws and Policies and ADB Policy Requirements

10. Safeguard policies are operational policies that seek to avoid, mitigate, minimize, or compensate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process.

1.2.1 GOL Legal Framework on Social Safeguards

11. GoL has the objective of pursuing economic growth in an environmentally and sustainable manner. National legislation in Lao PDR immediately relevant to social and environmental safeguards for Nam Ngum 3 includes:
 - Prime Minister's Decree No 192/PM, dated 7 July 2005 on Compensation and Resettlement of People Affected by Development Projects,
 - Prime Minister's Decree, dated 16 February 2010, on Environment Impact Assessment.
 - The Minister to the Prime Minister's Office and Head of the Water Resources and Environment Administration (now MoNRE) endorses and promulgates the Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, issued in March 2010.
 - The updated Constitution (2003), Road Law 03 (NA) 1999, Land Law 04 (NA) 2003, National Hydropower Policy (2006), and PM Decree 101 on Implementation of the Land Law (2006), all contain provisions relevant to involuntary resettlement and ethnic minority rights.
12. Decrees 192, 112 and Regulation 99 provide the guiding Lao PDR legal and policy environmental and social (E&S) framework for development projects, and represent significant improvements in its national E&S safeguards regulatory framework vis-à-vis ADB's SPS.

1.2.2 ADB Policies and Requirements

2009 Safeguards Policy Statement

13. ADB's SPS was issued in June 2009 and applies to all projects funded by ADB effective from 20 January 2010. This operational policy revision resulted in a consolidated policy outlining common objectives of ADB's safeguards, policy principles, and delivery process for the SPS. It also outlines a set of specific safeguard requirements when addressing social and environmental impacts and risks. These are supported by an Operations Manual which outlines the procedural requirements through which the ADB ensures that the social and environmental sustainability it supports¹.
14. ADB's SPS consists of three operational policies on the Environment, Indigenous Peoples, and Involuntary Resettlement². Objectives of ADB's environmental and social safeguards are to: (i) avoid adverse impacts of projects on the environment and affected people, where possible; (ii) minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible, and (iii) help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.
15. Resettlement is involuntary when individuals or communities are physically displaced (relocation, loss of residential land, or loss of shelter) and/or economically displaced (loss of land, assets, access to assets, income sources, or means of livelihood) as a result of involuntary acquisition of land or involuntary restrictions on land use or access³.

Gaps Analysis and Gap Filling Measures

16. Both Lao law and ADB SPS entitle affected persons to compensation for affected land and non-land assets at replacement cost, as well as to livelihood restoration. The key difference between the two refers to the definition of "significant" involuntary resettlement impact. While ADB defines this as more than 200 persons experiencing major impacts, which are defined as being physically displaced from housing or losing 10% or more than their productive assets⁴, WREA (now MoNRE) defines "severe impacts" where all assets are lost and/or more than 20% of productive (income generating) assets are lost⁵.
17. NN3 will adopt ADB's standard of 10% or more asset loss as the benchmark for establishing the definition of "significant" or "severe".

1 OM F1/OP, 4th March 2010. Available from <http://www.adb.org/Documents/Manuals/Operations/OMF01-4Mar2010.pdf>.

2 Asian Development Bank, Safeguard Policy Statement, (SPS), June 2009

3 Ibid

4 Ibid, paragraph 9

5 Prime Minister's Office, WREA, Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, March 2010, para 8.2.1

18. According to national regulations⁶, all persons in Lao PDR severely affected by development projects including those persons affected by the loss of 20% or more of their productive assets (agricultural or commercial land or shop) or loss of primary source of household incomes and in need to be relocated to new site, or to reorganize on existing location, would be entitled to food support for each person in the household for a period of six months. Affected persons displaced due to the loss of residential house without any impact on business or source of incomes will be entitled to food allowance for each member of household for a period of three months. The transition subsistence allowance is intended to make up for lost income and to compensate for other household expenses during the transition period while affected persons are trying to settle down at the new site. The preferred mode of payment of this allowance is in kind. However, where this is logistically not possible and at specific request of affected persons, this allowance may be given in cash.
19. This requirement is based on the assumption that APs will relocate with no prior livelihood preparation. The NN3 project intends to work for at least 2 years prior to physical relocation to ensure that there is no loss of primary source of household income by preparing the new agricultural area, planting replacement trees/saplings in the new resettlement area, and supporting livelihood activities in the new location, so that any adverse livelihood impacts of relocation are avoided or minimized. Therefore the actual support will be for much longer than the statutory 8 months, and will attempt to ensure there will be no loss of income. There will also be no household expenses during the transition period, as the project will cover these, as specified in the entitlement matrix.
20. Both Lao Law and ADB policies entitle non-titled displaced persons to compensation for affected assets at replacement cost and other assistance so that they are not made worse off due to the Project. Decree 192/PM goes beyond ADB's policy and provides displaced persons living in rural or remote areas, or displaced persons in urban areas who do not have proof of land-use rights and who have no other land in other places, compensation for loss of land-use rights at replacement cost, in addition to compensation for their other assets and other assistance. Should displaced persons be found to be non-titled and required to relocate, the Project will ensure they are provided replacement land at no cost to the displaced persons.
21. GoL implicitly or even explicitly encourages voluntary donation of land (Article 11 of 192/PM- Decree on Compensation and Resettlement for Development Projects) if an displaced person's loss of income is less than 20%. Voluntary donations are not covered in the SPS. For the Nam Ngum 3 project, voluntary donations will not be permitted. In the unlikely event there are households who offer to donate land and decline compensation, these households will be provided all the information with regard to entitlements in relation to impacts, and corresponding payment and allowance and all meetings will be recorded. Such donations will be put in writing and confirmed by a third party (such as the Lao Women's Union).
22. The objective of this REMDP is also to guide the project to ensure that livelihoods and standards of living of displaced persons are improved, not merely restored, by providing adequate housing, security of land tenure and steady income and livelihood sources for affected households when impacts are significant. Where impacts are deemed not significant, cash compensation will be provided, if no compensation in kind is directly available. A summary of the gaps analysis between ADB SPS SR2 on Involuntary Resettlement and gap filling measures are provided in the table below:

ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
1. Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Determine the scope of resettlement planning through a survey and/or census of displaced persons, including a gender analysis, specifically related to	Article 4 requires project owners to (a) carry-out surveys and field investigations, identify affected communities and prepare inventory of impacts by type and degree.	No difference. No gap-filling measure required.

⁶ Prime Minister's Office, WREA, Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, March 2010, para 8.2.1

ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
resettlement impacts and risks.		
<p>2. Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. Inform all displaced persons of their entitlements and resettlement options. Ensure their participation in planning, implementation, and monitoring and evaluation of resettlement programs. Pay particular attention to the needs of vulnerable groups, especially those below the poverty line, the landless, the elderly, women and children, and Indigenous Peoples, and those without legal title to land, and ensure their participation in consultations. Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons' concerns. Support the social and cultural institutions of displaced persons and their host population. Where involuntary resettlement impacts and risks are highly complex and sensitive, compensation and resettlement decisions should be preceded by a social preparation phase.</p>	<p>Article 4 requires project owners to... (d) ensure resettlement process is carried out through a meaningful involvement of project-affected communities, and their existing social and cultural institutions are supported to the greatest extent feasible;</p> <p>(c) Pay particular attention to the needs of the poorest affected people, and their existing social and cultural institutions are supported to the greatest extent possible.</p> <p>Article 13 requires the establishment of grievance redress mechanism. More specifically it requires the establishment of a grievance redress committee to address complaints and grievances pertaining to land acquisition, compensation and resettlement due to the project.</p>	<p>No difference. No gap-filling measure required</p>
<p>3. Improve, or at least restore, the livelihoods of all displaced persons through (i) land-based resettlement strategies when affected livelihoods are land based where possible or cash compensation at replacement value for land when the loss of land does not undermine livelihoods, (ii) prompt replacement of assets with access to assets of equal or higher value, (iii) prompt compensation at full replacement cost for assets that cannot be restored, and (iv) additional revenues and services through benefit sharing schemes where possible.</p>	<p>Article 6 requires that: 1. Project owners shall compensate project affected people for their lost rights to use land and for their assets (structures, crops, trees, and other fixed assets) affect in full or in part, at replacement cost.</p> <p>Article 8 on Economic Rehabilitation requires that: 2. For displaced persons whose land-based livelihoods are affected due to the Project, preference shall be given to land-based resettlement strategies, or where land is no available, options built around opportunities for employment.</p>	<p>No major difference.</p> <p>Decree 192 Technical Guidelines (March 2010) specifically require inclusion of criteria that will assist in the formulation of development strategies and equitable distribution of project development benefits, especially maximizing the impacts on poverty alleviation. NN3PC will implement other social plans and improve public facilities that will benefit communities in the project area.</p>
	<p>Article 8 on Economic Rehabilitation requires that : 1. All APs severely affected by the Project due to loss of 20% or more of productive income generating assets (loss of agricultural, industrial or commercial land), means of livelihood, employment or business, and access to community resources shall be entitled to sustainable income restoration measures in addition to their entitlement for compensation and other allowances to attain at a minimum pre-project livelihood levels.</p>	<p>ADB SPS does not have a definition of severely affected APs. However, OMF1 defines significant impacts as more than 200 persons experiencing major impacts, which are defined as being physically displaced from housing or losing 10% or more than their productive assets. NN3 will adopt ADB's standard of 10% or more asset loss as the benchmark for establishing the definition of "significant" or "severe".</p>
<p>4. Provide physically and economically displaced persons with needed assistance, including the following: (i) if there is relocation, secured tenure to relocation land, better housing at resettlement sites with comparable access to employment and production opportunities, integration of resettled</p>	<p>Article 10 requires 1. All persons relocating to group resettlement sites shall be provided with suitable housing or developed housing lots, shop lots if business are affected, agricultural sites of equivalent size, with productive potential and locational advantages better or at least equivalent to the old site.</p>	<p>No difference. No gap filling measures required.</p>

ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
<p>persons economically and socially into their host communities, and extension of project benefits to host communities; (ii) transitional support and development assistance, such as land development, credit facilities, training, or employment opportunities; and (iii) civic infrastructure and community services, as required.</p>	<p>Replacement land, house/business plot shall be as close as possible to the land that was lost and/or acceptable to APs. Group resettlement sites shall be developed with water supply, sanitation, drainage, with internal access roads, and access to electricity.</p> <p>2. All replacement land for agriculture, residential and businesses shall be provided with secured land titles and certificates and without any additional cost, sales taxes, fee surcharge to APs at the time of transfer.</p> <p>Article 7 requires that APs displaced and/or affected due to the loss of income and livelihood shall be provided with the following assistance until their income levels and living conditions are stabilized: Transport allowance or assistance in kind; Food allowance, in cash or in kind; Suitable development assistance after displacement during the transition period until they are able to restore their incomes and living standards or reach the targeted level of household incomes on a sustainable basis</p>	
<p>5. Improve the standards of living of the displaced poor and other vulnerable groups, including women, to at least national minimum standards. In rural areas provide them with legal and affordable access to land and resources, and in urban areas provide them with appropriate income sources and legal and affordable access to adequate housing.</p>	<p>Article 8, requires that</p> <p>4. ...rehabilitation measures shall specifically focus on vulnerable groups. Adequate assistance in addition to compensation for affected assets and other allowances, shall be provided to enable such APs to achieve household income targets set above the poverty line.</p>	<p>No gap-filling measure required.</p>
<p>6. Develop procedures in a transparent, consistent, and equitable manner if land acquisition is through negotiated settlement to ensure that those people who enter into negotiated settlements will maintain the same or better income and livelihood status.</p>	<p>No provision for negotiated settlement.</p>	<p>Not anticipated. In the unlikely event that there will be negotiated settlement, ADB policy will be followed.</p>
<p>7. Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of nonland assets.</p>	<p>Article 6 requires ... 6. APs who are living in rural or remote areas, who do not have any legal Land Use Certificate or any acceptable other proof indicating land use right to the affected land and assets they occupy shall be compensated for their lost rights to use land and for their other assets at replacement cost and provided additional assistance to ensure that they are not worse-off due to the project...</p> <p>7. All APs, regardless of land use right, will be entitled to compensation for lost assets (structures, crops, trees) at replacement cost, and provided with other assistance during the transition period, and economic rehabilitation assistance to ensure that they are not worse off due to the project.</p>	<p>Decree 192/PM goes beyond ADB's policy. NN3PC will follow Decree 192 requirements.</p>
<p>8. Prepare a resettlement plan elaborating on displaced persons' entitlements, the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting</p>	<p>Article 14 requires Project owners to prepare the resettlement plan with detailed cost estimates for compensation and other resettlement entitlements and relocation of APs.</p>	<p>No major difference</p>

ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
framework, budget, and time-bound implementation schedule.		
9. Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner, before project appraisal, in an accessible place and a form and language(s) understandable to affected persons and other stakeholders. Disclose the final resettlement plan and its updates to affected persons and other stakeholders.	Article 12 requires project owners to make concerted efforts for an effective public dissemination of information about the objectives of the project, the compensator package that is part of the resettlement process, through mass media such as newspapers, radio, TV, our public meeting and other means to inform local authorities at provincial, district and village levels and mass organizations, APs and other concerned parties as necessary.	No major difference for disclosure of key information from the draft RP. No explicit requirement to disclose the final resettlement plan and its updates. NN3PC has disclosed the key information from the draft resettlement plan. NN3PC will disclose the final resettlement plan and its updates to affected persons and on ADB website.
10. Conceive and execute involuntary resettlement as part of a development project or program. Include the full costs of resettlement in the presentation of project's costs and benefits. For a project with significant involuntary resettlement impacts, consider implementing the involuntary resettlement component of the project as a stand-alone operation.	Decree 192, Article 12 states that "Total estimated cost of RPs shall be included in the cost of the Project. In case of cost-overruns due to unforeseen circumstances or delays, the project authorities/owners shall allocated additional funds as may be necessary.	Consistent with GOL. GOL has no requirement for implementing the IR component f the project as a stand-alone operation. NN3PC has no plans to implement IR as a stand-alone operation.
11. Pay compensation and provide other resettlement entitlements before physical or economic displacement. Implement the resettlement plan under close supervision throughout project implementation.	Article 6, (10) Prior to the commencement of project construction, APs shall be fully compensated and resettled and rehabilitation measures shall be in place, although not necessarily completed yet.	For the main construction activities, no civil works will be undertaken for each impact area until the relevant REMDP section is updated, a census of affected persons is conducted, unit rates for compensation and entitlements agreed during consultations. The updated REMDP for each impact area will be submitted to ADB and affected households will be compensated prior to any involuntary resettlement impacts. For any unanticipated impacts, social impacts will be assessed and the relevant section of the REMDP will be updated.
12. Monitor and assess resettlement outcomes, their impacts on the standards of living of displaced persons, and whether the objectives of the resettlement plan have been achieved by taking into account the baseline conditions and the results of resettlement monitoring. Disclose monitoring reports.	Article 16 requires that ...1. Project owners shall make adequate monitoring arrangements of the implementation of the compensation, resettlement and rehabilitation measures. 2. The project shall make post evaluation 6 months to 1 year after completion of the resettlement and rehabilitation measures, to check whether the economic rehabilitation and the livelihood objectives of the resettlement plan have been achieved.	Except for the disclosure of monitoring reports, there is no difference between GOL and ADB SPS. NN3PC will disclose all semi-annual monitoring reports submitted to ADB.

23. ADB's SPS Safeguards Requirements 3 on indigenous people (IP policy) aims to (i) design and implement projects that fosters full respect for IP's identity, dignity, human rights, livelihoods systems, and cultural uniqueness as defined by IP themselves and (ii) ensure that IPs receive culturally appropriate social and economic benefits, do not suffer adverse impacts as a result of projects, and can participate actively in projects that affect them. It also identifies key challenges, including (i) recognition of Indigenous Peoples' cultural identity and rights to their ancestral lands and resources, (ii) fair sharing of development benefits among affected Indigenous Peoples communities and the rest of the Society, and (iii) meaningful and culturally appropriate consultations with Indigenous Peoples communities in planning and implementation projects that are likely to affect their lives.

24. In Lao PDR the ADB's IP Policy applies to ethnic minorities, as all Lao consider themselves indigenous to the country. Almost all affected people under the Nam Ngum 3 project belong to 3 ethnic minorities, namely Khmu, Hmong and Yao. Decree 192 specifies that mitigation measures and socio-economic benefits should improve status of ethnic communities and be in harmony with their cultural preferences⁷, while the updated Guideline requires special attention paid to poor and vulnerable groups (para 20.1), of which ethnic minorities form a majority in Laos. It is for this reason that this REMDP identifies impacts and integrates mitigating measures to address issues related to land acquisition and involuntary resettlement, gender and development, public health, labour and social protection with particular attention and sensitivity to special needs of affected ethnic minorities.
25. All compensation and mitigation measures outlined in this REMDP are available to eligible households, irrespective of ethnic identity. However, special measures have been included to ensure that activities address specific needs of affected ethnic minorities, particularly of women. These measures include:
- support for non-formal education in Ban Xiengdet, with an emphasis on female literacy;
 - women and men included on Ban Xiengdet's village resettlement and grievance process committees;
 - compensation will be given to both husband and wife;
 - land titles will be ensured for Ban Xiengdet villagers, with title jointly in the name of husband and wife;
 - no Khmu from Ban Xiengdet will be required to relocate outside the existing village boundary;
 - public consultation meetings include verbal translation in ethnic minority languages;
 - all APs, irrespective of ethnic identity, are treated the same and are entitled to the same compensation and mitigation measures where eligible;
 - both male and female APs will be able to participate in jobs available;
 - a code of conduct for project and Contractor's staff will be required.

1998 Gender and Development Policy

26. ADB's Policy on Gender and Development (1998) adopts gender mainstreaming as a key strategy for promoting gender equity, and for ensuring that women participate in and that their needs are explicitly addressed in the decision-making process for development activities. For projects that have the potential to have substantial gender impacts, a Gender Action Plan is prepared to identify strategies to address gender concerns and the involvement of women in the design, implementation and monitoring of the project. The key elements of ADBs gender policy are: (i) Gender sensitivity, to observe how the project affects women and men differently and to take account of their different needs and perspectives in resettlement planning; (ii) Gender analysis, which refers to the systematic assessment of the project impact on men and women and on the economic and social relationships between them; (iii) Gender planning, which refers to the formulation of specific strategies to bring about equal opportunities to men and women; and (iv) Mainstreaming, to consider gender issues in all aspects of ADB operations, accompanied by efforts to encourage women's participation in the decision-making process in development activities.
27. The SPS and safeguards requirements also reiterate the importance of including gender issues in the preparation of safeguards documents at all stages to ensure that gender concerns are incorporated, including gender-specific consultation and information disclosure. This includes special attention to guarantee women's assets, property, and land-use rights and restoration/improvement of their living standards; and to ensure that women will receive project benefits. Gender has been integrated across the key planning documents, the environmental and social assessment process, and the REMDP. A Gender Action Plan (GAP) is prepared for the project as well, ensuring gender sensitivity, capacity building and women's participation in all project activities.

2001 Social Protection Strategy

28. As the Project will create temporary and permanent employment for skilled and unskilled labor, the Project will comply with ADB's Social Protection Strategy (2001) which upholds international recognised labor standards and/or national labor laws, particularly on the following conventions: (1) no harmful or exploitative forms of forced labor, (2) no child labor, (3) no discrimination in respect of

⁷ PM Decree 192, Compensation & Resettlement of Development Projects, July 2005, Article 11.3

employment and occupation, and (4) no restrictions of freedom of association and the effective recognition of the right to collective bargaining.

1.3 Social Safeguards, Gender and Development, and Social Protection

29. Presently the Asian Development Bank (ADB) is considering financial support of the NN3 hydropower project. With the planned ADB financial involvement in the project not only GoL's environmental and social safeguards, but also ADB's Gender and Development Policy (1998), Social Protection Strategy (2001) and the new safeguards policy statement of the ADB will apply. A revision of the 2009 Resettlement and Ethnic Minority Development Plan (REMDP) was therefore required. This updated REMDP meets that requirement. It contains the following sections: (i) Project Impact Assessment, (ii) Socio-Economic Profile, (iii) Ethnic Groups, (iv) Entitlement Policy, (v) Public Consultation & Disclosures, (vi) Compensation, Income Restoration, and Relocation, (vii) Grievances Redress Mechanism, (viii) Institutional Arrangements and Implementation, (ix) Budget, and (x) Monitoring and Reporting.
30. Annexes to this REMDP provide more detailed plans for specific project components, including the Gender Action Plan (GAP) and Public Health Action Plan (PHAP) and also provide background information.
31. Draft safeguard documents for NN3 were prepared after conducting field surveys, consulting villagers, conducting public consultation and disclosures meetings during the period March 2007 – January 2010 making use of the environmental and social information collected during (i) the NN3 feasibility study, (ii) the environmental and social surveys by RMR Consultants before 2002, and (iii) the ADB supported NN3 Cumulative Impact Assessment. The output was a first draft version of project Environmental and Social Safeguard documents in 2009.
32. To address comments by ADB and WREA (now MoNRE) of reviews of 2009 safeguard documents, and to comply with subsequently revised safeguard policies of GoL, and the new Safeguards Policy Statement of the ADB, NN3PC has made adjustments to the 2009 safeguard documents.
33. WREA (now MoNRE) requires addressing the social impacts within the section Environmental Impact Assessment (EIA). ADB requires separate sections for the environmental impact issues and the social impact issues. However the ADB also requires some social impacts and social measures to be addressed within the EIA Report. For instance the Environmental, Health & and Safety requirements during the construction phase include social issues such as Occupational Health and Safety and Community Health and Safety. These Health and Safety issues are therefore addressed in the EIA as well as in Section 7 of the REMDP, which presents a brief summary of the Construction Social Management Plan and the Public Health Action Plan.
34. Potential social impacts identified during construction works have been identified at the (i) NN3 transmission line, (ii) the public road between Nam Ngone and Long Cheng and (iii) construction sites such as the dam site and the power station site, among others, and preliminary identified impacts are included in this REMDP. However, only after the final design criteria are known, the identification of affected households, the exact number of affected households, and the value of impacts occurring during the construction phase can be fully established. Presently, the total numbers of households that will be affected during construction works are based on social impact assessment rather than on a detailed asset registration. Identification of affected households will be made when the detailed design components by the contractors becomes available. Final design criteria that are to be established by the contractors are: (i) the width and locations where the public road between Nam Ngone and Long Cheng needs upgrading for transport safety reasons, (ii) the confirmation by contractors of location of contractor camps and its access roads, (iii) the exact location and height of transmission towers, and (iv) the definite site selection of quarry site, borrow areas, dumping sites, including access tracks.
35. Impacts occurring during project operation are caused by environmental impacts that are inherent to hydropower development such as changes in water levels, changes in river discharges, and changes in water quality. As these inherent environmental impacts cannot be avoided or mitigated, these impacts will be compensated and/or off set.

36. Fisheries related issues are addressed both in the environmental and social related sections of the NN3 safeguard document as there are environmental aspects to fisheries such as ecological and biological issues as well as social aspects such as household fish catch and the human use of aquatic resources, potentially affecting both cash and imputed income of affected households, as well as subsistence and nutritional value. Monitoring of household fish catch not only reveals social information of human uses of aquatic resources, but also gives information about ecological and biological status such as fish migration, fish species, relative abundance, and biomass.

1.4 Description of the NN3 Hydropower Project

37. The Nam Ngum 3 Hydropower Project is set on the Nam Ngum River 130 km north of Vientiane, located in Vientiane and Xieng Khouang Provinces in the Lao People's Democratic Republic (Lao PDR).

1.4.1 Project Location

38. The NN3 dam site is located on the mainstream Nam Ngum about 4.5 km upstream of its confluence with the tributary Nam Pha (See Figure 1-1).
39. NN3 is one in a cascade of 14 existing or proposed hydropower projects on the Nam Ngum River and in the Nam Ngum River Basin. NN3 reservoir is located upstream of NN1 which came on stream in 1972 and also upstream of NN2 which has started operation. Upstream of the planned NN3 reservoir, NN5 is under construction, while NN4 A & B, also upstream of NN3, is still in the planning phase. At the Nam Pha tributary, another hydropower project is in the planning phase.

1.4.2 Dam and Dam Safety

40. NN3 will have a 220 m high dam on the Nam Ngum River just west of Ban Long Cheng. The NN3 catchment is 3,769 km² at the dam site. NN3 dam has been classified as a high hazard dam to avoid failure of one or both of the downstream located NN2 and NN1 dams. The two basic safety standards for high hazard dams are applied for NN3. These two standards guarantee that no uncontrolled release of water from NN3 will take place by: (i) enabling the passage of the maximum probable flood, and (ii) ensuring to withstand loads applied for the maximum credible earthquake. NN3 dam safety issues are discussed in more detail in the ESIA Report.

1.4.3 Reservoir and Reservoir Lifetime

41. NN3 reservoir will be narrow, long and deep. The reservoir storage capacity will be 1,407 million m³ at Full Supply Level (FSL). Its active storage (water that will be available for power production) will be 1,070 million m³. The reservoir is designed with the FSL at 723 masl. At this level the total surface area of the reservoir will be 27.5 km².
42. The Minimum Operation Level (MOL) will be at 660 masl at which level the reservoir will cover a much smaller surface of 9.4 km². The maximal drawdown of NN3 reservoir is 63 m. The reservoir mean depth is 51.3 m. The rate of sediment transport within the NN3 catchment of the Nam Ngum River Basin shows that the lifetime of NN3 reservoir is at least 70 years in a worst case scenario. When the NN5 and NN4 hydropower projects will come on stream, the sediment inflow to NN3 reservoir will be significantly reduced, causing an increase of the lifetime of NN3 reservoir (see EIA Report).
43. NN3 reservoir will be filled during the rainy season of 2016. The estimated reservoir filling time is 3 months. The average water retention time during operation will be 5.7 months.

1.4.4 Waterways

44. At the dam, water will be withdrawn from the hypolimnion of NN3 reservoir. The invert level of the reservoir water off take is 645 masl. Water from the reservoir hypolimnion will be channelled by a 10.6 km diversion tunnel to the power station, where the water will be discharged in the Nam Ngum River. The average river discharge at the dam site is 96.5 m³/s. Each year, during the months of August, September and October spills over the dam into Nam Ngum River will occur.

1.4.5 Power Station

45. An underground power station will be sited on the right bank of Nam Ngum River 15.5 km downstream of the dam. The power station with two turbines will have an installed capacity of 440 MW.

1.4.6 Transmission Line

46. The transmission line with a capacity of 500 kV will connect the switchyard at the NN3 power station to Nabong substation. The length of the transmission line will be 100 km (Figure 1-2). From Nabong sub station the electricity will be transported to Thailand.

1.4.7 Access Roads

47. Two access roads connect the public road from Nam Gnone to Long Cheng with NN3 dam site and NN3 power station site. The access road to the dam site is 12 km long and the access road to the power station site has a length of 11 km.

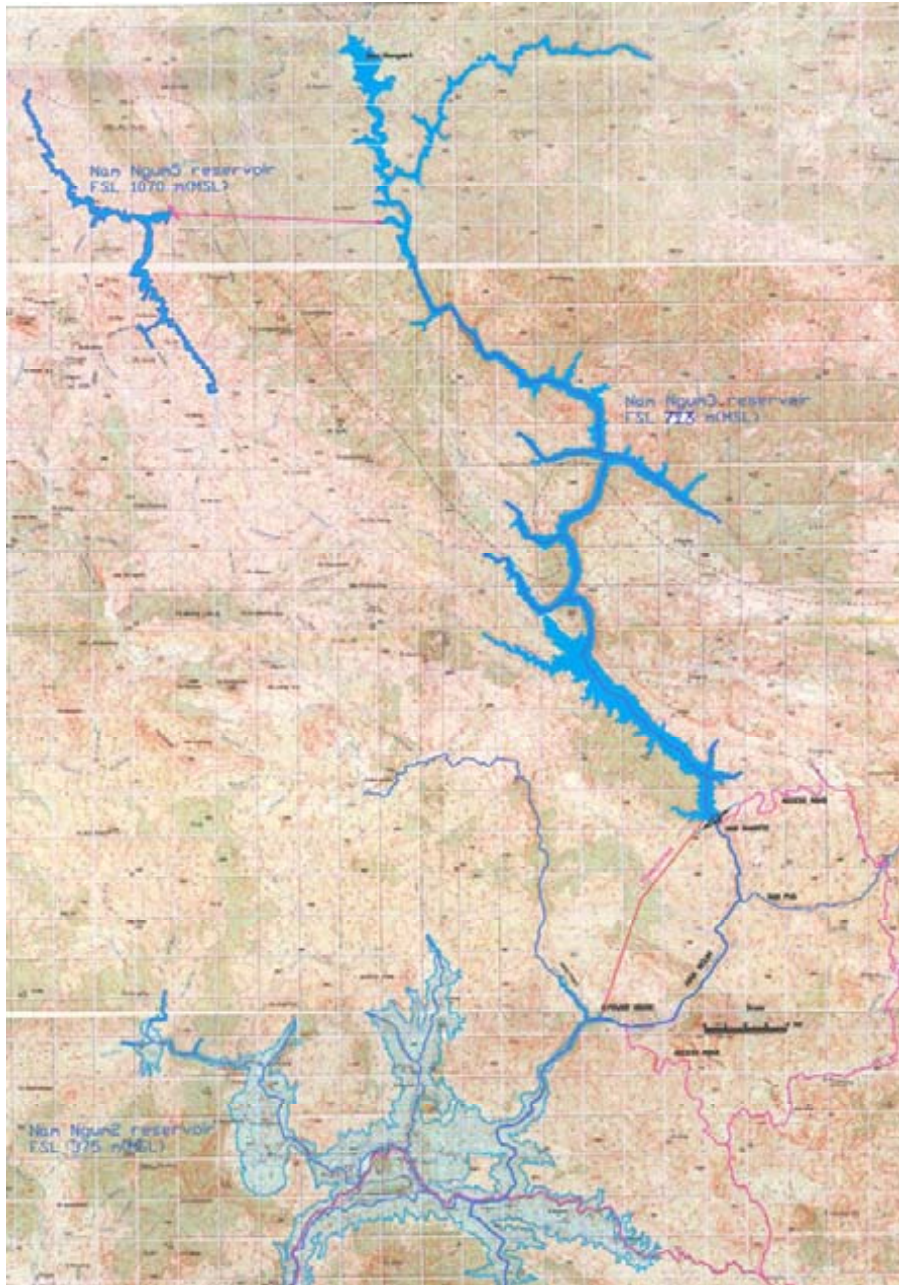


Figure 1-1 - NN3 Reservoir at Full Supply Level of 723 masl, Upstream of NN2 and Downstream of NN5

1.4.8 Construction

48. The Company intends to award three main construction contracts and may award other supporting contracts as necessary to complete the Project. Approximately between 3,000 and 4,000 workers will be engaged in construction work over a 6 year period starting October 2011 till end 2016. The construction workers will be based at two camps; one at the dam site and one at the power station

site. Workers will also be employed for the construction of the transmission line, including the stringing, and the Nabong sub-station.

49. Under the condition that the Company fully compensate physically and/or economically displaced persons during the phased construction of the Project, GoL has allocated land to the Company under a Concession Agreement at project construction areas, including dam site, power station site, transmission line corridor including Nabong substation, and access roads.
50. Electricity will also be delivered to the dam and the power station sites by EDL through the existing 22kV transmission line from Thong Khoun substation for which the Company will additionally compensate persons that may be affected by accidental crop damage occurring during stringing of the 22kV transmission line.

1.4.9 Operation

51. The Commercial Operation Date is planned to be in January 2017. The concession period is 27 years. The power station will operate on a daily basis in an intermittent mode. The production mode will depend on the actual availability of water in the reservoir and dispatches by EGAT. The average annual energy production is estimated to be 2,128 GWh.
52. Under the condition that the Company fully compensate physically and/or economically displaced persons during operation of the Project, GoL has allocated to the Company the reservoir area.

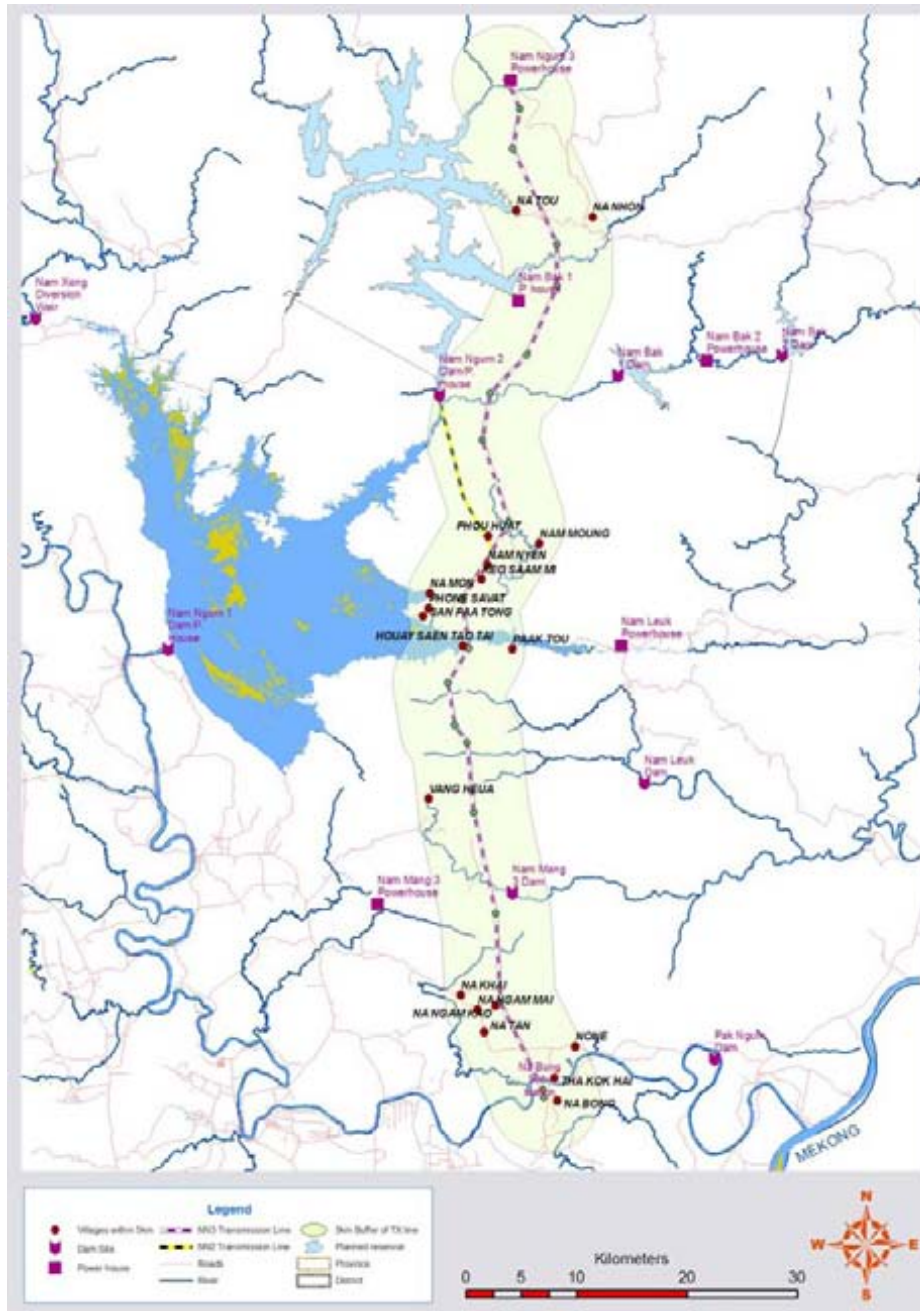


Figure 1-2 NN3 Transmission Line Corridor

1.4.10 Main Project Features

53. Table 1-1 summarizes NN3's main features.

Table 1-1 Main Features of the NN3 Hydropower Project

Feature	Value
Dam	
Height	220 m
Catchment Area	3,769 km ²
Average River Discharge at Dam Site	96.5 m ³ /s
Reservoir	
Reservoir Filling Time	3 months
Full Supply Level (FSL)	723 masl

Minimum Operation Level (MOL)	660 masl
Surface Area at FSL	27.5 km ²
Surface Area at MOL	9.5 km ²
Mean Depth	51.3 m
Volume at FSL	1,411 MCM
Active Storage	1,070 MCM
Average Water Retention Time	5.7 months
Invert Level Hypolimnetic Withdrawal	645 masl
Diversion Tunnel	
Length from Dam to Power Station	10.6 km
Power Station	
Downstream Distance from Dam	15.5 km
Total Installed Capacity	440 MW
Average Annual Energy Production	2,128 GWh
Transmission Lines	
Length of 500 kV Transmission	Approx. 100 km
Access Roads	
Length from Public Road to Power Station	Approx. 12 km
Length from Public Road to Dam	Approx. 11 km
Commercial Operation Date	January 2017
Concession Period	27 Years

2 Project Impact Assessment

54. NN3 will create environmental impacts leading to social impacts occurring at different areas and different villages at different times. There will be impacts due to land acquisition and construction works in different locations before Commercial Operation Date (COD) and later during the operation phase, from January 2017. Table 2-1 summarizes the number of households that will be adversely impacted during the construction and operation phases of NN3. These figures are preliminary, and will be updated based on final design.

Table 2-1 Summary of involuntary resettlement impacts during NN3 Construction and Operation

Physical and Economic Displacement due to NN3			Assessment of number of households adversely impacted during NN3 Construction Phase			Assessment of number of households adversely impacted during NN3 Operation Phase			
			Construction Lands (+ 22kV / 22kV T/L from Thong Khoun substation)	Public Road Nam Ngone -Long Cheng	Transmission Line and associated access roads	Ban Xiengdet	Peri-reservoir villages	Upstream villages	Downstream villages
Physical displacement	# of Affected Households		0	40*	5*	154**	0	0	0
	# of main and auxiliary structures lost					174			
	Community structures lost					2			
Economic displacement regardless of whether or not physical displacement occurs	Permanent agricultural land (paddy fields, hill rice and corn fields, orchards, tree plantations, ...)	# of Affected Households	0	10*	80*	36	0	0	0
		Loss of agricultural land (ha)				51.6	0	0	0
	Community uses of Governmental Land (collection of NTFPs, hunting, cattle grazing, ...)	# of Affected Households	0	0	0	144**	253***	0	0
		Affected government land (ha)				428	967	0	0
	Community uses of aquatic resources (fisheries and household fish catch)	# of Affected Households	0	0	0	0	247****	0	255*****
In total 782 households potentially physically and/or economically affected by NN3			0	40*	80*	154**	253***	0	255*****

*Depending on final detailed design by the contractor.

** The number of households in Ban Xiengdet has increased from 120 in April 2010 to 144 households in July 2011. The 144 households comprised of the 107 originally eligible households (96 + 11 natural growth households in April 2010), plus a further 21 "natural growth" households (identified by Ecolao in July 2011), plus 16 ineligible households. This gives a new total of 128 eligible households plus 16 ineligible households. In addition to the 144 households, there are 10 households to be affected by the improvement of the access road to Ban Xiengdet.

*** Assuming that all households at Long Cheng and Xam Thong hunt and collect NTFP in the impoundment area.

**** Potentially impacted households, depending on new opportunities to fish in NN3 reservoir.

***** Potentially impacted households, depending on (i) new opportunities to fish in NN2 reservoir and (ii) existing household catch of migrating fish species on which NN2 is likely to cause impacts well before impacts by NN3 occur.

55. Of the total of 782 households that are potentially impacted by NN3, the most significantly impacted households requiring resettlement are the 144 households living at Ban Xiengdet, approximately 10 households to be affected by the improvement of the access road going to Ban Xiengdet, the 40 potentially impacted households along the public road from Nam Ngone to Long Cheng, and the approximately 5 households that will be physically displaced due to the construction of the transmission line. For the remaining households, it is expected that they should not experience relocation or livelihoods impacts at a value higher than 10 % of their annual income. These numbers are introduced in details in section 2.1 and 2.2.
56. All land requirements will be classified in accordance with PM Decree 88 on Implementation of the Land Law, according to the various types of lands: individual use rights, community use rights and state land.
57. Due to (i) impacts that are difficult to predict by NN2 and NN5 hydropower projects, (ii) information becoming available only during detailed design, (iii) potential changes in design, (iv) influx of households, and (v) ongoing merging and resettlement of villages, circumstances may change that will lead to necessary adjustments to the number of households that will be physically and/or economically displaced by NN3. If revisions in technical design cause additional or different impacts,

the REMDP will be revised as follows: (i) any new impact will be assessed, as will be the potential for involuntary resettlement or adverse impacts on ethnic minorities, (ii) the relevant sections of the REMDP will be updated in line with this assessment and any additional or revised mitigation measures will be described; (iii) a revised REMDP for each project component/impact area will be endorsed by the Company, disclosed to affected persons (APs) and forwarded to GoL, MoNRE and ADB for review and approval prior to impacts.

2.1 Environmental & Social Impacts during Construction Works

2.1.1 Environmental & social obligations imposed on the Contractors & main social impacts

58. The International Finance Cooperation (IFC) has formulated the Environmental, Health, and Safety (EHS) General Guidelines. The EHS guidelines for construction phase are organized in four sections (i) Environment, (ii) Occupational Health and Safety, (iii) Community Health and Safety, and (iv) Monitoring. They represent the EHS obligations of the Company imposed on the various contractors. In addition to avoiding and minimising environmental impacts of construction activities works, their implementation by the Contractors should avoid social impacts potentially affecting the construction workforce and also the general public living in communities close to construction sites, as will be the case in particular for the public road Nam Gnone-Long Cheng, and the NN3 transmission line.
59. NN3 will undertake a strict compliance monitoring of all construction sites to ensure that contractors follow the EHS guidelines (see organisation and budget sections).
60. Nevertheless, social impacts will occur during construction phase as a matter of design and location. Mitigation and compensation measures for these impacts will be implemented by NN3 in coordination with the contractors. These social impacts are categorized as follows:

Construction Sites

- No households will be impacted by land acquisition as no land ownership and no land uses by households have been identified at the proposed construction sites at the NN3 dam site and at the NN3 power station site.

Public Road Nam Gnone-Long Cheng

- Due to the likely upgrading and widening by the contractors of the existing public road between Nam Gnone and Long Cheng to secure safe transport of materials, equipment, and construction workers about 40 households could be potentially displaced by the loss of houses, dwellings, and/or barns, depending on the detailed design by the contractors. About 10 of these 40 households living along the public road are also likely to be impacted by loss of land ownership and land uses.

Camp Followers

- Persons living in the villages of Xam Thong, Long Cheng, Louang Phan Xay, Phan Xay, and Nam Xan will likely be involved during construction works by the contractors. Increased employment by the contractors will change significantly the local economy from a subsistence oriented economy to a more cash dependent economy. Camp followers are likely to establish guesthouses, shops, restaurants/noodle shops, pubs and bars, and business related facilities. The establishment and operation of such facilities at governmental land by the camp followers or by villagers themselves is beyond the scope of responsibilities of the Company. Services to the contractors, construction workers, as well as to camp followers by villagers living in the neighborhood of the construction lands will boost the local economy, but also leads to increased risks of the spread of communicable diseases, human trafficking and social disruption.
- The Company has set aside a budget to assist GoL and GoL agencies in the development and implementation of preventive measures to be undertaken in coordination with the contractors to prevent and/or minimize the spread of communicable diseases, including HIV/Aids and to minimize risk of human trafficking during the construction period.

Transmission Line

- About 80 households are expected to lose permanent agricultural land or parts of it. Of these, not more than 5 households are expected to be physically displaced by the construction of the NN3 transmission line, depending on the detailed and final designs of the height of transmission towers, the final selected location of transmission tower footprints, and the design and location of access roads to the transmission line towers and corridor. The Entitlement Matrix for the transmission line

will be updated, publicly disclosed and endorsed by the project and GoL prior to finalization of actual alignment, including access roads.

Preliminary Construction Activities

• These will involve the preparation of camps and offices facilities, maintenance areas, upgrading of access to the dam site and power station site in areas. Specifically, these include:

- Installation of preliminary temporary camp,
- Installation of preliminary telecommunication facilities,
- Installation of preliminary office facilities.

- Construction of solid waste and hazardous material storage and management facility for PCA works,
- Bridges reinforcement of the public road from Ban Huay Kham to Ban Longcheng,
- Construction of an access track from Ban Longcheng to the Dam left abutment,
- UXO clearance of all areas to be impacted by PCA works.

- Road survey control points arrangement from Ban Longcheng to Dam left abutment,
- Intensified points arrangement of survey control grid in dam area,
- R1 road construction from dam left abutment to No.1 Bailey bridge,
- Placement of piers of No.1 Bailey bridge and assembly and installation of deck surface,
- R3 road construction from No.1 Bailey bridge to the portal of the diversion tunnel,
- No.1 Camp ground leveling and housing construction,
- Dam site lab,
- Dam site magazine ground leveling and building,
- Dam site fuel bay ground leveling and building.

- Intensified points arrangement of survey control grid in powerhouse area,
- Temporary road P2 construction from public road to switchyard,
- Temporary access road P3 construction to headrace tunnel adit #3,
- Temporary access road construction to headrace tunnel adit #2,
- Temporary road P5 construction in the powerhouse area,
- Camp #2, ground leveling and housing construction,
- Powerhouse area magazine ground leveling and building
- Powerhouse area fuel bay ground leveling and building

• The lands where these facilities are located are government land and are not occupied or used by the local population. If circumstances change, affected households will be compensated as per the entitlement policy of the Company (section 5).

61. For each project component or impact area with potential involuntary resettlement impacts, no physical or economic displacement will take place until: (i) the updated REMDP section for each impact will be prepared based on a census of affected persons is conducted, meaningful consultation with affected people and including unit rates for compensation and entitlements agreed during consultations; (b) compensation and other entitlements have been provided to the displaced persons; and (b) a comprehensive income and livelihood restoration program has been established. For any unanticipated impacts, social impacts will be assessed and the relevant section of the REMDP will be updated.

2.1.2 Construction Sites

62. Figures 2-1 and 2-2 show the preliminary selection of construction sites at the NN3 dam site and at NN3 power station site. At both sites no existing land ownerships, land uses, and no buildings, houses, field huts and/or dwellings have been identified. The nearest village to the construction lands at the NN3 dam site is Long Cheng at about 9 km distance via the NN3 access road to the dam site. The nearest village to the construction lands at the NN3 power station site is Nam Ngone at a distance of

more than 20 km. From consultations, field surveys, and compliance audit, it was concluded that no buildings, field huts and/or dwellings do exist at the construction sites.⁸

63. The contractors will be required to strictly follow the IFC Environmental, Health, and Safety (EHS) guidelines avoiding potential social impacts on public health and safety due to, for instance, erosion, dust, noise, and transport, while providing occupational health and safety measures avoiding social impacts to construction workers. Mitigation measures to avoid social impacts and measures to minimize social impacts potentially affecting the construction workers and the public are described in the EHS guidelines annexed to the NN3 EIA Report.
64. As described in Annex F, Construction Social Management Plan, the Contractors shall prepare and issue a Workers Code of Conduct to all its employees as part of their Employment Contracts, ensure that it is properly understood by all employees, and enforced. The Code will guide and govern worker's behaviour when employed on the Works, when interacting with other workers, and when interacting with members of the public on or off construction sites. To avoid interference with the livelihoods of members of the public, construction workers will not be allowed to the use of local natural resources such as fishing, hunting, and/or collection of non-timber forest products (NTFPs). Construction workers are not allowed to trade, consume or keep wildlife.⁹

⁸ This was confirmed during subsequent field visits by the Lenders and the Lenders Technical Advisors in December 2010 and January 2011.

⁹ These restrictions also apply to all employees of the Company and will be equally enforced during the operation period of the Project for any employee, contractor and workers.



Figure 2-1 Preliminary Selection of Specific Construction Sites at NN3 Dam

65. The contractors should make their construction workforce aware of national law and local rules and regulations regarding unacceptable behaviours towards women and girls, in particular from ethnic minorities. These rules shall be strictly enforced and lead to dismissal in case they are not respected.
66. The Workers Code of Conduct shall include, but not be restricted to, the following: possession of an employee identity card, avoidance of all discrimination, with specific reference to culture, ethnic identity, religion, age, social status, and gender; respect for personal integrity; avoidance of all forms of bribery or corrupt behaviour; avoidance of misuse of alcohol or drugs; participation in training sessions; following instructions, respecting rules, regulations, and procedures with specific reference to health (see Public Health Action Plan), safety, and the environment; respecting property, respectful behaviour towards local communities, respect towards women (see Gender Action Plan), avoidance of any behaviour or language which might be considered violent, abusive, or disrespectful, avoidance of any activity considered illegal, including violence, prohibition of involvement in production, misuse or trafficking in drugs, or involvement in trafficking of people. Breaches of the Workers Code of Conduct will be the basis for investigation and dismissal.



Figure 2-2 Preliminary Selection of Specific Construction Sites at NN3 Power Station

67. The contractors will implement risk management strategies to protect surrounding communities from physical, chemical, or other hazards associated with sites under construction. Contracts will reflect these requirements. Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous materials, or excavations and structures which may pose falling and entrapment hazards. Risk management strategies to be implemented by the contractors will include:
- Restricting access to the construction sites, through a combination of institutional and administrative controls, with a focus on high risk structures and areas depending on site specific situations, including fencing, signage; and communication of risks to the local community;
 - Removing hazardous conditions on construction sites that cannot be controlled effectively with site access restrictions, such as covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials.

2.1.3 Public Road Nam Ngone-Long Cheng

68. Figure 2-3 shows the public road between Nam Ngone and Long Cheng with the connection to NN3 access roads to the power station site and the dam site.
69. The public road is passing two military camps and the villages of Nam Gnone, Nam Xan, and Nam Pha reaching the NN3 access road to the dam site well before reaching the residential area of Long Cheng. The public road is not paved and very narrow. For the safe transport of materials, equipment, and construction workers, the contractors will upgrade and widen the public road at crucial locations.

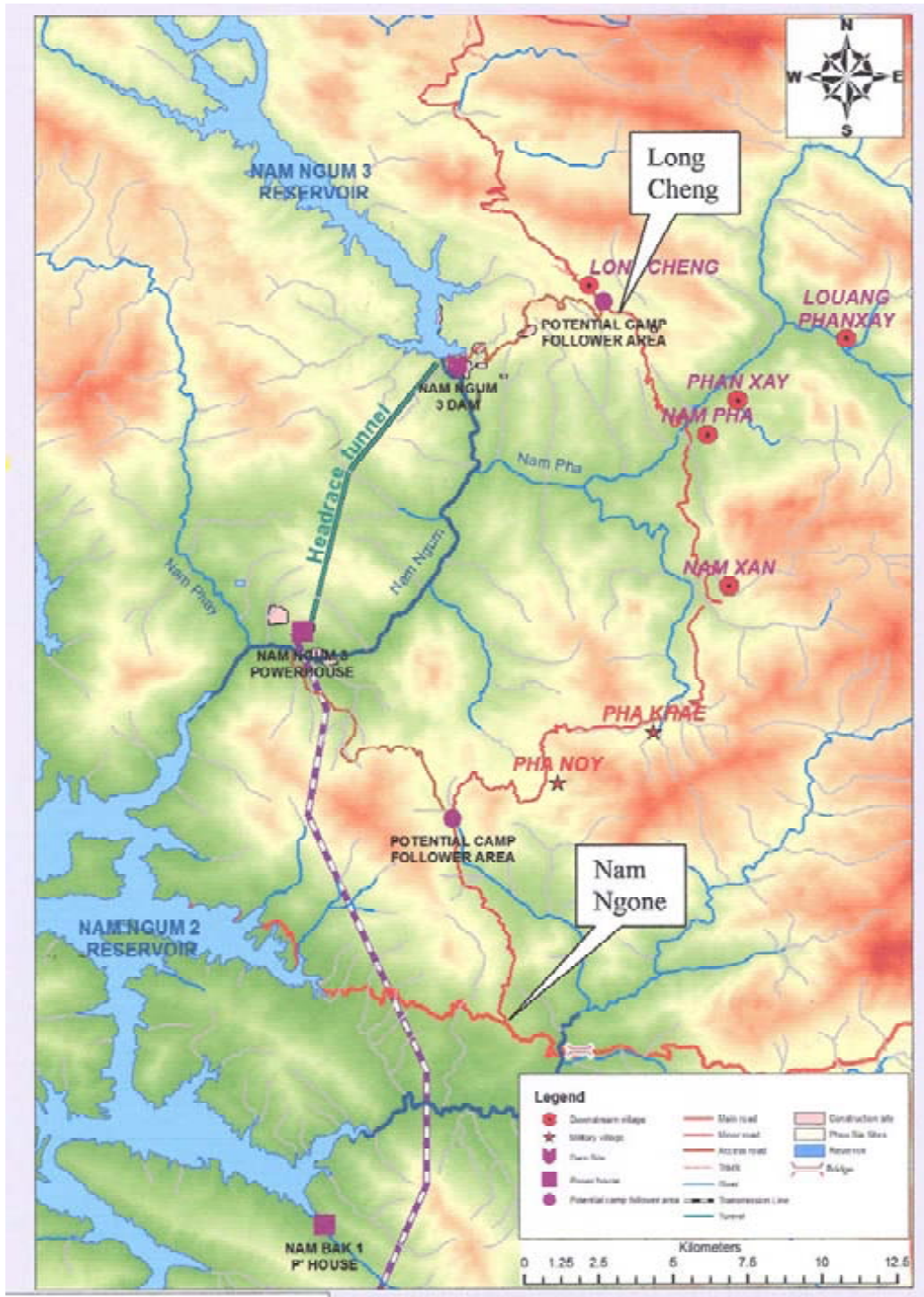


Figure 2-3 Public Road between Nam Ngone and Long Cheng and Access Roads to NN3 Power Station Site and NN3 Dam Site

70. In the process of upgrading the public road a limited number of households will be impacted in land ownership, land use, and or required relocation of houses and assets. Households that will be affected have houses, structures, and/or land uses located within the right of way of the existing public road. Presently the number of households affected by the upgrading of the public road is estimated to be about 40. However, only after the detailed upgrading plan has been delivered by the contractors to the Company, the actual identification of affected households can and will be carried out.

71. The construction activities at the NN3 dam and power station sites will result in a significant increase in movement of heavy vehicles for the transport of construction materials, equipment, and construction workers, increasing the risk of traffic related accidents and injuries to workers and local communities along the public road from Nam Ngone to Long Cheng.
72. A traffic management program will be formulated by the contractors and will be approved by the Company. It will be implemented and enforced by the contractors to avoid or minimize noise, air emissions and dust. It will also include measures to reduce risks of traffic accidents at the villages and military camps along the public road from Nam Ngone to Long Cheng.
73. The Company will ensure that the traffic management plan includes additional safety options, including speed limits, traffic signs, convoy traffic, limitation of night traffic, and site selection and construction of parking areas or increase of width of public road to allow save passing. NN3PC will make sure that the contractors implement their traffic management plan appropriately.
74. The public road, including several bridges, has weight limits for trucks transporting material, equipment, and workers. In case the contractors wish to transport material, equipment, and workers wider than allowed on the public road, the contractors will have to indicate on a map those locations where the road will be widened, or the road route will be changed, indicating proposed alternatives, to accommodate this need. Based on this map, the Environmental and Social Division (ESD) of the NN3PC will carry out a census and field surveys to identify households and persons physically and economically displaced, conduct consultations on compensation unit rates and entitlements and relocation options and obtain the consent of physically displaced ethnic minority households, if any. Based on these and after conducting a 100% asset inventory and registration, ESD will update the REMDP section of the resettlement action plan for any affected households along the public road.
75. Particularly at Nam Ngone, located along the public road, there will be potential nuisance by increased and non regulated traffic as many households have built their houses within the right of way of the public road. To avoid traffic nuisance and involuntary resettlement at Nam Ngone the Company and the contractor will finalize an agreement with Phou Bia Mining to make use of their hauling roads bypassing the houses at Nam Gnone and a 20 ton maximum bridge.
76. Proposed mitigation measures and compensation process for potentially affected households living in the Right of Way (ROW) on the public road from Nam Gnone to Long Cheng are as follows:
 - The Company requires the Contractor to upgrade the existing public road from Nam Gnone to Long Cheng at crucial locations to guarantee the Contractor the safe and timely transport of equipment, materials, and construction workers, as the existing public road is narrow and in poor conditions.
 - The positive impacts for the general public making use of the upgraded public road are: (i) improved public transport opportunities, and (ii) improved access to markets, education, and public health services.
 - Upgrading of the existing public road reduces risk of traffic accidents during the Project's construction phase from increased traffic and transport of materials, equipment, and construction workers.
 - The Contractor is required to provide mitigation and minimization measures of increased nuisances for the general public due to dust, noise, and vibration as per the Environmental, Health, and Safety guidelines.
 - The Contractor is required to implement and enforce traffic management regulations including but not limited to traffic signs, speed limits, convoy traffic, and limiting night traffic.
 - The Company will ensure that construction related traffic bypass the existing public road at Nam Gnone where there is higher population density within the Right of Way (ROW), in order to avoid additional land acquisition and displacement.
 - The Company shall ensure that the Contractor limit as far as possible its upgrading activities of the public road to the existing ROW to minimize potential land acquisition.
 - The Contractor is required to avoid potential impacts on houses, structures, and land uses of the 40 households which are located with the ROW wherever possible, by providing access facilities, such as culverts and drainage crossings for uninterrupted access at the Company's cost, or by restricting upgrading activities.

- In addition, the Contractor will be required to implement more strict traffic management at locations of greater population density, and/or where households have pre-existing houses, structures, and land uses within the ROW.
- In case the Contractor, with the agreement of the Company, cannot avoid impacts on houses, structures, and/or land uses within the ROW, the Company will update the REMDP, disclose it to the affected people, and submit it to MoNRE and ADB for approval, and to be implemented by the Company, prior to any impacts occurring. Entitlements for eligible affected households who have settled in the pre-existing ROW before the cut-off date will be based on cash compensation, at a rate to be agreed between the Project and the affected household, in case compensation in kind is not an option.

2.1.4 Camp Followers

77. The contractors will engage a construction work force of several thousands persons. They will be required to engage, to the extent possible, as much local capable construction workers as possible. The local economy will be potentially stimulated by this employment and the temporary settlement of camp followers establishing service facilities for the construction work force such as noodle shops, restaurants, pubs, karaoke's, night clubs, shops, cash withdrawal and transfer services, transport services, guest houses, etc.
78. However, adverse impacts are also expected from the influx of construction workers and camp followers, if preventive measures are not implemented. Increased incidence of communicable diseases represents a potentially serious health threat to the construction work force, project personnel, camp followers and local residents.
79. As described in Annex C – Public Health Action Plan, the Environmental and Social Division (ESD) of NN3PC will support GoL's regulation and enforcement ensuring clean water supply, appropriate sanitation, and hygiene standards at the noodle shops, restaurants, bars, karaoke's, discos, guesthouses, hotels, and night clubs that may be set up by local residents and/or camp followers to service the construction workforce. The Project and GoL will control and forbid the installation of spontaneous camp followers and ensure that the services to be provided to the workers are available within the construction camps in an organised and orderly manner. The Construction Social Management Plan is available in Annex F.
80. ESD will also assist GoL with the upgrading of the existing health clinic at Long Cheng, to service the local population and camp followers, but also with building capacity, awareness training, and implementation of preventive measures regarding communicable diseases, including sexual transmitted diseases. The public health clinic will coordinate with the contractors' health clinic regarding health check ups to jointly identify the potential sources of communicable diseases with the objective to prevent them.
81. Interventions at the project level include (i) surveillance and active screening and treatment of workers, (ii) preventing illness among workers and local communities by health awareness initiatives, and (iii) training health workers in disease treatment. Proposed activities for all areas are outlined in the Public Health Action Plan (see Annex C).
82. ESD will also provide awareness training of increased risks of human trafficking that may result from the influx of construction workers and camp followers as well as increased traffic and transport opportunities with many empty cars and trucks leaving the construction sites.

2.1.5 Main Transmission Line

83. The initially proposed transmission line corridor from the NN3 power station switchyard to the substation at Ban Nabong was routed through the central parts of the Phou Khao Khouay National Park and would have also interfered with the Phou Bia Mining activities. During the environmental assessment, the NN3 transmission line route was adjusted to avoid interference with Phou Bia mining activities and to reduce land take within Phou Khao Khouay.
84. Table 2-2 shows the coordinates of the selected NN3 transmission line route at a total length of 98.9 km. The final selected transmission line route avoids crossing urban areas and residential areas of villages.

85. The following 21 villages are located within 5 km distance from the NN3 transmission line route, and a limited number of households living at these 21 villages maybe physically and/or economically displaced by the construction of the transmission line and its access roads: (1) Nam Gnone, (2) Nam Mo, (3) Nam Ying, (4) Xiangmi, (5) Napho, (6) Vanglouang, (7) Naxai, (8) Phonxai, (9) Xamkhon, (10) Khonvat, (11) Sanpatong, (12) Vantha Heua, (13) Vang Hun, (14) Nakay, (15) Na Ngom Kao, (16) Na Ngom Mai (17) Na Tan, (18) Non, (19) Thakokhai, (20) Nong Don, and (21) Na Bong.

Table 2-2 Final Selected NN3 Transmission Line Route

POINT	LAO82 DATUM		WGS 84 DATUM		Distance (m)	Deflexion Angle	
	EAST	NORTH	EAST	NORTH		Degree	Direction
PH	271,632	2,103,130	271,736	2,102,244	2,828.07		
TP1	272,771	2,100,540	272,874	2,099,655	3,653.21	33.60	R
TP2	272,144	2,096,939	272,247	2,096,056	9,504.03	34.63	L
TP3	276,124	2,088,305	276,228	2,087,425	3,818.03	24.54	R
TP4	276,138	2,084,487	276,240	2,083,609	6,820.59	24.13	R
TP5	273,372	2,078,250	273,475	2,077,374	4,752.70	19.57	R
TP6	270,100	2,074,800	270,204	2,073,926	4,355.62	34.24	L
TP7	269,400	2,070,500	269,504	2,069,627	7,793.99	27.24	L
TP8	271,798	2,063,096	271,911	2,062,214	8,161.51	49.53	R
TP9	267,589	2,056,114	267,642	2,055,258	4,530.04	39.44	L
TP10	268,160	2,051,636	268,265	2,050,771	3,607.89	39.53	R
TP11	266,267	2,048,563	266,373	2,047,699	3,893.63	41.06	L
TP12	266,906	2,044,720	267,011	2,043,858	1,899.97	25.43	L
TP13	267,992	2,043,161	268,097	2,042,299	6,362.50	29.34	R
TP14	268,604	2,036,825	268,709	2,035,966	9,382.60	6.70	L
TP15	270,591	2,027,652	270,695	2,026,796	8,005.29	9.18	R
TP16	271,016	2,019,654	271,120	2,018,802	8,841.09	22.74	L
TP17	274,863	2,011,690	274,965	2,010,841	530.01	12.48	R
TP18	274,985	2,011,174	275,087	2,010,325	156.02	15.14	R
TOS	274,980	2,011,018	275,082	2,010,169			
Total Distance					98,894.77	meters	

86. Figure 2-4 shows the location of villages within a 5 km corridor either side of the NN3 transmission line route. For the selected NN3 transmission line between the switchyard at NN3 power station to Nabong substation, about 210 transmission towers will be erected. Their average height will be approximately 70 meters and a few towers will be higher for safety reasons at roads, valley crossings, and hilly areas. Each transmission tower will have a footprint safety zone of approximately 324 m², including the area between the tower legs of about 81 m². The width of the transmission line corridor will be 70 meters, where commercial timber will be cleared by the contractors for collection by GoL.
87. With the adjustment of the NN3 transmission line route, fewer households will be affected. The adjusted NN3 transmission line route will be parallel to the NN2 transmission line that was recently constructed crossing Phou Khao Khouay Natural Park. By running parallel to the NN2 transmission line, the final selected NN3 transmission line route (see Figure 2-5) will reduce the number and length of new access roads to the NN3 transmission line compared to the initially proposed route. The selected transmission line route will reduce land acquisition impacts.
88. The roads constructed for access to the NN2 transmission line corridor have already resulted in improved access for farmers at the NN3 transmission line corridor. An influx of farmers has occurred driven by the desire to improve their livelihoods by using governmental land made accessible by these new access roads. Due to increased opportunities of access by farmers, values of the land and land uses at NN2 transmission line corridor have increased. As NN3 transmission line is located for most of the route parallel to NN2 transmission line, this will have consequences in terms of compensation rates and eligibility for land replacement.
89. Within the transmission line corridor of 70 meters wide, existing agricultural land uses are allowed to continue, if crops have a height lower than 3 meters. Only at the foot print areas of the approximately 210 transmission towers and the safety zones, and at the new access roads the Company needs to

carry out land acquisition, and replace or compensate house and field hut owners, land owners and/or land users.

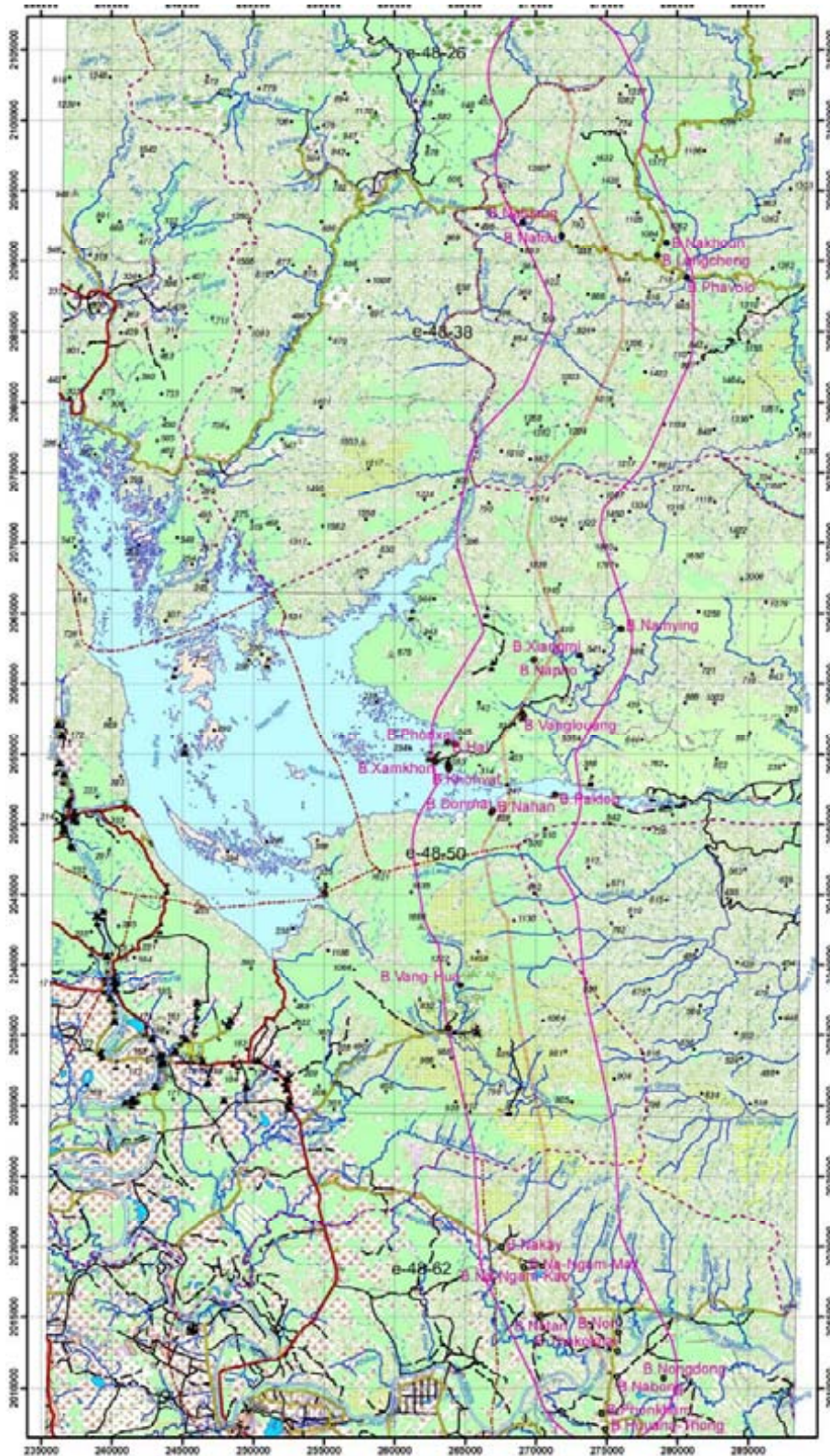


Figure 2-4 Villages Located within 5 km Distance from NN3 Transmission Line Route

90. The opportunities for households to collect NTFPs are not significantly impacted. Such will be further determined during the land acquisition procedures to be detailed in the updated resettlement action plan when the definite site-selection of the tower foot prints and location of access roads by the

contractors has been finalized and approved. The opportunities for cattle grazing at the transmission line corridor will be increased.

91. Presently, the contractor has not yet confirmed the exact locations of the tower foot prints, and access roads, and therefore land acquisition cannot be commenced before the contractor has confirmed site locations. Even if the contractor identifies the detailed location of tower foot prints and access roads, and it appears that land uses will be affected at the sites, transmission tower and access road locations can be adjusted to some extent to avoid impacts on land ownership and land uses.
92. Electric and magnetic fields are invisible lines of force emitted by and surrounding any electrical device (e.g. power lines and electrical equipment). Electric fields are produced by voltage and increase in strength as the voltage increases. Electric field strength is measured in volts per meter (V/m). Magnetic fields result from the flow of electric current and increase in strength as the current increases. Magnetic fields are measured in units of gauss (G) or Tesla (T), where 1 T equals 10,000 G. Electric fields are shielded by materials that conduct electricity, and other materials, such as trees and building materials. Magnetic fields pass through most materials and are difficult to shield. Both electric and magnetic fields decrease rapidly with distance.
93. Although there is public and scientific concern over the potential health effects associated with exposure to electric and magnetic fields, there is no empirical data demonstrating adverse health effects from exposure to typical electric and magnetic fields from power transmission lines and equipment. While evidence of adverse health risks is weak, it is still sufficient to warrant limited concern. For this reason the NN3 transmission line route is selected to avoid crossing residential areas, to reduce interference with human activities, and to minimize public exposure to electric and magnetic fields.
94. The IFC EHS guidelines set limits of permanent public exposure to electric and magnetic fields. Any public buildings, houses, dwellings and/or structures that may be located within the transmission line corridor where exceeding the exposure limit will need to be relocated to avoid public exposure to electric and magnetic fields. The public exposure to electric and magnetic fields will depend much on the height of the transmission towers to be determined by final design of the contractor.
95. The number of households that will be economically displaced due to construction of NN3 transmission line is presently estimated to be about 80, of which 5 households are likely to be physically displaced. Potentially affected households live in the 21 villages located within 5 km distance from the transmission line corridor. The displacement of persons and households depends on the final design by the contractors, including (i) location of new access roads to the transmission line, (ii) location of transmission tower foot prints, and (iii) height of transmission towers.
96. Of the 21 villages located close to the transmission line corridor, 4 villages already have been physically resettled more than once through other developments. The majority of the households in these 4 villages are of Hmong and Yao ethnicity. Some households in these villages have also been recently affected by the construction activities and land acquisition of NN2 transmission line. Experience at these 4 villages with resettlement procedures, including valuation of land and land uses are not particularly positive. Past resettlement procedures by other development projects providing low unit compensation rates did not satisfy affected households, but were more or less forced through, which did lead to a virtual boycott of NN2 tower construction activities through blockage of access for construction works.
97. Complaints about marginalization of households at these villages during past resettlement procedures even reached the National Assembly. Vulnerable households will be particularly those households who live in these villages and own or use land at the NN3 tower foot prints and the access roads. The Company will ensure that fair and adequate unit compensation rates are established in consent with project affected households for compensation of affected households at full replacement value.

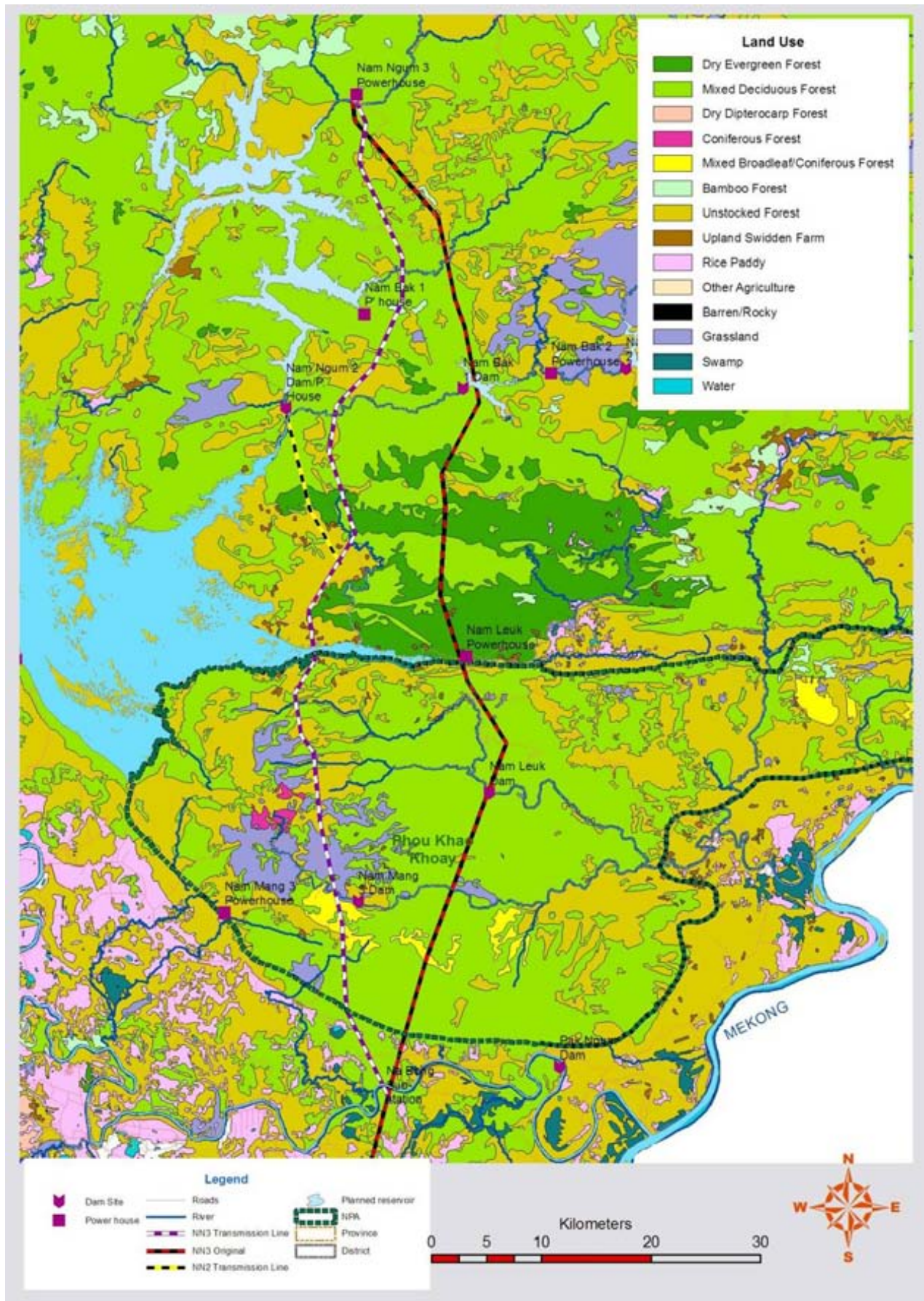


Figure 2-5 Original and Final Selection of NN3 Transmission Line Corridor (the final selected NN3 Transmission Line runs parallel to NN2 Transmission Line through Phou Khao Kouay Natural Park)

98. A census of affected people, socio-economic survey, an inventory of land ownership and land uses, as well as the identification of buildings, houses, structures, including field huts within the NN3 transmission line corridor and its access roads will be carried out in the year 2011. It will be followed by the asset registration together with the establishment of a cut off date for eligibility of compensation for displaced persons. This will be done in participation with village and district authorities and with the endorsement of the Provincial Relocation Committees (PRCs).
99. The identification of persons displaced at the transmission line corridor and its access roads will be carried out after the designer/contractor has made final site selection for the tower foot prints, established height of towers, and identified locations of transmission line access roads. An updated Resettlement Action Plan (RAP) will be prepared for the transmission line route for submission and approval to MoNRE and ADB prior to any impacts occurring. If there are any ethnic minorities which require physical displacement, the Company will obtain their consent or broad community support and provide supporting documentation in the REMDP.
100. Persons that own land or have recognizable claims to land use at the foot prints of the transmission towers will be provided with adequate and appropriate replacement land or cash compensation at full replacement value by the Company. Persons that own buildings, houses, field huts, and/or dwellings within the transmission line corridor at locations where the public exposure is higher than the IFC limit will be fully compensated at full replacement value. Description of the methodology to arrive at unit compensation rates and replacement value estimates is included in Section 5.
101. During transmission line construction works, the Company will supervise the contractor works to avoid any interference with existing land uses and/or access by implementing erosion control. After the contractor has erected the transmission line towers and start the stringing work of the transmission line, risks exist that agricultural crops are damaged. Stringing is not normally undertaken during the rainy season due to risk of lightning strike, and this period is one of busy agricultural activity for farmers. However, harvesting times occur during the onset of the dry season, when there is a risk of crop damage. The Company and ESD will supervise the contractors work to minimize crop damages. If crops are damaged by stringing, affected farmers will be compensated by ESD at full replacement value.
102. Risk of accidents by people climbing in the transmission towers, unaware of the dangers of electrocution, will be avoided by technical design by the contractor. Nuts and bolts of the towers at the first few meters above ground level will be welded or protected to avoid theft and subsequent safety risks.

2.1.6 Thong Khoun-Long Cheng Transmission Line

103. Apart from the 500 kV transmission line from the switch yard at NN3 power station site to the Nabong substation to be constructed before operation of NN3, a relatively less complex electricity connection to the power station site and the dam site will need to be provided to enable contractors to carry out their construction activities.
104. From Thong Khoun substation a 22 kV transmission line will be connected to the existing transmission line from Thong Khoun to Long Cheng passing Nam Ngone, the access road to the NN3 power station site, Nam Pha, Nam Xan, and the access road to the NN3 dam site.
105. The 22 kV transmission line will be vertically separated from the existing transmission line from Thong Khoun to Long Cheng. At the access roads to NN3 power station site and NN3 dam site, new transmission line poles need to be erected along the alignment of the access roads. No social related impacts will occur along the two access roads due to land acquisition as no land ownership or land uses have been identified that might be affected along the two access roads.
106. At Thong Khoun substation a plot of land not larger than 50 by 50 meters will need to be acquired by the contractor. Land owners and/or persons with recognizable land uses will be identified and compensated at full replacement value.
107. During stringing of the 22 kV transmission line, accidental damages to structures and crops may occur. If it is the case, NN3PC will ensure that affected persons will receive compensation at full replacement value.

2.1.7 Access Roads to Power Station Site and Dam Site

108. The ESIA provides the compliance audit for the access roads and preliminary construction works undertaken so far. The site layouts during the Preliminary Construction Activities at the dam site and the powerhouse sites are presented on Figures 2-6 and 2-7.

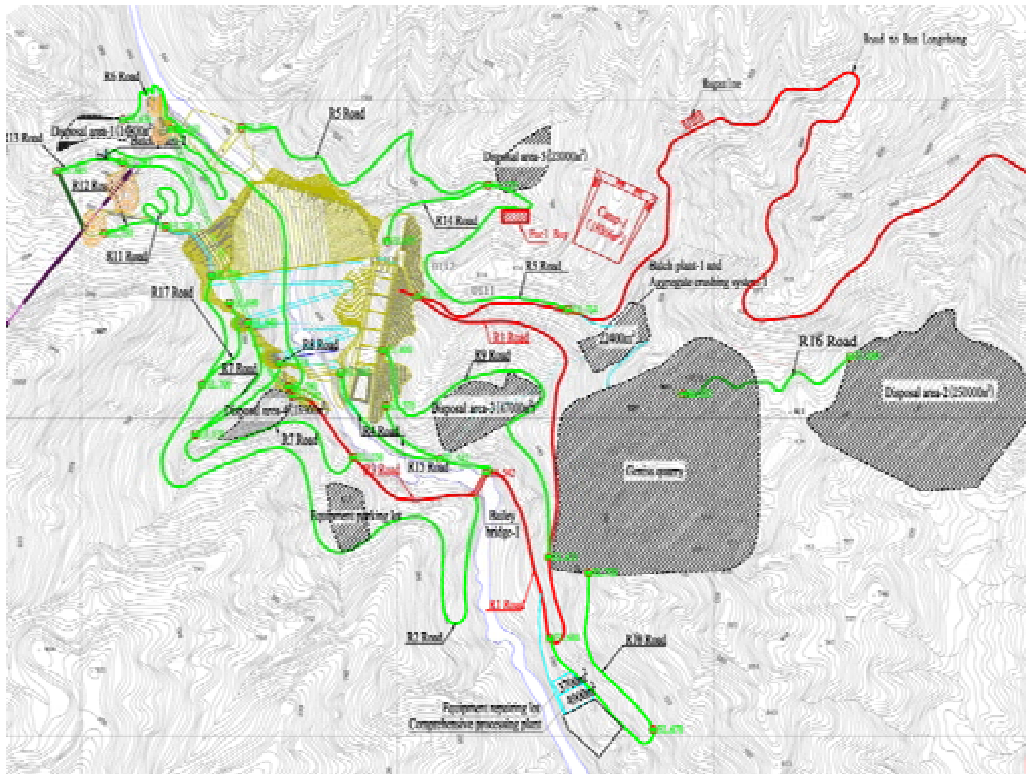


Figure 2-6 Site layout at the dam site PCA.

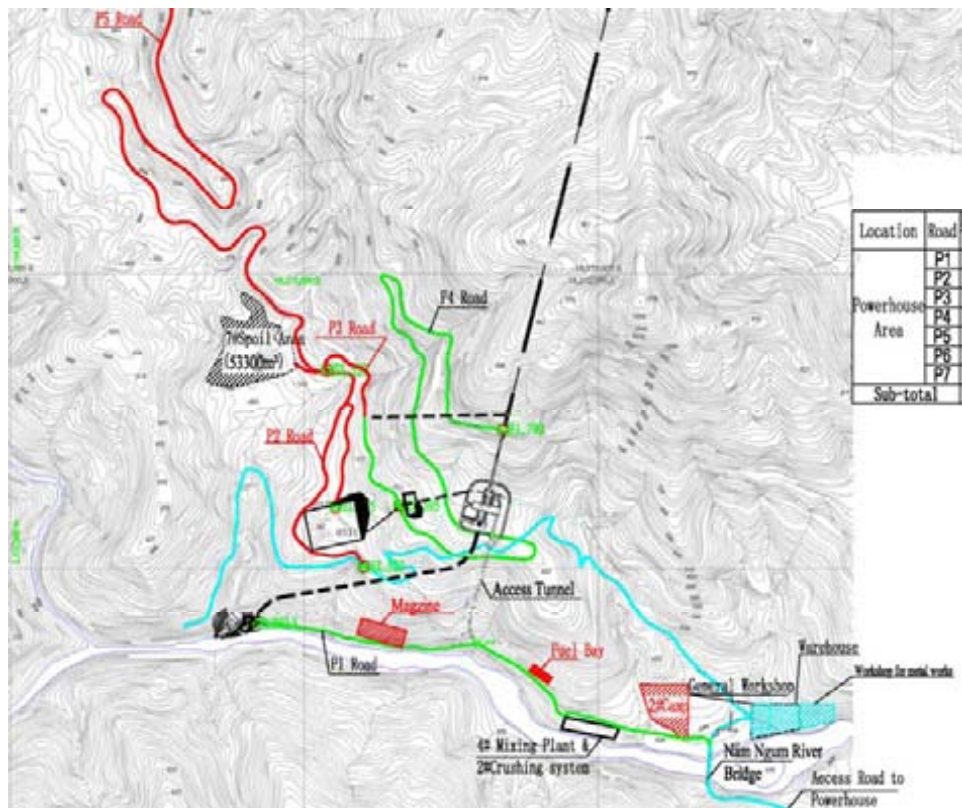


Figure 2-7 Site layout at the powerhouse site PCA

2.2 Social Impacts from Impoundment and Operations

109. Impacts by the NN3 reservoir impoundment and fluctuations of the level of the reservoir will occur at the village areas of (i) Ban Xiengdet, and (ii) the four peri-reservoir villages (Nam Sam, Xieng Nga, Xam Thong, and Long Cheng).
110. Village land will be compensated if it is used individually or by the community. Governmental land is defined as state land where state assets (roads, cemeteries, schools, health facilities, etc) are located – these remain the property of the Government. Below FSL, the reservoir area is leased, under the concession agreement, for a period of 27 years. NN3PC shall pay annual rents for the camp sites (operator village, power station, workers camp, etc). Access roads upgraded by the NN3PC remain the property of the government.
111. During project operation livelihood impacts will potentially also occur: (i) in the Peri-Reservoir village land area, (ii) in the area of the 17 upstream villages (Nam Ting, Phouvong Noi, Phouvieng Nyai, Xayoum, Somboun, Nam Chat, Ban Pang, Maang, Yong Tang, Souay, Chomsi, Sak Chort, Na Khuan, Yong Kang, Xong, Dook, and Xay), and (iii) in 7 downstream villages (Louang Phan Xay, Phan Xay, Nam Pha, Nam Xan, Nong Pou, Hom Xay, and Mouang Phoun).
112. The impacts during NN3 impoundment and operations with social consequences are categorized as follows:

1 - Xiengdet Village

- Ban Xiengdet is the only village where the village residential area needs to be relocated affecting 144 households, including households that have established themselves after the cut off date. Only part of the agricultural lands will be affected limiting the number of Ban Xiengdet households that will be economically displaced to 36. The main impacts expected are as follows:
 - i. Seasonal flooding of part of the village area.
 - ii. Seasonal flooding of residential area, including fixed assets as houses, home gardens, pig pens, fruit trees, and chicken coops.
 - iii. Seasonal and partial inundation of physical and cultural resources.
 - iv. Seasonal flooding of part of paddy fields, agricultural land, vegetable gardens, fish ponds, banana orchards, and fruit trees.
 - v. Seasonal flooding of part of village area consisting of governmental land¹⁰, potentially impacting cattle grazing, collection of Non Timber Forest Products (NTFPs), and hunting wild life.

2 – 4 Peri-Reservoir Villages

- Seasonal flooding of a small part of the village territory consisting of governmental land will occur at the four peri-reservoir villages of Nam Sam, Xieng Nga (both in Phou Kout district, Xieng Khouang Province), and Long Cheng¹¹ and Xam Thong (both in Xaysomboun district, Vientiane Province). The residential areas of the 4 peri-reservoir villages are located at considerable distance of potentially flooded governmental land. Houses and structures, including field huts will not be affected.
- About 6 households at Nam Sam are expected to be impacted by potential losses in land use of this governmental land as seasonal cattle grazing. Cattle grazing land will not be affected at the other 3 peri-reservoir villages.
- Only at Long Cheng, household income from collection of NTFPs and hunting of wild life will be partially impacted through flooding of hunting and collection areas.
- Household fish catch could be positively impacted at Nam Sam and Xieng Nga at the upper end of NN3 reservoir.
- Potential adverse impacts on household fish catch will occur at Long Cheng and Xam Thong, located at the south end of NN3 reservoir, near NN3 dam depending on (i) occurrence of migrating fish species in household fish catch, (ii) locations of affected and non affected fishing grounds, and (iii) new opportunities for households to fish in NN3 reservoir.

¹⁰ Governmental Land is the Lao expression of land possibly in use by communities, but without specific private land ownership or specific private land use right. Governmental land may be in common use by households for use of natural resources, including hunting, collection of NTFPs, cattle and buffalo grazing, fisheries or even agriculture practices, including shifting cultivation. In these circumstances, such community-used land is designated “community land”, to distinguish it from state land use.

¹¹ The village of Nam Nguua was merged recently with Long Cheng.

3 - Peri-Reservoir Governmental Land Area

- Peri-reservoir Governmental Land Area consists of land surrounding NN3 reservoir that is located outside the village areas of Ban Xiengdet and the 4 peri-reservoir villages and that will be impacted by flooding due to NN3 reservoir.
- No buildings, houses, field huts, and/or dwellings and no agricultural land uses will be affected by NN3 reservoir impoundment.

4 - Seventeen Upstream Villages

- Potential increase of household fish catch.

5 - Seven Downstream Villages:

- Potential adverse impacts on household fish catch depending on (i) occurrence of migrating fish species in household fish catch, (ii) locations of affected and non affected fishing grounds, (iii) potential upstream impacts on migrating fish species by NN2, and (iv) new opportunities for households at Nong Pou, Hom Xay, and Mouang Phoun to fish in NN2 reservoir, downstream of NN3 power station.

2.2.1 Ban Xiengdet

113. Flooding by NN3 reservoir at Ban Xiengdet will affect mainly (i) residential area, (ii) agricultural lands, and (iii) part of village land used for cattle grazing and collection of NTFPs.
114. Ban Xiengdet consists overwhelmingly of households of the Khmu ethnic minority group who are primarily subsistence farmers, depending on a combination of shifting cultivation, fixed paddy cultivation, livestock, fisheries, timber and gathering of NTFPs.
115. Villagers have confirmed their preference to relocate the residential area within the existing Xiengdet village territory at higher elevation not more than 2 kilometers from the present residential area. Annex B contains the confirmation of location of the new residential area as agreed by the community and approved by Phou Kout District authorities, and presents in details the public consultation and disclosure (PCD) process undertaken in this village.
116. Resettlement activities will be carried out for the whole Xiengdet village area and will involve: (i) relocation of residential area, (ii) improvement of road access to the village, (iii) livelihood and household income restoration and improvement, including relocation of agricultural land, and (iv) improvement of public health services.
117. This section of the REMDP does focus on the assessment of social impacts, while section 7 focuses on the initial implementation planning of resettlement and compensation procedures which have resulted from the PCD process.
118. Inventory of losses to be experienced by households were carried out in 2007 and 2008. In 2007, 90 households with a total population of 523 lived in Xiengdet. During the following months it became clear that the number of villagers was growing exceptionally fast, well above normal population growth. The village population grew from 523 to 583 persons in one year with the influx of 14 new households. It appeared that many new households started living in Ban Xiengdet in the hope to be eligible for a new house and livelihood development measures to be supported by NN3 during planned resettlement. Many households were not from the indigenous Khmu ethnic minority, but were Lao Loum newcomers to the village.
119. During the community dialogue and household consultations on 9th October 2008, it was agreed to update the inventory of assets in the residential area, including houses, with a new inventory followed by the asset registration and the establishment of a cut off date. Village and District authorities agreed that of the 14 new households, 8 households would not be eligible for resettlement and livelihood restoration to be supported by NN3. The eligibility cut off date was established as of the 9th of October 2008 after consultations with households and agreement with Village and District Authorities (see Annex B).
120. Figure 2-8 shows the location of Ban Xiengdet, the Ban Xiengdet village area, the existing residential area, and the identified resettlement site.

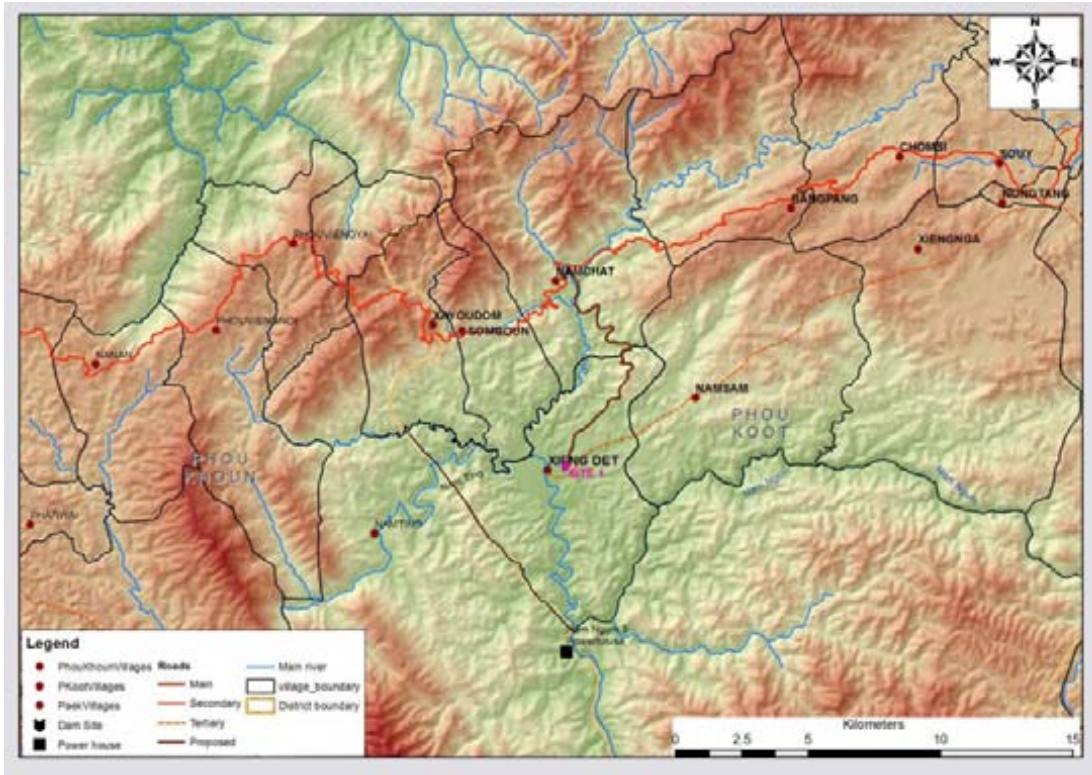


Figure 2-8 Ban Xiengdet Village Area, Resettlement Site, and Access Road to the Highway at Nong Tang

121. Table 2-3 shows the demographic data of Ban Xiengdet collected during asset registration in October 2008.

Table 2-3 Ban Xiengdet Demographic Data, Cut Off Date 9 October 2008

Total Number of Households	104
Households Eligible for Resettlement Activities	96
Households not Eligible for Resettlement Activities	8
Total Number of Families	115
Total Population	583
Number of Females	280
Number of Males	303

122. However after the cut off date, new households moved into Ban Xiengdet. In April 2010, the number of households had grown to 120 households. Phou Kout District wrote then a formal instruction letter to the village authorities of Ban Xiengdet and to the Kum Ban not to allow any opportunistic people to establish in the village and not allowing any trading in houses and or land (see Annex B). In July 2011, NN3PC fielded EcoLao to obtain the signature/thumbprint of eligible affected households in Ban Xiengdet and take photographs of each household. During this process, EcoLao found that the total population of Ban Xiengdet increased to 144 households comprised of 107 eligible households (96 original households + 11 natural growth households identified in 2010), plus a further 21 “natural growth” households (identified in July 2011), giving a new total of 128 eligible households plus 16 ineligible households. EcoLao also met with ineligible households to remind them about the notice from the district government and explain their entitlements under this REMDP.

123. New households that have established residence and/or livelihood at Ban Xiengdet after the cut off date are not eligible for resettlement and livelihood restoration activities supported by NN3. The new residential area approved by the eligible villagers and by Phou Kout District provides sufficient area and space to accommodate new households that will be established resulting from normal population growth.

Houses, Structures, and Assets

124. More than 70% of the houses at Ban Xiengdet are made of bamboo, with the remaining made of wood. An average house at Xiengdet occupies an area of 60 m². The asset registration of October 2008 identified the houses, structures and related fixed assets possessed by the eligible households that will be affected by flooding as shown in Table 2-4. A full list is included in Annex B.

Table 2-4 Number of Houses, Structures and Assets Owned by Eligible Households at Ban Xiengdet during Asset Registration and Cut Off Date , October 2008

Item	Number	Item	Number
House	96	Shop	5
Rice bin	89	Satellite disk	9
Rice processing mill	16	Garage	2
Pig hut	19	Metal processing hut	2
Chicken coop	25	Spirit house	1
Duck hut	1	Corn granary	2
Bird roost	1	Petrol shop	2

125. Some of the 96 households have more than 10 household members living in a cramped space. Requests have been made by 11 households to be eligible for two houses due to expected new marriages of household members. Section 7.6 of this REMDP: Ban Xiengdet Resettlement Action Plan provides procedures to include the requests of these 11 households to be displaced in the near future by the Project.
126. Apart from houses, assets of households at the residential area include pig, chicken and duck huts, fruit trees, home gardens, as well as rice bins, rice mills, shops, and TV antennas/disks. All houses and assets at the residential area will be flooded each year during that time of the year when the NN3 reservoir reaches Full Supply Level starting from the rainy season of 2016.
127. The residential area of Ban Xiengdet also includes community buildings such as a primary school, and meeting facilities for village authorities. Just recently, villagers have built their new primary school at land at higher elevation not to be impacted by the Project and in the proposed resettlement site. Villagers extended the primary school to five classes, while GoL recruited extra teachers and supported the new school with construction materials. The Project has financially supported Ban Xiengdet village authorities to include toilets, furniture, lacking roof material, and education materials. The Project will also make sure that the newly recruited teachers are provided with adequate accommodation at the planned residential resettlement site. A new school built to better standards will be constructed by NN3PC.
128. Xiengdet is not connected to the electricity grid. A limited number of households provide their own electricity by family hydropower. When NN3 reservoir will reach Full Supply Level (from August to October each year), family hydropower will not be effective.
129. Water supply and sanitation facilities are very limited at Ban Xiengdet. All eligible households will be fully compensated by NN3 with relocation of houses, structures, and related assets such as pig pens, home gardens, chicken coops, and fruit trees. The house plots of eligible households at the resettlement site will be provided with electricity connection to the grid, together with water supply and sanitation. All residential and agricultural plots will be provided with secure tenure through land title in cooperation with district and provincial Land Management Authorities as elaborated in section 7.6.

Physical and Cultural Resources

130. Seasonal and partial inundation of physical and cultural resources at Ban Xiengdet will occur. The ruins of one abandoned temple and the remains of foundations of another intended temple will be seasonally flooded. A holy tree is located at the elevation of Full Supply Level. Part of the graveyard

and some small spirit houses are also in danger of being flooded partially and seasonally. Flood protection measures and/or relocation of physical and cultural resources will be implemented in consultation with households and village authorities (see also the Environmental Impact Assessment Report).

Public Health

131. Public health risks of storage reservoirs concern mainly the potential outbreak of water and vector related diseases as malaria, dengue, Japanese encephalitis, typhus, leptospirosis, schistosomiasis, meliodosis, and cholera. However, the risk of outbreak of such diseases is only high at reservoirs where no or insufficient drainage is provided in the drawdown zone causing stagnant water conditions in pools and puddles within the drawdown zone. As experienced at hydropower reservoirs in northeast Thailand and in Lao PDR no significant public health risks concerning water and vector related diseases other than from stagnant water conditions can be expected. In the drawdown zone sufficient drainage will be provided to avoid the creation of puddles and pools with stagnant water conditions.
132. Water resource development projects in Lao PDR regulating or diverting river and stream discharges have experienced outbreaks of skin rash or “swimmers itch” with people who bath and/or swim in rivers and streams where discharges are significantly reduced. The technical name for swimmer's itch is cercarial dermatitis. In Southeast Asia swimmer's itch translates into "rice paddy itch" or "*hoi kon*" in Thailand and in Lao PDR to "*hoi khan*".
133. The major, although not the only, cause of swimmer's itch are trematode parasites of aquatic/migrating birds. The life cycles of these parasites involve snails as the first host and aquatic birds or some mammals as the final host. The larval parasite called a "cercaria" is released by aquatic or amphibious snails and causes dermatitis when it mistakenly penetrates a person's skin rather than its rightful host, usually a water bird. Invasion and growing populations of *hoi khan* occur naturally in rivers and streams with low flow velocity where the snail reproduces rapidly releasing increased numbers of cercaria causing skin rash or “swimmers itch”.
134. The only Project related areas where invasion of *hoi khan* may occur is directly below NN5 dam in Nam Ting and directly below NN3 dam in the Nam Ngum. At both areas, the river flows will be diverted and reduced to seepage from the dams during dry seasons potentially forming favorable aquatic habitats for *hoi khan*. However, spills over the dams during the rainy seasons will flush *hoi khan* populations out of the Nam Ting and the Nam Ngum below NN5 and NN3 dam sites. As a result of large seasonal differences in river flow in the Nam Ting and the Nam Ngum below NN5 and NN3 dams, *hoi khan* populations are not expected to be permanently established leading to less nuisance by swimmers itch of people who might swim and/or bath at those locations.
135. NN3 will provide Ban Xiengdet with a new water supply system with sufficient tabs, using another water source than the Nam Ting where water levels and water quality will change resulting from NN5 dam and NN3 reservoir. All new houses will also be provided with sanitation facilities, septic tanks, and appropriate discharge of treated domestic wastewater.
136. NN3 will also support the existing health clinic at Nam Sam by upgrading and building capacity in carrying out disease preventive measures and awareness raising. Measures will also be taken to ensure a health management response to any unanticipated health impacts via local health services.

Agricultural Land

137. During a cadastral survey carried out in July/August 2007 measurements were carried out of the various plots of land currently owned and/or utilised by households of Xiengdet. Table 2-5 and Figure 2-9 show that 58 of the 104 households own or use paddy field at Ban Xiengdet. However, not all paddy fields owned by the 58 households will be affected by flooding caused by NN3 reservoir (making only 36 households owning paddy fields eligible for compensation measures, including livelihood restoration).

138. From interpretation of satellite images it was earlier estimated that the NN3 reservoir will seasonally inundate 49 hectares of rice paddy at Ban Xiengdet. However, during the cadastral survey on the ground, it was found that only 42.3 hectares, used by 36 households, of the total of 87.21 hectares of rice paddy at Ban Xiengdet will be inundated. Should this figure change during confirmation surveys, including a detailed topographical survey, all affected households will receive the same package of compensation and support measures.
139. The present cadastral survey is more accurate than a satellite based assessment. However, the area to be inundated in Xiengdet is not yet precisely defined. An additional topographical survey and the establishment of a topographical bench mark to be carried out will more precisely predict the extent of inundation by backwater effect of NN3 reservoir.
140. Other agricultural land assessed to be seasonally inundated include maize fields (4.22 ha used by 6 households) and vegetable gardens (1.80 hectares used by 35 households), banana orchards (1.20 hectares used by 3 households), and fish ponds (2.09 hectares managed by 15 households). This will affect a total of 59 households of the 104 households at Ban Xiengdet (see Table 2-6)
141. All potentially flooded area at Ban Xiengdet was already occupied in 2007 or even sooner by households for agricultural purposes. Additional households, including opportunistic households that established livelihoods at Ban Xiengdet after July/August, 2007 could not rely on permanent agricultural land as this was already occupied. Those newly established households try to make a living of hill rice, swidden, or shifting cultivation.

Table 2-5 List of Paddy Land Owners/Users, Xiengdet, as per the Cadastral Survey, 2007

No.	HH Code	Name of HH head	Area (m ²)
1	3	Phouvong	1.20
2	5	Bounmee	0.50
3	7	Phet	1.50
4	8	Moung	0.20
5	9	Thi	1.20
6	13	Santi	15.00
7	14	Vone	1.00
8	16	Vanhphone	2.00
9	18	Somboun	1.00
10	23	Khamsao	0.90
11	24	Khamlue	1.00
12	25	Aea	2.00
13	29	Viengkeo	1.50
14	31	Bouapha	2.50
15	32	Simma	2.00
16	37	Bounleard	0.50
17	38	Khamphone	1.00
18	39	Khammouy	1.70
19	40	Onnoy	2.00
20	43	Bauphanh	1.00
21	45	Bounkham	0.70
22	47	Pho	1.20
23	48	Som	2.20
24	49	Khampan	1.30
25	50	Douangta	1.60
26	51	Khamty	1.36
27	52	Khammung	0.88
28	53	Thon	1.50
29	54	Bounme	0.50
30	55	Khamchanh	1.00
31	56	Khamkone	1.60
32	57	Sommueng	0.50
33	58	Somvang	1.00
34	59	Boualai	3.80
35	60	Phetsamone	3.50
36	61	Merng	0.60
37	62	Khamsone	0.90
38	64	Bounhueng	2.30
39	65	Boun chanh	2.00
40	66	Thidsida	1.60
41	67	Singthong	0.75
42	70	Thong	0.65
43	71	Veevone	1.20
44	72	Mod	0.80
45	73	Bounta	2.20
46	74	Somsanok	1.60
47	76	Pheng	0.50
48	79	Mee	0.80
49	81	Bouakeo	2.00
50	82	Kham	0.30
51	96	Vieng B	0.08
52	99	Lerd	0.80
53	-	Aiengthong	0.65
54	-	Khamon	1.00
55	-	Khampoon	1.05
56	-	Phetsavanh	0.60
57	-	Somevang	1.00
58	-	Vankham	1.50
Total			87.21

142. Affected paddy fields and permanently affected agricultural land will be replaced by the development of the former airstrip at Ban Xiengdet into an irrigated and drained agricultural area. This area is flat and consists of good soil conditions. An irrigation weir or pump station is planned to be located on the Nam Ting providing supplemental water to the command area during rainy seasons.
143. Irrigation of the command area during dry seasons will not be feasible due to existing low temperatures during the dry seasons resulting in low rice harvests and due to the limited Nam Ting discharges resulting from the upstream NN5 dam that is currently under construction.
144. Agricultural land is used by villagers on both sides of the Nam Ting River. To secure reliable access during the weeks per year when the Nam Ting experience rise in water levels by backwater effect from the reservoir, river transport will be provided to the village in the form of canoes.

Table 2-6 Summary of Agricultural Land Use at Ban Xiengdet, 2007

	Total Area [ha]	Total Number of Using Houhseholds	Certified Ownership	Area Affected [ha]	% of Area Affected	Number of Households Affected	% of Households Affected
Paddy Field	87.2	58	28	42.3	49	36	40
Swidden Field	110.3	83	0	0	0	0	0
Corn (maize) Field	There is an ongoing rapid development in growing maize at village areas not impacted by flooding						
Vegetable Garden	29.9	58	30	1.8	6	35	39
Banana Orchard	6.5	17	8	1.2	18	3	3
Plantation	2.2	3	1	0	0	0	0
Fish Pond	4.2	15	1	2.1	50	15	17

145. The number of affected households as shown in table 2.6 will need verification during thorough integrated confirmation surveys to be held during the dry season of 2011-2012, and agreements signed with each household as to the extent of their land holding, these agreements will be countersigned by the Village authorities, and endorsed by the District authorities.

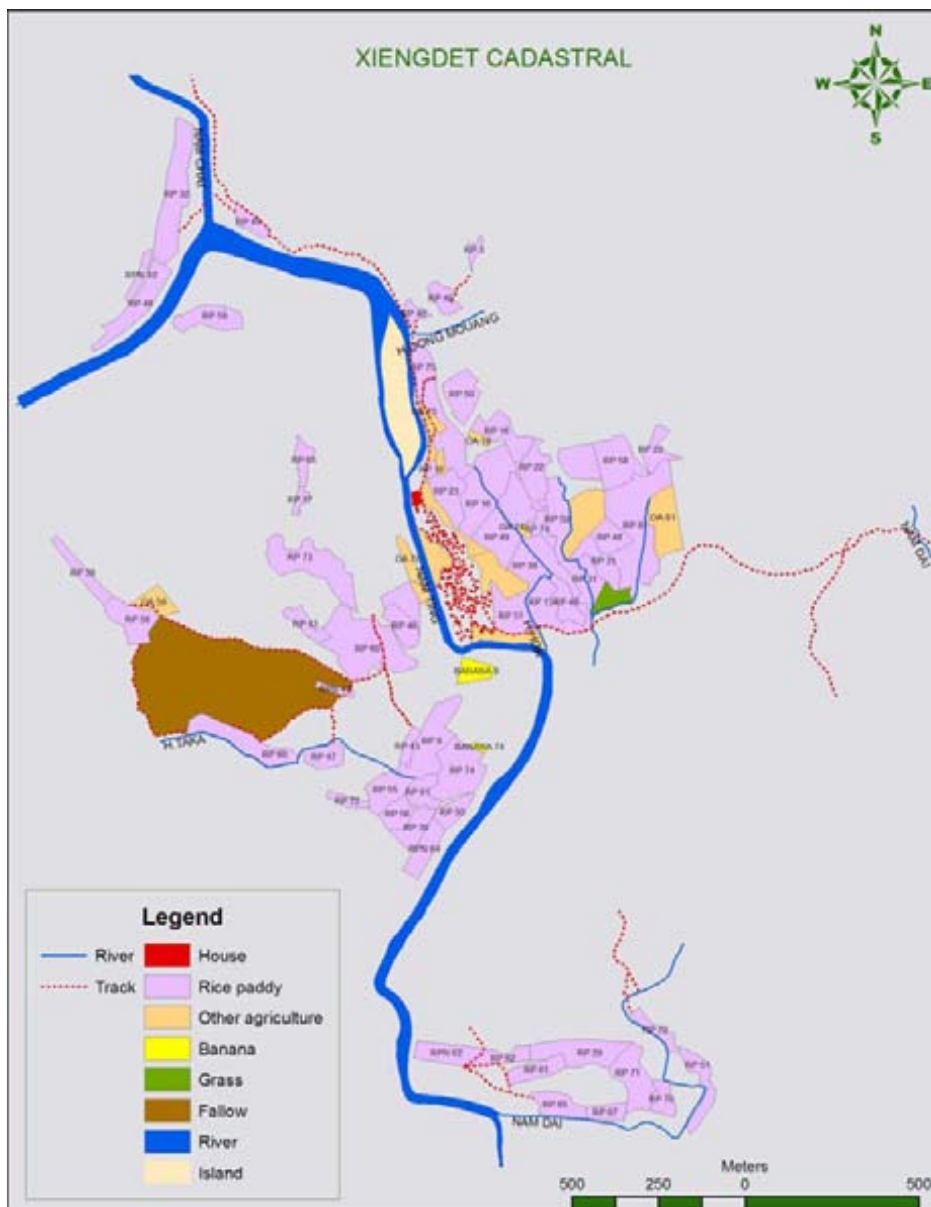


Figure 2-9 Agricultural Land Presently in Use at Ban Xiengdet

146. A village map shall be made at scale 1:10,000, showing the seasonal inundated areas, existing land uses that will be affected identifying and indicating affected land users, the planned residential village lay out at the resettlement site including household plots (at scale 1:5,000), and agricultural replacement area suitable for irrigation, showing acquisition and allocation of agricultural land plots for affected households. Presently, the locations of the future household plots at the residential resettlement site and the agricultural replacement area at Ban Xiengdet can not be shown for individual households, but only for groups of eligible households (see Figure 2-10a). The flood routing study calculated a Probable Maximum Flood (PMF) of 729.9 masl which will affect a minor portion of the replacement agricultural land (see Figure 2-10b). Such PMF may occur once in more than 10,000 years, compared to a flood level of 726.7 masl that may occur once in 10,000 years. Figure 2-10b shows that with the PMF water levels, a large percentage of the land for the planned irrigation command area is unaffected.
147. Most important is that during the surveys, the irrigation system for the agricultural replacement land should be designed. At this moment in time there are two options for irrigation: (i) construction of a weir in Nam Ting, to bring water to the agricultural replacement land on gravity, and (ii) construction of a pumping station to pump water from the Nam Ting, 5 meters up to the agricultural replacement land. Option 2 is not attractive for affected households as they will need to pay pumping costs during operation. Pumped irrigation systems are generally not sustainable, as farmers are not in the position to pay for pumping cost in advance of rice harvests, or simply cannot make cash available to pump water.

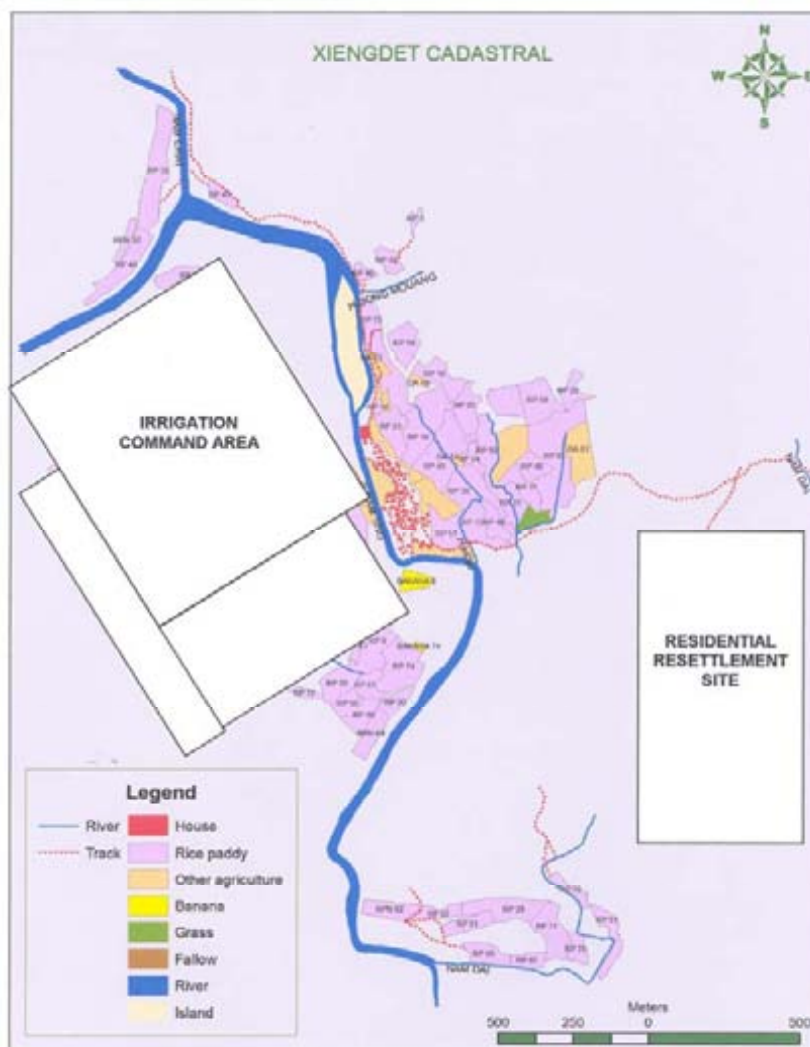
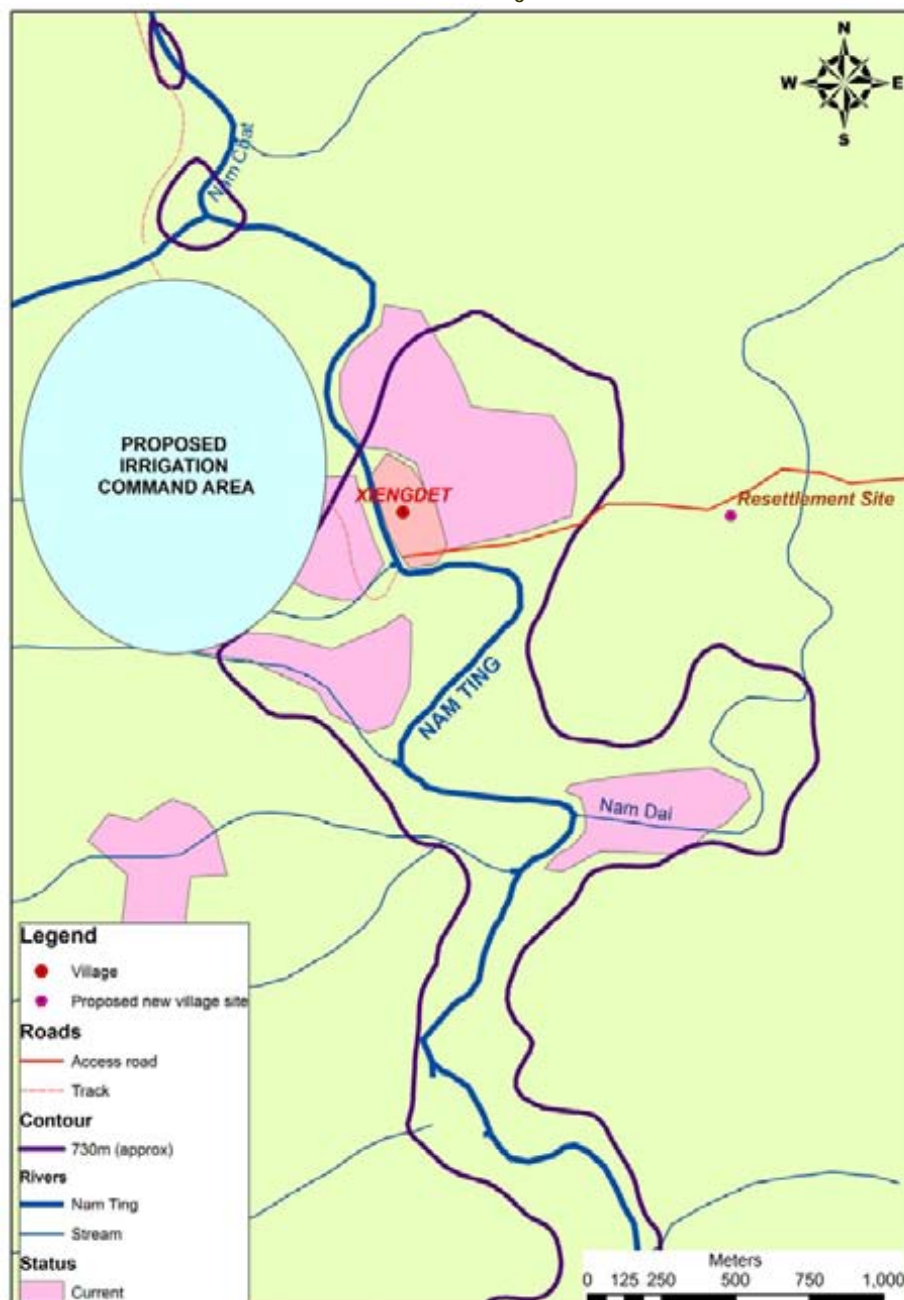


Figure 2-10a Locations of Residential Resettlement Site and Irrigated Agricultural Replacement Area

148. During the planned surveys in the dry season of 2011-2012, it is therefore important to focus on gravity irrigation rather than pumped irrigation, requiring experienced irrigation engineers for site selection of the irrigation weir, design of the weir, design of water distribution canals, design of a water reservoir, and design of command areas for those households that are affected by the Project in their permanent agricultural land uses.
149. Affected permanent agricultural land and affected households will not include opportunistic households, as permanent agricultural land that will be affected by flooding was fully occupied before the influx of opportunistic households did occur. However, it appears that trading of permanent agricultural land has taken place during 2010, most probably by opportunistic households in an effort to become legal land owners eligible for compensation. A final asset update and verification will be done before eligibility for compensation is confirmed.

Figure 2-11b Location of Irrigated Agricultural Replacement Area in relation to the maximum reservoir water level simulating a Probable Maximum Flood



Fruit Trees

150. The asset inventory has listed the total number of fruit trees possessed by each household as of 2007. Due to uncertainty with the exact location and elevation of each fruit tree, the number of trees to be affected by flooding will only be known when a topographical benchmark is established. Each household owning fruit or commercially valuable trees will reach a signed agreement with the project as to the number, age and productivity of the trees which will be affected by project activities.
151. The fruit trees in custody of individual households at Ban Xiengdet are mostly located at areas within the village that will be flooded by backwater effect from the reservoir. These fruit trees include 7 coconut trees, 74 tamarind, 511 mango trees, 45 jackfruit trees, 20 yellow egg trees, 1,087 banana trees, and 68 citrus trees (see Table 2-7, below).

Table 2-7 List of Affected Households Owning Fruit Trees

Fruit Tree	Number of Trees	Number of Households Claiming Ownership
Coconut	7	4
Tamarind	74	31
Mango	511	56
Jackfruit	45	17
Jujube	59	21
Yellow Egg	20	9
Banana	1,087	46
Citrus	68	25

152. Households possessing fruit trees located at an elevation lower than Full Supply Level of NN3 reservoir will need to be compensated by planting new fruit trees saplings at higher elevation. Replanting of affected fruit trees at higher elevations will be planned in consultation and participation with affected households. A nursery of fruit tree saplings will be established during the rainy season of 2011, after which the saplings will be replanted at each household plot of the residential resettlement area. The fruit tree saplings will be planted at the household plots 5 years before actual impacts on existing fruit trees occur.

NTFP and hunting

153. Income from Non Timber Forest Products provides 7.7 % of the average annual total household income, while it represents less than 1 % for hunting, including imputed and cash income.
154. Forested areas within the Ban Xiengdet village boundaries will be partially and seasonally inundated, reducing the opportunities of sustainable collection of NTFPs.
155. In total 428 hectares of the 4,877 hectares of the total village territory will be inundated by the reservoir. Household income from NTFPs and from hunting is likely to be less than 10 % of household income, but this will be validated by a specific NTFP survey. Eligible households will be compensated in cash for losses in household income caused by fewer opportunities to collect NTFPs and to hunt wild life. However, the livelihood support programme for Ban Xiengdet villagers will also explore potential for developing domesticated NTFPs as an income source, and options for sustainable extraction of NTFPs.
156. Commercial timber within both the impoundment area and the village area is in the process of being logged under the responsibility of GoL. Remaining trees and vegetative biomass will be removed before NN3 reservoir impoundment.
157. Reforestation and biodiversity conservation/protection activities will be supported by NN3 and implemented by the Ministry of Agriculture and Forestry (MAF) as part of the integrated watershed management planning. This shall include areas within the territory of Ban Xiengdet.

Livestock and grazing lands

158. In the morning cows and buffaloes are let loose to graze on community land in Ban Xiengdet village area. They return to the residential area in the evening. During the dry seasons, cattle need to roam further from the residential area as grass lands produce little fodder. During the rainy seasons, cattle do stay closer to the residential area as grasslands produce much fodder. There is no practice of cut-and-carry cropping.
159. Part of the cattle grazing land will be inundated during the peak of the rainy seasons and become less accessible for cattle. However, other parts of community land within Ban Xiengdet will become replacement grazing land during the dry seasons when the land is not inundated as a result of the large drawdown zone of NN3 reservoir.
160. Grass lands will be impacted at Ban Xiengdet during the peak of the rainy season only, when unaffected grass lands can produce enough fodder for cattle, which therefore will stay close to the residential area. During the dry season when grasslands generally produce little fodder and cattle need to be brought out further from the residential area, the drawdown zone of NN3 reservoir will increase the opportunities for cattle grazing, including cut-and-carry-cropping.

Fish Catch

161. The relative abundance of fish species and their populations in the NN3 reservoir will be very different from the relative abundance as currently found in the Nam Ngum and the Nam Ting. The NN3 environmental safeguard document discusses the background and the likely impacts by NN3 on aquatic life and fish from an ecological perspective.
162. The abundance of fish species and populations and the amount of fish caught by households is highly depending on rainfall and run off. As rainfall and run off fluctuate year by year, household fish catch will likely fluctuate from year to year. To establish a “baseline” in household fish catch needs a long term monitoring exercise.
163. The ongoing fish catch monitoring at Ban Xiengdet supported by the ADB funded NN3 Cumulative Impact Team has confirmed that no or little migrating fish species make part of the daily fish catch of households fishing in the Nam Ting.
164. During the household income survey in 2007 it was found that the average household fish catch at Ban Xiengdet makes out 6% of the total average annual imputed and cash income of households. This is very low, compared to household income from fisheries at other rivers at this elevation in Lao PDR. It is possible that household fish catch at Ban Xiengdet was at its peak or perhaps already in decline at that time as households used to catch fish not only for their own consumption (imputed income), but also walked two and half hours to the village of Nam Chat to sell their fish at the market (cash income).
165. To obtain cash from fisheries, fishers invested money and time, as they had to spend more than five hours to reach the market. Households at Ban Xiengdet report to sell 45% of their fish catch and to use the remainder for household consumption. It can be expected that if households increase their fishing efforts, the total village fish catch will decline. The Nam Ting has a limit to its carrying capacity of aquatic life. As soon as people are desperate for cash and have unlimited access to natural resources and markets there comes a point in time of unsustainable utilization of natural resources.
166. Without any relevant fisheries management planning, there is no village in Lao PDR where household fish catch from rivers and streams have increased since the 1970's, despite substantial increase of fishing efforts. Better access to fishing grounds, better access to markets to sell fish, more fishers, more fishing gears, more illegal methods of fishing, more labour, and more investment to obtain fish from rivers and streams have only led to a decrease in household fish catch.
167. Improvement of access to markets, generally leads to less fish consumption by households (imputed income) and more sale of fish for cash income. Improvement of access to markets leads also to more fishing efforts by more fishers. With the improvement of access to markets, more households eat less fish, invest more effort to catch fish, all to sell more fish on the short term, but lose more in the process. It may be that improved road access provided by the project will increase the importance of fisheries as a cash contribution to household incomes, but on the short term only as it may also

improve access for outsiders to travel to the area and take advantage of new opportunities. Livelihood monitoring will indicate whether this will be the case.

168. For how much the imputed and cash income from catching fish will be impacted by NN3 depends on many other factors than NN3 alone. Due to ongoing increase of household numbers and the increase of number of fishers at Ban Xiengdet and due to changes in the aquatic environment caused by the present construction of NN5 dam, the catch of fish by households is already reducing and fishers have to make more effort to catch the same amount of fish. Presently, fishers have to use more time and more fishing gear and/or have to fish in the Nam Ting at locations far from Xiengdet's residential area.
169. From 2007 to 2008, the population of Xiengdet increased from 523 to 583, or by 11.5%. It can be assumed that the number of fishers increased by 11.5 % as well. If the total annual village fish catch has stayed the same, then household fish catch is likely to have declined in the same proportion as a result of influx of new villagers, provided the number of fishing gears, time spend in making and using fishing gear, and fishing locations by the former number of fishers remained the same. Since then, the population of Xiengdet has continued to increase and with it the fish catch per household.
170. Household fish catch at Ban Xiengdet monitored by Cumulative Impact Team has been confirmed to be in decline, which is also believed to have been caused by the construction of NN5 dam. During construction of NN5, turbidity in the Nam Ting did increase which resulted in complaints by the villagers. During the dry season, villagers used the Nam Ting as a source for drinking water, which had to be stopped when the construction of NN5 dam started and led to a substantial increase of turbidity. NN5 had to compensate villagers by providing a new water supply system using another water source than the Nam Ting. However, the villagers did not complained about the decrease in fish catch resulting from the increase of turbidity caused by NN5.
171. Well before the NN3 impacts on household fish catch at Ban Xiengdet will occur there will be impacts on household fish catch by the growing village population, the increase of number of fishers, and the increase of turbidity in the Nam Ting caused by the NN5 dam construction. Well before NN3 will cause impacts on household fish catch, the construction of NN5 dam will be completed, but at that time NN5 impacts will change from turbidity to reduction of the river discharge.
172. Due to ongoing and upcoming impacts on fisheries, it is probably too late to establish a robust baseline of household fish catch at Ban Xiengdet. However, fish catch at Ban Xiengdet is expected to increase as the NN3 reservoir fills, as riverine fish species presently occurring in the Nam Ngum and the Nam Ting will try to escape by moving upstream. Consequently during impoundment and immediately thereafter, upstream reservoir locations will have the opportunity to catch more fish. Households generally make use of such opportunity, as it has been observed at other hydropower reservoirs in Lao PDR. As many fishes move upstream during reservoir filling, the carrying capacity at upstream locations is often surpassed, and followed by a decline in fish populations after two to three years to the levels observed before impoundment unless unsustainable practices lead to a decline even below pre-impoundment levels.
173. Unsustainable fisheries are generally caused by the use of too many fishing gears, destructive fishing methods, blocking off streams, increase of number of fishers, and better access to markets. NN3 will upgrade the existing access road from Ban Xiengdet to the highway and thus will improve access to markets, which may contribute to an increase of the numbers of people applying unsustainable fisheries practices at Ban Xiengdet. However, NN3 will implement a fisheries and fish culture management and monitoring plan taking over the ongoing monitoring program by ADB and working towards avoiding unsustainable fisheries taking into account the potential downstream impacts on fisheries by NN5 and NN4 A and B.

Severity of Impacts on Livelihoods and Income Sources

174. Half of the households at Ban Xiengdet have less than 19 million Kip per annum in total income (cash and imputed). The percentage of households in Xiengdet per income group is presented in Table 2-8.

Table 2-8 Household Income Groups in Xiengdet, 2007

Income Group p/a [Million Kip]	% of Total Households
0-10	20
10-20	33
20-30	14
30-40	9
40-50	13
50-60	10

175. Having households resettling within their own village area means that they can continue to utilise the majority of livelihood resources within the existing village boundaries, which remain unaffected by flooding. Economic displacement by land loss will not be experienced by all households. Livelihood restoration is required only for those households that are impacted in their use of land in Ban Xiengdet that will be seasonally inundated by the NN3 reservoir. However, apart from land replacement, any livelihood support in the form of training, advice, etc., will be made available to all Ban Xiengdet villagers during the resettlement process.
176. Table 2-9 shows a summary of the number of households with houses and related structures, and land use potentially affected by the Project.
177. In consultation with affected households, locations within Ban Xiengdet village area have been identified where livelihood restoration activities can be implemented, without suffering impacts of restricted access through future flooding. Permanent agricultural land as rice paddies, corn fields, and banana orchards that will be impacted by flooding will be replaced at a new area around the former air strip and irrigation facilities provided. This area has about twice the size of the total affected permanent agricultural land area which amounts to approximately 50 hectares.
178. The Ban Xiengdet resettlement plan (Section 7.6) includes detailed relocation, livelihood and income restoration, as well as development activities, including the procedures for these activities to adequately compensate potentially affected households. It will be implemented well before the actual impacts by NN3 occur during the rainy season of 2016. This provides opportunities to increase imputed and cash household incomes both from associated resettlement activities, such as labour to reconstruct housing, as well as to bring replacement land into cultivation well before impacts are felt, thus limiting negative impacts on household incomes, and easing the transition period.
179. In addition, after the rainy season of 2016, an effort will also be made to develop new livelihood options in the draw down zone of NN3 reservoir at the existing land use areas that will be seasonally inundated. To increase household income in Ban Xiengdet, additional land uses can be in the form of (i) dry season cattle grazing land, with better fodder for cut-and-carry; (ii) construction and operation of seasonal fish ponds, and (iii) additional rice paddies to be planted with flood resistant rice varieties. These will be developed if considered feasible and in consultation with households.
180. The land uses as shown in Table 2.9 are based on participatory surveys carried out in 2007/2008 during which only 90 households lived at Ban Xiengdet. In 2010, more than 120 households live in Ban Xiengdet, of which 24 households can be considered opportunistic. Opportunistic households never had the opportunity to establish land uses at areas that will be flooded by the Project, as these were occupied by the households who lived since long in the village.
181. Opportunistic households did build their houses and structures at land to be flooded, but needed to establish their land uses at locations at higher elevations not affected by the Project. Livelihoods of opportunistic households are only affected by the needed relocation of pigs and chickens that are kept around their residential land plots. Any fruit trees planted by the opportunistic households did not have the time to mature for being productive. In an effort to benefit from the planned compensation and development measures to be implemented by the Project, some opportunistic households have engaged in the trading of land. This occurred however after the cut off date that was set on the 9th of October 2008, and it does not change the number of project affected households.

Table 2-9 Adversely Impacted Houses and Related Assets, Land, and Land Uses at Ban Xiengdet

Existing Houses and Related Assets, and Sources of Household Income at Ban Xiengdet			Project Affected Household Income Sources at Ban Xiengdet		
	Unit	Existing Units	Affected Units	% Affected of Existing Units at Ban Xiengdet	% Households Affected at Ban Xiengdet
Houses and Related Assets	structures	120	120	100	100
Paddy Fields	hectare	87.2	42.3	49	30
Maize or Corn Fields*	hectare	n.a.	4.2	n.a.	5
Vegetable Gardens	hectare	29.9	1.8	6	29
Banana Orchards	hectare	6.5	1.2	18	3
Fish Ponds	hectare	4.2	2.1	50	13
Livestock and Poultry	pig	350	350	100	100
	poultry	1,500	1,500	100	100
Fruit Trees**	coconut	7	7	100	3
	tamarind	74	74	100	3
	mango	511	511	100	47
	jackfruit	45	45	100	14
	jujube	59	59	100	18
	yellow egg	20	20	100	8
	banana	1,087	1,087	100	38
	citrus	68	68	100	21
Opportunities for Collection of NTFPs and Hunting Wild Life	hectare	4,877	428	9	100

*Growing Maize (Corn) is under rapid development at Ban Xiengdet at areas not flooded by Project, the affected maize area is identified, but % affected of existing could not be identified.

** **Most, but not all of the fruit trees are located at affected areas. Estimates of Affected Units and Affected Households are therefore worst case estimates.**

182. Table 2.9, therefore, identifies the affected households and their project affected land uses based on the 2010 population update of 120 households at Ban Xiengdet. Based on the fieldwork done by Ecolao in June-July 2011, there are 128 eligible households now living in Ban Xiengdet comprised of original households and natural growth households and an additional 16 households who can be considered opportunistic. A topographical survey, village lay out, confirmation surveys of identified land uses and affected land uses, as well as design, site selection, and allocation of irrigated agricultural land, all planned to be held during the dry season of 2011 - 2012 will verify if the impact assessment summarized in Table 2-9 needs adjustments. The design of the irrigated command area will also identify if any additional land acquisition within the irrigation command area will be required. The asset inventory presented in Table 2-9 will also be revised after the revalidation and updating of household assets in the residential area in the dry season of 2012-2013.

2.2.2 Peri-Reservoir Villages

183. The impacts in the four peri-reservoir villages of Nam Sam, Xieng Nga, Xam Thong, and Long Cheng that are located in the surroundings of NN3 Reservoir relate to the inundation of governmental lands, mainly riverbank areas. In the peri-reservoir villages, no riverbank gardens have been established as the distance from the villages is too big. Other land within village boundaries is community land not affected by the Project which may or may not be in use by the households living at the peri-reservoir villages.

Location

184. Nam Sam and Xieng Nga are located at the surroundings of the upper end of the reservoir at Phou Kout District in Xieng Khouang Province. Both Nam Sam and Xieng Nga are neighboring villages of Ban Xiengdet sharing the same public access road to route no. 11 (Figure 2-11).

185. Figure 2-11 shows the village area boundaries and the 40 km long access road from Nong Tang to Ban Xiangdet, passing Xieng Nga and Nam Sam. The Nam Ngum and the Nam Ting rivers form the village boundaries of Ban Xiangdet, Nam Sam, and Xieng Nga. Figure 2-11 illustrates that the residential areas of Nam Sam and Xieng Nga are at a long distance from the Nam Ngum River, where water levels will seasonally increase due to NN3 reservoir.

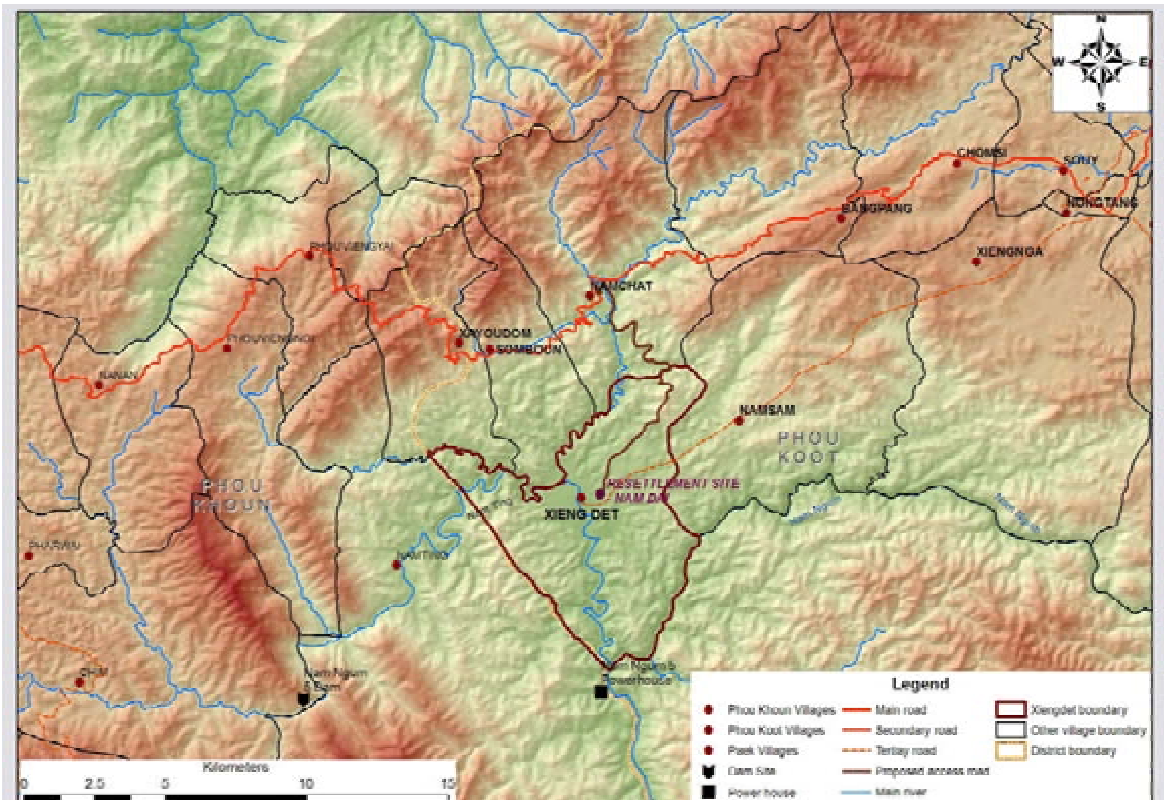


Figure 2-12 : Present Village Area Boundaries of Xiengdet, Nam Sam, and Xieng Nga

186. Figure 2-12 below illustrates which village areas at Nam Sam and Xieng Nga will be seasonally inundated by the NN3 reservoir. It was calculated that, for Ban Nam Sam, 75 ha out of a total of 6,581 ha of land will be inundated periodically by the NN3 reservoir, or 1.1 % of the total village area. This will represents 17ha out of a total of 8,470 ha, or 0.2% of the total village area for Ban Xieng Nga.

187. Long Cheng and Xam Thong are located at the surroundings of the lower end of the reservoir at Xaysomboun District in Vientiane Province (see Figure 2-12).

Ethnicity

188. The populations of the 4 peri-reservoir villages consist of Khmu and Lao Tai ethnic groups. The Khmu ethnicity can be seen to be dominant in Nam Sam. Table 2-10 shows the number of households and their ethnicity at the four peri-reservoir villages.

Table 2-10 Number of Households and their Ethnicity at the Peri-Reservoir Villages in 2008

No.	Village	No. of HHs	% Khmu Households	% Lao-Tai Households
1	Nam Sam	75	100	0
2	Xieng Nga	98	21	79
3	Xam Thong	46	50	50
4	Long Cheng	201	45	55
	Total	420	50	50

Land uses

189.No residential areas or agricultural land uses at the 4 villages will be affected by flooding. The extent of flooding is illustrated in Figure 2-12 and described in more detail in Table 2-11.

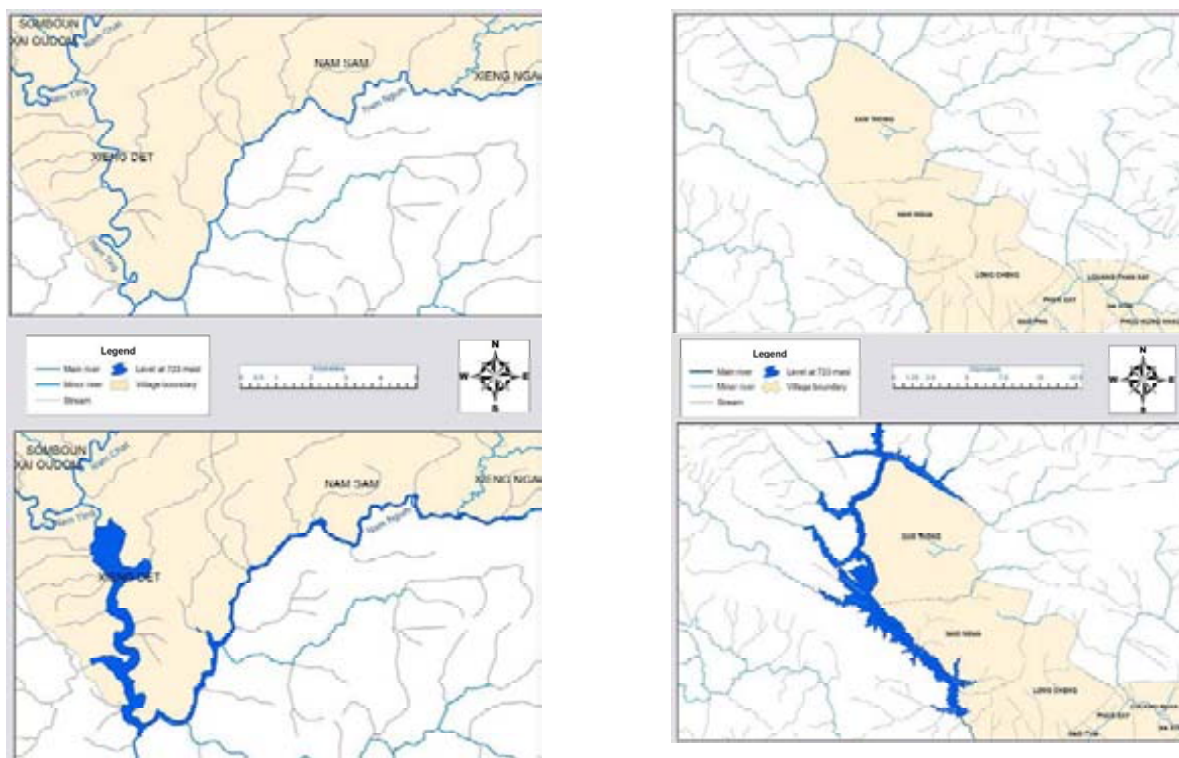


Figure 2-13 A and B Current Nam Ngum River (up) and Future NN3 Reservoir at 723 masl (down), Xiangdet and Peri-Reservoir Villages.

Table 2-11 Estimate of Area and Land use inundated by NN3 Reservoir in Peri-Reservoir Villages.

Village	Total Village Area (ha)	Inundated Area as % of Total Village Area	Land Cover (ha)					Total
			Forest, dense, evergreen	Forest, med/low density, evergreen	Regrowth	Wood & scrubland, evergreen	Grassland	
Nam Sam	6,581	1.1	-	-	69.9	4.6	-	74.5
Xieng Nga	8,470	0.2	-	-	15.4	1	-	16.4
Xam Thong	6,700	5.6	0.2	-	-	378.3	-	378.5
Long Cheng	11,335	4.4	-	25.8	11.5	284.6	176.3	498.2
Total	33,086	2.9	0.2	25.8	96.8	668.5	176.3	967.6

Notes: Area for Xam Thong is a rough estimate as village boundaries are not clearly identified. The 723 masl. level is based on interpolation from the 720 and 725 masl satellite image.

190. Based on findings from the Forest Cover Monitoring Project (2003), calculations were made on the areas of each land use class to be inundated by the NN3 Reservoir.

191. Table 2-11 shows that in total 967.6 hectares of lands at the 4 peri-reservoir villages will be inundated by the NN3 reservoir. This affected area makes up on average 2.9 % of the existing village areas. For each village it does not amount to more than 5.6 % of the village area of Xam Thong and 4.4 % of Long Cheng located in the neighbourhood of the NN3 dam and less than 1.1 % of the village areas of Nam Sam and Xieng Nga located at the upstream part of NN3 reservoir. These affected areas are each year seasonally inundated by the reservoir.

192. Within the village areas of the four peri-reservoir villages, there will be hardly any dense evergreen forest inundated, while inundated evergreen forest of medium or low density amounts to 26 ha. Areas with regrowth to be inundated come up to 97 ha while the main land use type to be affected is wood & scrubland: 669 ha. Grass land has been identified only at Long Cheng.
193. As part of the environmental offsetting measures of the Project proposed in the ESIA, reforestation and biodiversity conservation/ protection activities will be supported by NN3PC under its integrated watershed management programme.
194. Inundated village land at the 4 peri reservoir villages is located at considerable distance from residential areas (see Figures 2-11 and 2-12). During consultations and disclosures involving households, village, *kum ban*, and district authorities, it was confirmed that no houses, field huts, dwellings, or structures will be impacted by reservoir flooding.

Agriculture and Livestock

195. At 3 of the 4 peri-reservoir villages, Xieng Nga, Long Cheng, and Xam Thong, households confirmed that no households own or use land for shifting cultivation, swidden agriculture, and cattle grazing within the boundary of the future reservoir.
196. During consultations at Long Cheng and Xam Thong it was confirmed that the 11.5 hectares of regrowth containing a mixture of fields under cropping or in stages of fallow with shrubs and regrowth, and the 176.3 hectares of grassland (see Table 2-11) potentially impacted by the impoundment of the reservoir, were not in use by households for shifting cultivation, swidden agriculture, and cattle grazing.
197. During consultations at Nam Sam there were different opinions: the majority of the households consulted was of the opinion that no any agricultural uses are ongoing at affected areas, while one *Kum Ban* representative was of the opinion that about 6 households bring their cattle to these areas at the peak of the rainy season when they cannot be brought to the shifting cultivation fields, outside of the impacted areas. During the consultation meeting it was agreed that a participatory field survey during the peak of the rainy season will identify and consult these households for inclusion of the affected households in the peri-reservoir resettlement action plan to ensure appropriate compensation.



Figure 2-14 Distance of Long Cheng, Nam Ngua, and Xam Thong residential areas to Nam Ngum River and NN3 reservoir

Non Timber Forest Products

- 198. The removal of timber by households is strictly regulated by GoL in quantities and species. According to governmental regulations, households are not allowed to cut more hardwood than for the construction of their own houses or for their own local use (for instance making a boat). Households are not allowed to be engaged in removal of hardwood for furniture making and/or trade, unless they obtain a permit from GoL. However, regulations are difficult to enforce as households are engaged in other activities, essential for their livelihoods, impacting the forests such as: removal of agar wood, collection of resin, and shifting cultivation.
- 199. In order to give a chance of success to the integrated watershed management programme, that will be supported by the Company, it is essential that GoL during the salvage logging in the reservoir ensures that the logging contractors respect environmental and social good practices and do not remove timber from outside of the reservoir area. The additional biomass removal programme shall be under the responsibility of the Company and shall be made in anticipation of the filling of the reservoir, with the objectives to minimise water quality issues in the reservoir and therefore provide better conditions for fisheries development in the reservoir.
- 200. The loss of forested areas by the Project at the 4 peri-reservoir villages is small compared to the total village areas. Households at Xieng Nga, Nam Sam, and Xam Thong claim they do not make expeditions to affected areas for collection of NTFPs. However, at Long Cheng soldiers go into the impoundment area to collect NTFPs (fruits, herbs, flowers, roots, fibers, raisin, agar wood, mushrooms, and honey) for their own use, including consumption, medical treatment, improving food taste and conservation, and trade.

201. Reforestation activities as per the proposed reforestation in the 4 peri-reservoir village areas will partially off set the loss of opportunities for households to collect NTFPs. But, reforestation will not off set in time the partial losses in imputed and cash income by households from collection of NTFPs in affected areas. The value of losses in household income from reduced opportunities to collect NTFPs by households at Long Cheng will be determined during participatory household income surveys to be held in the dry season of 2011-12. The value of losses is anticipated to be much less than 10 % of average household income, as the affected NTFPs collection area forms a small part of total available collection area not affected by the Project.

Hunting

202. During consultations at Nam Sam and Xieng Nga households affirmed that they do not hunt wild life in the impoundment area.

203. Households at Xam Thong also stated that they do not hunt in the inundated areas, but that their hunting expeditions at the other site of the Nam Thone stream, where water levels will seasonally rise due to the reservoir will be impacted. As a compensation measure the Project will make available two canoes together with paddles to the community of Xam Thong at the beginning of the rainy season of 2016, when reservoir filling starts.

204. Households at Long Cheng revealed that they hunt deer and serow in the impoundment area particularly during the dry seasons. The value of income losses and protein intakes from reduced opportunities to hunt deer and serow will be determined during the participatory household income surveys to be held at Long Cheng in the dry season of 2011-12. The value of losses in household income from affected hunting is anticipated to be much less than 10 % of average household income.

Fish Catch

205. At the two peri-reservoir villages of Nam Sam and Xieng Nga, fish catch is expected to increase for a period of two to three years after reservoir filling in 2016. At these two peri-reservoir villages, NN3 will cause similar positive impacts on household fish catch as in Ban Xiengdet.

206. At the peri-reservoir villages of Long Cheng and Xam Thong, located at the neighbourhood of NN3 dam, villagers do catch fish in small rivers and streams and at other wetlands and say that they periodically, particularly during the dry season, fish in the Nam Ngum River. However, households at Xam Thong barely fish or barely catch any fish (Table 2-12). Households at Long Cheng do catch more fish than at Xam Thong, about 30 kg fish per household per year. Fish consumption is therefore low; less than 100 gram per person per year at Xam Thong and 5.9 kg per person per year at Long Cheng.

Table 2-12 Annual Fish Catch at Xam Thong and Long Cheng

Village	Annual Average Fish Catch		Annual Fish Consumption*	
	Kg/Household	Kg/Village	Kg/Household	Kg/Person
Xam Thong	0.4	18	0.4	0.1
Long Cheng	30.3	6,100	30.3	5.9

Note * All household fish catch at Xam Thong is consumed, whereas a part of the fish catch at Long Cheng is sold there.

207. The Project impact on household fish catch is expected to be only on that part of the household fish catch that consists of migrating fish species, such as *Pba Ke*, *Pba Keung*, and possibly other migrating fish species. Households living at Long Cheng do catch migrating fish species only when they fish in Nam Ngum River. Migrating fish species do not occur at small rivers, streams, paddy fields, ponds, and other wetlands, where households at Xam Thong and Long Cheng do also obtain their fish for consumption.

208. Consultations at the neighboring villages of Long Cheng revealed that most of the ongoing fisheries practices in the Nam Ngum River are destructive and/or unsustainable. Fishing with explosives and electric fishing in the Nam Ngum River appears to be common practice particularly by Long Cheng villagers, including the military.

209. The value of losses in household income from reduced opportunities to catch and consume migrating fish species will be determined during the participatory household income surveys to be held at Long Cheng during the dry season of 2011-12. The value of losses in household income from affected household fish catch is anticipated to be much less than 10 % of average household income at Long Cheng, as the affected household fish catch is obtained from only a small part of existing fishing grounds.

Public Health

210. The residential areas and agricultural lands of the 4 peri-reservoir villages are located at considerable distance from the NN3 reservoir, reducing the risk of water and vector borne related diseases. However, drainage will be provided in the drawdown zone, so that no puddles and pools are formed during the drawdown.

211. At the 2 peri reservoir villages of Nam Sam and Xieng Nga located at the upstream part of the NN3 reservoir, public health services will be supported by NN3 by upgrading of the health clinic, capacity building, and public health outreach services based from Nam Sam health center.

212. For the two peri-reservoir villages Long Cheng and Xam Thong located close to NN3 dam, the existing health center at Long Cheng will be upgraded and provided with training of medical staff to carry out preventive measures and awareness building to avoid outbreak of water borne diseases. The health clinic at Long Cheng will also serve to prevent outbreak of communicable diseases, including sexually transmitted diseases during construction phase by carrying out regular health check ups in coordination with the health clinic of the Contractors.

Severity of Impacts

213. Xieng Nga: During consultations with households and village authorities of Xieng Nga, it was agreed that there will be no adverse Project impacts on houses, structures, and assets, nor will there be any Project impacts on land uses. Households stated that Project affected land was located too far from their residential area for any land uses and uses of aquatic resources.

214. Nam Sam: During consultations at Nam Sam households also stated that the distance from the residential area to the project affected lands severely limited the land uses and use of aquatic resources at the project affected areas. However, it appeared that 6 households might be adversely impacted from the rainy season in 2016 when the reservoir will be filled. These 6 households bring their cattle to Project affected areas during the peak of the rainy seasons. The 6 households will be identified during the rainy season of 2011 and during subsequent consultations, replacement land for cattle grazing will need to be selected and allocated.

215. Xam Thong: During consultations at Xam Thong, it was found that the difficult access and the long distance from the residential area were reasons for a very limited use of land and water in the impoundment area. The main adverse impact by the Project was identified to be the access to hunting grounds at the other site of the stream Nam Thone. Water levels in Nam Thone stream will rise due to the Project. The households agreed with the proposed compensation measure in the form of 2 canoes. The Project impacts on fish consumption at Xam Thong are estimated to be less than 100 gram of fish per person per year.

216. A reservoir fisheries programme that shall be formulated before Commercial Operation Date and implemented after COD could increase the average household fish catch at Xam Thong. NN3 will formulate such a programme in consultation with the village and households and in cooperation with MAF's Department of Veterinary Services, Livestock, and Fisheries. It will identify households willing to take part in reservoir fisheries as a livelihood restoration option in compensation for the losses in fish catch and as a development measure. At Xam Thong there is an existing access track ending at a tributary to the Nam Ngum River. This tributary will become part of the NN3 reservoir. A fish landing place for Xam Thong fishers will be established by NN3 at the end of this access track.

217. Long Cheng: At Long Cheng the Project will cause three categories of social impacts, in the form of minor losses in household income (imputed and cash income): (i) collection of NTFPs, (ii) hunting wild life, and (iii) fish catch. The value of losses in household income from reduced opportunities to collect

NTFPs, hunt deer and serow, and catch and consume migrating fish species as *Pba Ke* and *Pba Keung* will be determined during the participatory household income surveys to be held at Long Cheng during the dry season 2011-12. The value of the impacts by the Project are considered to be non significant and having a total value less than 10 % of annual household income. Impacted households will be compensated.

218. The reservoir fisheries management plan will include households living at Long Cheng. Avoiding destructive and unsustainable fisheries practices will also increase opportunities for households to catch more fish.

2.2.3 Peri-Reservoir Governmental Land Area

219. Peri-Reservoir Land Area consists of government land surrounding NN3 reservoir that is located outside the village areas of the 4 peri-reservoir villages and will be impacted by flooding due to NN3 reservoir.
220. No buildings, houses, field huts, and/or dwellings and no land uses will be affected by NN3 reservoir flooding as appeared during consultations with governmental officials and confirmed by the interpretation of satellite images of NN3 Reservoir Area (Annex K of the ESIA).
221. Field-level surveys will be carried out during the biomass clearance programme planned to be undertaken from 2015 to 2016.

2.2.4 Upstream Villages

222. The 17 upstream villages of Nam Ting, Phouvieng Noi, Phouvieng Nyai, Xayoudom, Somboun, Nam Chat, Ban Pang, Maang, Yong Tang, Souay, Chomsi, Sak Chort, Na Khuan, Yong Kang, Xong, Dook, and Xay are located upstream of NN3 reservoir and downstream of NN5 reservoir (under construction) and downstream of NN4 A and B reservoirs (still in the planning phase). See Figure 2-14.
223. At the upstream villages, there will be no impact on land, but potential impacts on household fish catch. At some of the NN3 17 upstream villages, the downstream impacts of NN5 occur presently and are expected to occur in the future in terms of reducing household fish catch, although no migrating fish species are expected at these locations because of the existing dams downstream (NN1, NN2). Investigations undertaken under the NN3 Cumulative Impact Assessment indicated that negligible numbers and quantities of migrating fish species make part of the household fish catch at locations upstream of NN3 reservoir. NN3 impacts could be positive for two to three years after impoundment of the reservoir at upstream locations by the upstream movement of riverine fish species from the reservoir. After these two to three years, the household fish catch will return to normal, unless the NN4 hydropower project is constructed, which may cause downstream impacts on household fish catch at the 17 upstream villages.

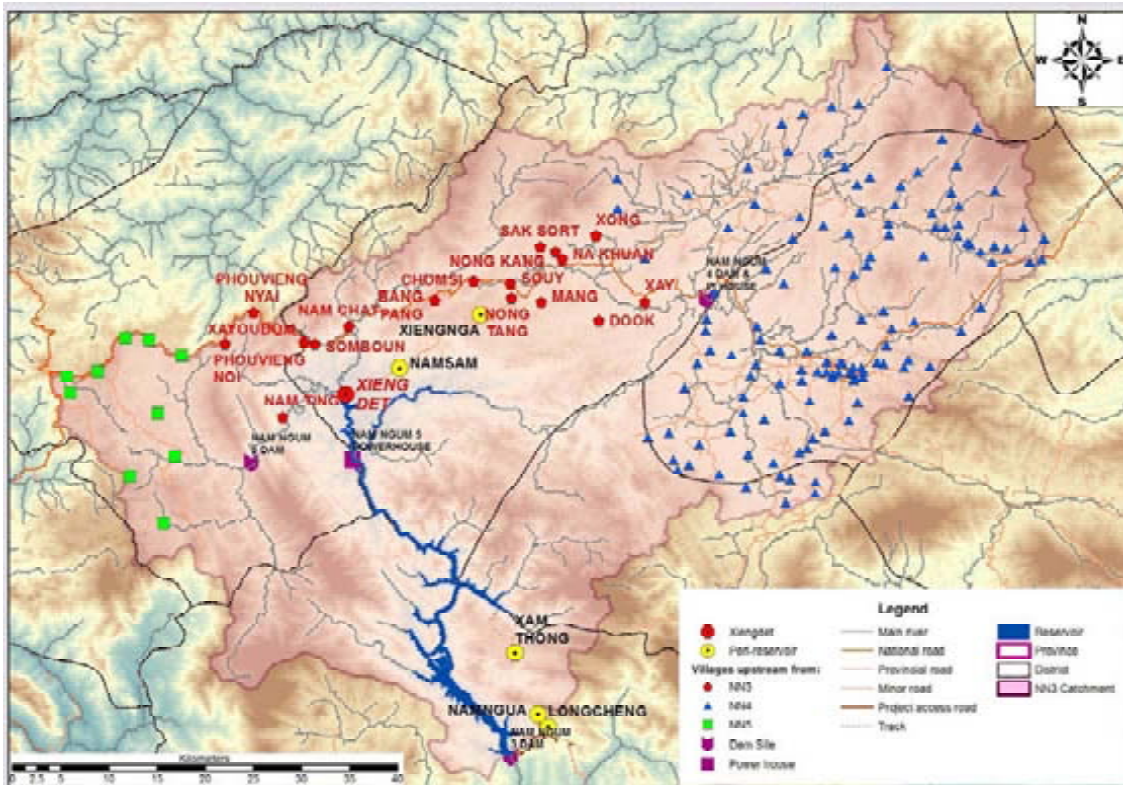


Figure 2-15 Upstream villages and Ban Xiengdet (shown in red), downstream of NN5 and NN4 & upstream of NN3

224. The positive impacts by NN3 on the household fish catch at the 17 upstream villages will highly likely be similar, although of less significance, to the expected positive impacts on household fish catch at Ban Xiengdet, Nam Sam, and Xieng Nga, as these villages are more remote from the NN3 reservoir than Ban Xiengdet, Nam Sam, and Xieng Nga.
225. NN3 will support reforestation and biodiversity protection/conservation activities in the 17 upstream villages under the integrated watershed programme. Reforestation and biodiversity/conservation measures should enhance the sustainability of livelihoods at the 17 upstream village areas.

2.2.5 Downstream Villages

226. The 7 downstream villages of Louang Phan Xay, Phan Xay, Nam Pha, Nam Xan, Nong Pou, Hom Xay, and Mouang Phoun are located along two tributaries of the Nam Ngum River: the Nam Pha and the Nam Phay (Figure 2-15).
227. The Nam Pha confluence with the Nam Ngum River is located between NN3 dam and NN3 powerhouse. Villages located along Nam Pha are the 4 villages of Louang Phan Xay, Phan Xay, Nam Pha, and Nam Xan.
228. The Nam Phay confluence with Nam Ngum River is located in the NN2 reservoir, downstream of NN3 powerhouse. Villages located along Nam Phay are the 3 villages of Nong Pou, Hom Xay, and Mouang Phoun.
229. Both the Nam Pha and the Nam Phay are perennial rivers, but at their upstream locations, where most of the downstream villages are located, they are reduced to a trickle and/or fall dry during the dry season.
230. NN3 will have no impacts on houses, structures, assets, or land uses, and health risks are also not anticipated from the NN3 reservoir in any downstream village. The hydrology of the Nam Pha and the Nam Phay will not be affected, except for some hundreds of meters close to the confluences with the Nam Ngum River and the NN2 reservoir.

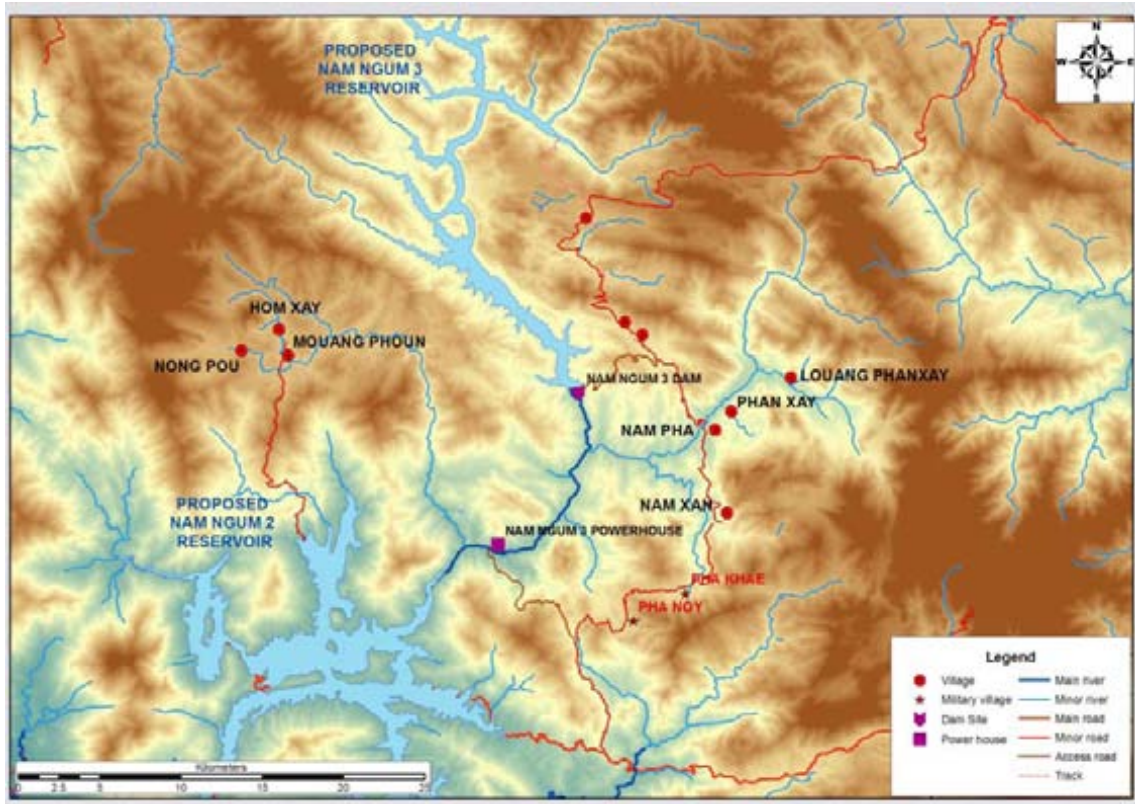


Figure 2-16 Downstream villages

231. The adverse impacts by NN3 will be on fish species that migrate from the NN2 reservoir into the Nam Phay and fish species that migrate from the Nam Ngum River into the Nam Pha, which will result in losses of income and/or cash income by fishing households.

Nam Pha

232. Consultations have been carried out at the 4 villages where households fish in the Nam Pha and its tributaries (Table 2-13). From the consultations, it seems that the villagers do not fish in the Nam Ngum River.

Table 2-13 Households and Fish Catch at 4 Nam Pha Villages

Village	Number of Households	Population	Total Annual Village Fish Catch [kg/year]	Average Annual Household Fish Catch [kg/year]
Luang Phanxay	67	489	620	9
Phan Xay	45	258	428	10
Nam Pha	40	225	4,189	105
Nam Xan	103	649	11,199	109

233. Most of the fish caught is consumed and little fish is sold for cash. The average annual household fish catch is very low, showing that fish consumed per person is 19 kg/year at Ban Nam Pha, 17 kg/year at Nam Xan, 2 kg/year at Phan Xay and as low as 1 kg/year at Ban Luang Phanxay. Village fish catch includes the catch of fish in ponds. No migrating fish species will occur in ponds. Pond fisheries will not be impacted by NN3.

234. Aquatic habitats of the Nam Pha will be fragmented resulting from the construction of the NN3 dam. Fish species potentially occurring in the Nam Pha and that migrate from the Nam Ngum River may be blocked off by the NN3 dam. Fish populations migrating from the Nam Ngum River may also be impacted by NN3, as the Nam Ngum River between NN3 dam and NN3 power station will have lower water levels and less discharge after start of reservoir filling.

235. A baseline will need to be established in existing household fish catch at the 4 villages located along the Nam Pha. The baseline will need to include (i) fish obtained by pond fisheries that will not be impacted by NN3, and (ii) the relative abundance of migrating fish species in household fish catch obtained at other fishing grounds.
236. Establishing a baseline in household fish catch at the Nam Pha is not easy as household fish catch fluctuates on an annual basis with the fluctuation in annual rainfall and run off. Household fish catch is depending on run off that in turn depends on rain fall, watershed development, mining activities, agricultural development, and forest management. Household fish catch is also depending on population growth, access to aquatic habitats, access to markets, number of fishers, and their fishing efforts.
237. Household fish catch along the Nam Pha will also experience changes as a result of reservoir operation of the NN2. During filling of NN2 reservoir, many fish species in the Nam Ngum River will move upstream to escape NN2 reservoir conditions. These fish populations will move into the Nam Ngum River and likely into the Nam Pha as well. For two to three years after filling of NN2 reservoir, households in the four downstream villages along the Nam Pha may experience an increase of their fish catch.
238. However, with the creation of the NN2 reservoir, migrating fish populations will likely disappear from the Nam Ngum River and potentially from the household fish catch obtained along the Nam Pha. As a result of filling and operation of the NN2 reservoir, the potential impacts by NN3 on household fish catch will change in scope and severity.
239. A 1 year long household fish catch monitoring exercise starting in 2011 is proposed to identify households that may lose imputed and/or cash income from fisheries due to NN3. The value of the impacts suffered by affected households will be determined during additional participatory household income surveys. Depending on outcomes from the monitoring program backed up by household income surveys, either (i) affected households will be compensated in cash when the value of the adverse impacts do not exceed 10 % of household income, or (ii) a fish culture and fisheries management plan will be implemented at the 4 downstream villages in the Nam Pha watershed to at least restore household fish catch, household fish consumption, and/or household cash income from fisheries.

Nam Phay

240. Consultations have been carried out at the 3 villages where households fish in the Nam Phay and its tributaries. Table 2-14 shows the number of households, population, and fish catch at the 3 villages.

Table 2-14 Households and Fish Catch at 3 Nam Phay Villages

Village	Number of Households	Population	Total Annual Village Fish Catch [kg/year]	Average Annual Household Fish Catch [kg/year]
Hom Xay	44	246	50	1
Nong Pou	61	361	2,000	33
Meuang Phoun Kao	37	227	1,840	50

241. As the household fish catch at Hom Xay is only 1 kg per household per year and the average household size at Hom Xay is 5.6 persons, little fish is consumed per person at Hom Xay. Fish consumption is also low at Nong Pou and Meuang Phoun Kao. Fish consumption is 200 grams per person per year at Hom Xay, 5.5 kilogram per person per year at Nong Pou, and 8.1 kilogram per person per year at Meuang Phoun Kao. Even 8.1 kilogram of fish per person consumed per year means that on average a person living at Meuang Phoun Kao does not consume more than 23 grams of fish per day. This confirms the claim by villagers that fish is not their main source of protein.
242. NN3 could cause adverse impacts on this considerably low fish catch by households living along Nam Phay, due to poor water quality conditions of water released at NN3 power station obstructing migrating fish species in their movement upstream of the Nam Phay to the three villages. The project

will verify, through the proposed fish catch monitoring, if these migrating fish species actually form part of the household fish catch at the three Nam Phay villages.

- 243. The confluence of the Nam Phay with the Nam Ngum River is located downstream of the NN3 power station. The confluence of Nam Phay with the Nam Ngum River will be inundated by the NN2 reservoir.
- 244. The households living in the three Nam Phay villages do not fish in the Nam Ngum River. According to Table 2-14, their present fish catch at aquatic habitats connected to the Nam Phay is very low and so is the household consumption of fish.
- 245. It is expected that the villagers of Mouang Phoun, Nong Pou, and Pha Hom may make use of the public road more to the west of Nam Phay to NN2 reservoir area for access to the new opportunity of reservoir fisheries in the NN2 reservoir. It is highly likely that fishing efforts in the Nam Phay watershed will be reduced and more than replaced by the new opportunity of participating in NN 2 reservoir fisheries.

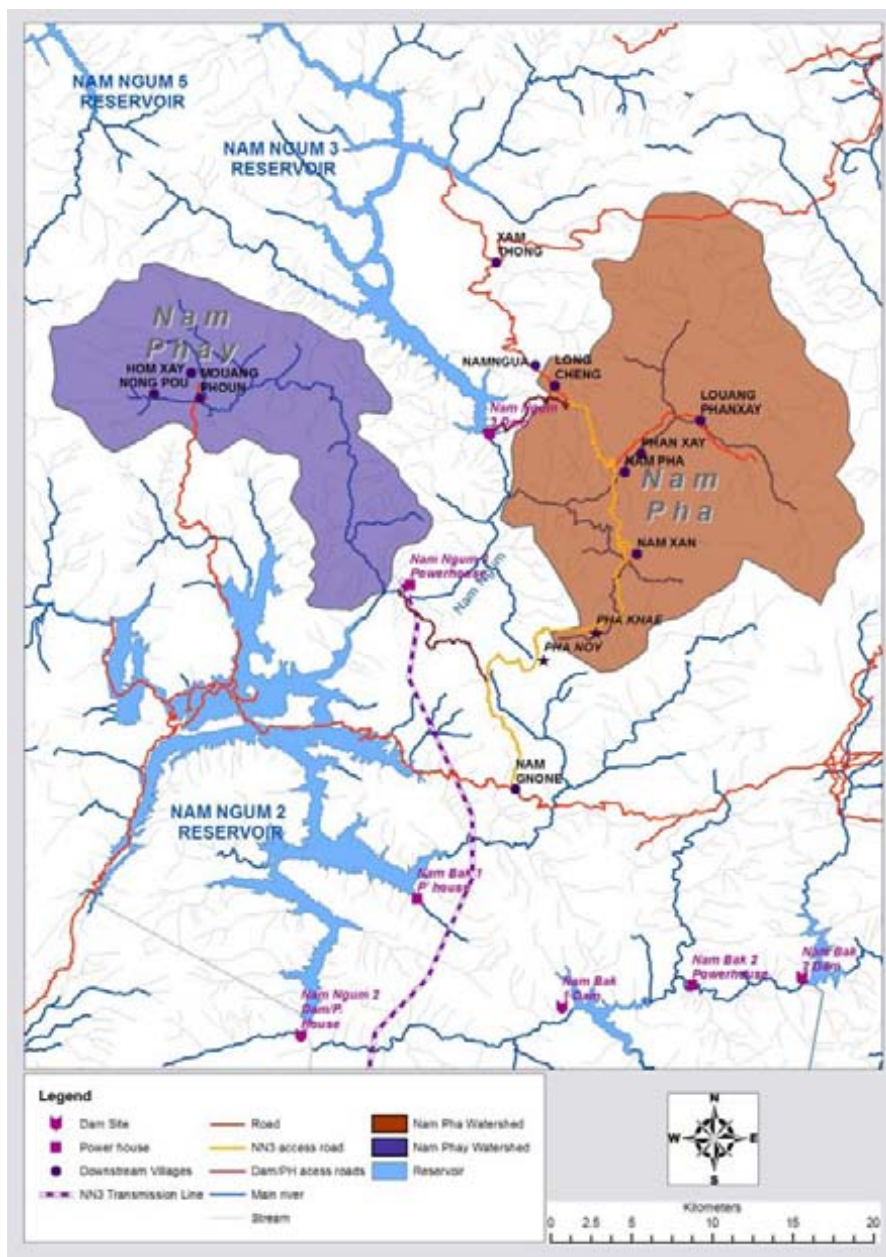


Figure 2-17 Downstream Villages in Nam Pha and Nam Phay Watersheds

246. When NN3 starts operation, the natural discharge by the Nam Phay of high water quality straight into the NN2 reservoir instead of into the Nam Ngum River will form an attraction flow for migrating fish species, as the water released from the NN3 power station into the Nam Ngum River will be intermittent on a daily basis, will have a lower water temperature than the Nam Phay natural discharges, and will not contain sediment load.
247. If any migrating fish species in the Nam Phay do occur presently and still will be occurring after filling of NN2 reservoir, more fish will migrate up into the Nam Phay because (i) Nam Phay forms a natural attraction flow for migrating fish species, and (ii) the fish migrating route into the Nam Ngum will be blocked because of the hydrological changes.
248. It is not relevant for NN3 and for households to monitor household fish catch at the Nam Phay watershed by fishers living in the three villages of Mouang Phoun, Nong Pou, and Pha Hom when the impacts by NN3 on household fish catch will be positive and not adverse. Particularly in the case when most fishers will relocate their fishing efforts from the Nam Phay watershed to the NN2 reservoir, the household catch by fishers who remain fishing in the Nam Phay watershed will increase. After NN2 has started operation, additional consultations at the 3 Nam Phay villages will be carried out to confirm this assessment, which should be monitored at the scale of the Nam Ngum river basin.

2.2.6 Multiple and Overlapping Impacts

249. As fisheries may also be affected by NN2, NN5, and potentially by mining activities in the river beds and banks of the Nam Ting and the Nam Ngum, the project will seek the support of the Nam Ngum River Basin Committee (NNRBC) which is under establishment. The intention is to develop common monitoring indicators and procedures, and to agree cost-sharing for monitoring and implementation of mitigation, off setting and/or compensation measures where it is agreed that impacts by different development projects may be multiple and overlapping, and the cause difficult to assign to any single concession holder in the river basin.
250. In some of the villages affected directly and indirectly by NN3, impacts may also occur caused by other hydropower projects in the river basin (NN5, NN2, NN4 A and B), as well as by mining companies. This may present challenges in assigning responsibility over impacts, and in deciding whose responsibility it is to pay for the costs of compensation or mitigation measures. The project's intention is to work with the Nam Ngum River Basin Committee (NNRBC), its Secretariat and its Hydropower and Mining Forum. Where impacts can unambiguously and directly be attributed to NN3, the developer will be fully responsible for compensation and mitigation measures.
251. However, there is a possibility of different developers having multiple and overlapping impacts on the same villages and attempting to transfer responsibility for compensation and mitigation measures onto each other. This could have occurred between NN5 and NN3 when villagers at Ban Xiengdet requested compensation for domestic water supply affected by turbidity caused by NN5 project activities, under the understanding that it was NN3's responsibility to compensate. Given that NN3 was delayed for some years and clearly had not been responsible for any impact to date, NN5 agreed to restore the domestic water supply.
252. This is just one example of the sort of conflict which may arise over allocation of developer rights, responsibilities and budgetary requirements, lack of monitoring, and uncoordinated grievances redress procedures in the Nam Ngum River Basin. Other potential conflict areas can be foreseen and coordination is needed to avert disagreement. For example, along the Transmission Line alignment, methods of calculation of compensation and unit costs have already been developed quite differently in NN2 and Phou Bia Mining, both of which have impacts on the same land and landowners as NN3 (for example, Phou Bia has a much higher unit rate than GoL which has undertaken the assessment in NN2). Harmonisation of approaches, and the ability of NNRBC to provide the policy and legislative framework to arrive at this, is considered crucial for good safeguards management during project implementation.
253. There are 5 areas where it is important for NN3 to work with other concessions holders and with the NNRBC and its Hydropower and Mining Forum in the basin and watershed:

- Agreeing a common grievance framework to address multiple and overlapping impacts, or opportunistic claims to obtain compensation from several different quarters;
- Agreeing common indicators and process for monitoring water quality and fisheries;
- Cooperating on integrated watershed management for the long-term protection of the reservoirs against rapid sedimentation and potential pollution of reservoir inflows, and agreeing budget contributions for this purpose.
- Nam Ngum River Basin Dam Safety Risk Assessment and Emergency Preparedness and Response;
- Agreeing budget allocations to pay for these activities.

254. Efforts have already started to consult with Phou Bia Mining, NN2 and NN5. These efforts will be increased with project start up and with MoNRE's progress on developing the NNRBC.

255. The NNRBC will be the key mechanism to address the environmental and social challenges within the Nam Ngum River Basin. The Decree for the Establishment of River Basin Committees was signed by the Prime Minister of Lao PDR in June 2010. The NNRBC is expected to be formed as the first River Basin Committee in Lao PDR, with a Secretariat established.

256. The proposed Nam Ngum Hydropower and Mining Forum should be seen as a possible sub-committee or task force for the NNRB to assist the Committee and its Secretariat in addressing some of the key issues related to hydropower and mining development in the Nam Ngum River Basin.

3 Socio-economic profile

257. During 2007 and 2008 field surveys and consultations were carried out. The village profiles provide socio economic background data of the villages, where adverse and/or potential social impacts will occur. The socio economic profiles of the categorized villages refer to the information obtained during 2007, unless otherwise indicated. This data will be updated and reflected in updated or additional Resettlement Plans for different sections of the potential NN3 impact areas where necessary.

258. According to the severity of impacts by NN3, detailed background information has been collected for categorized villages. More information was collected at Ban Xiengdet (the most severely impacted village) and less information at the 5 peri-reservoir villages, where the impacts felt during operation will be much less severe.

259. In most villages, except at Ban Xiengdet, development programs have been established during the last decade by GoL supported by International Financing Institutions (IFIs), aid organizations, and NGO's, in the form of electrification, water supply, education, fish culture, and agricultural development. Some villages, such as Long Cheng and Nam Ngua have been recently merged by GoL, to coordinate and provide more effectively public services as education, water supply, and public health. Figures of affected villages may therefore change as villages are administratively consolidated, but figures of affected households will remain the most reliable impact indicator. At Ban Xiengdet, no development activities have been implemented during the last 10 years as the different aid agencies and GoL knew that Ban Xiengdet had to be resettled due to the impoundment of the NN3 reservoir.

260. An inventory of physical and cultural resources at the village of Ban Xiengdet and the 5 peri-reservoir villages that will be partly and seasonally flooded by NN3 reservoir is presented in the ESIA.

261. Descriptions of standard socio-economic features (e.g. statutory village organisation, as opposed to traditional village organisation), are described for Ban Xiengdet in section 3.1.4, but not in subsequent sections to avoid unnecessary repetition. Where there are differences, these are incorporated in the text.

3.1 Ban Xiengdet

3.1.1 History

262. Ban Xiengdet village is believed to be at least two hundred years old; this is supported by the ruins of a Buddhist temple (Vat Vangxieng) that is located at the north of the village, near the access road.

263. In the 1960s, across the bank of the Nam Ting from Ban Xiengdet, an airfield with a 2 km long runway was constructed for military purposes. In the 1970s, the village fell under air raids and the inhabitants who escaped fled to neighbouring villages and Ban Xiengdet was completely abandoned.

264. After the war, during the 1980s the new government encouraged farmers to find suitable farm land and settle down in order to improve living conditions through increased agricultural production. This led to a re-occupation of Ban Xiengdet in 1982 when eight families migrating from Mouang Kham decided to rebuild the village. In 1986, the village expanded and received a second wave of in-migrants. Due to the fact that Ban Xiengdet was part of the battleground in the 1970s, UXOs can still be encountered. In the existing paddy areas, UXOs are piled up in small heaps by Xiengdet farmers and present considerable risk to health and safety for local people.

3.1.2 Demography

265. A village survey carried out in March 2007 identified 90 households permanently residing at Ban Xiengdet. Four months later (July 2007) the number of households was 88. In October, 2008 the number of households was 104 (Table 3.1). Average household size is 5.6 persons. Males form 52% of the village population.

Table 3-1 Ban Xiengdet Demographic Data, October 2008

Total Number of Households	104*
Total Number of Families	115
Total Population	583
Number of Females	280
Number of Males	303

*: This includes 8 opportunistic households recently established before the survey and not accepted by the village and district authorities (see section 7.6).

266. The rapid growth of the population at Ban Xiengdet is believed to be partially caused by the influx of new households hoping to become eligible for resettlement and livelihood restoration activities to be implemented by the project. As of April, 2010, the number of households has grown to 120 households. This has increased to 144 households in July 2011.

3.1.3 Ethnicity

267. In 2008, 88% of the households living at Ban Xiengdet belonged to the Khmu ethnic group, while 12% of the households were Thai Phouan. Table 3-2 shows the ethnicity of village leaders.

268. In Lao PDR, Lao-Tai groups (Lao, Tai Deng, Tai Phouan, Tai Khouane and Tai Khang) are not considered as ethnic minority groups since Lao language is their native language and their traditions are similar to the dominant Lao culture. Khmu are part of the Mon-Khmer language family and are considered an ethnic minority as they have customary cultural, economic, social, or political institutions that are at variance with those of the dominant upland Lao-Tai groups.

269. One of the main differences is in livelihood strategies, the Khmu traditionally rely on natural resources, particularly forest and river resources, and on swidden cultivation. In Ban Xiengdet, Khmu undertake a combination of swidden and fixed paddy cultivation. The dominance of Khmu people at Xiengdet is reflected in the leadership where only one of the deputy heads is Tai Phouan.

Table 3-2 Ethnicity of Village Leadership at Xiengdet

Position	Xiengdet
Village Head	Khmu
Deputy Village Head	Tai Phouan
Deputy Village Head	Khmu
Women Union	Khmu
Village Elder	Khmu
Village Elder	Khmu
Lao Front for National Construction	Khmu

3.1.4 Social Organisation and Cultural Relations

270. Ban Xiengdet is organized according to the standard administration system in Lao PDR for rural villages. Table 3-3 presents the main administrative setup and the duties and responsibilities of Village Authorities.

271. In addition to these positions most of the villages have village health volunteers (*thong ya ban*) and traditional birth attendants (*maw tam yae*) who take care of health issues and distribution of medicines.

Table 3-3 Traditional Duties and Responsibilities of Village Authorities

Position	Duties and Responsibilities
Village Head (<i>nai ban</i>)	The Village Head is the main village authority and he (often the village head is a man and seldom a woman) is the main link between the village and district authorities. He/she is responsible for coordination with the other administrative units in the village, tax collection, reporting to the District and implementation of district directions. The Village Head is appointed by the government for a period of 3 years. The Village Head has special responsibility to supervise the Army and Police within the village.
Deputy Village Head (<i>hong nai ban</i>)	There are normally two Deputy Village Heads and their role is to assist the Village Head in administration of the village. The main duties of each of the Deputy Village Heads are to follow up on Lao Youth and Lao Women Union, Lao Front for National Construction, Health and Education. They report to the Village Head.
Local Militia (<i>kong lon</i>)	The village army is responsible for the protection of the village and report to the Village Head.
Police (<i>thamluat</i>)	The village police is responsible for resolving conflicts within the village and with other villages. The police is also responsible for carrying out forced resettlement of households under to the district consolidation program. However, in the case of NN3, resettlement and livelihood restoration has been negotiated during consultations and community dialogue. Police reports to the Village Head.
Lao Youth (<i>sao noum</i>)	Lao Youth is responsible for organising and preparing meetings and work groups.
Lao Women Union (<i>sahaphan maeying</i>)	LWU is involved in women-focused development projects and in political mobilization of women. They participate in preparing meetings and work groups. The LWU's actual level of village activity varies depending on external resources provided by donors for organizing activities.
Lao Front for National Construction (<i>neo hom</i>)	The Lao Front consists of elders that are responsible for cultural issues such as customs and ceremonies.

3.1.5 Spiritual and Cultural Issues

272. The condition of some main spiritual and cultural sites in Xiengdet is shown in Table 3-4.

Table 3-4 Condition of Religious Sites at Xiengdet

Village	Temple Ruins	Temple	Cemetery	Spirit Houses
Xiengdet	Poor	Poor	Good	Medium

3.1.6 Cemetery in Xiengdet

273. The Xiengdet graveyard is about 200 meters long, 100 meters wide and is located close to the Nam Ting between the village and the paddy fields. Of the area covered by the graveyard 88% lies above 726 masl, 8% between 723 masl and 726 masl, and the remaining 4% between 723 masl and 720 masl. Without implementation of mitigation measures, flooding by the NN3 Reservoir will likely occur each year for not longer than a few weeks at 4% of the total cemetery area.

274. The cemetery area is considered to be occupied by the spirits of the dead, and rituals take place at the graveyard to appease these spirits. The area is considered sacred and no timber or forest products may be removed from the area.

275. However, spirits are believed to move with potential relocation of the graveyard if another location is necessary. A ceremony to be implemented by a spiritual leader would be required to call the spirits

out to a new graveyard site. Families with dead relatives buried at the site may also carry out private ceremonies of their own, possibly involving animal slaughter.

276. Tai Phouan villagers usually cremate their dead, and ashes are kept in urns at the graveyard. It is not thought that any special rituals have to take place if the ashes of cremated people are moved to another location.

3.1.7 Spirit Houses in Xiengdet

277. There were 4 spirit houses located in Ban Xiengdet in 2007. Each consists of small, single room, house on stilts with a grass thatch roof. Each spirit house is looked after by a villager, usually an elderly man living close to the spirit house. Occasional rituals are held at the village spirit houses. A village spirit house can be moved from one village site to another by performance of the reconstruction ceremony.

3.1.8 Holy Tree

278. The PCR survey identified a holy tree at Ban Xiengdet. The tree is located at 723 masl and will be inundated for some weeks per year.

3.1.9 Temple in Xiengdet

279. There is one abandoned temple, Vat Vangxieng at a riverside location about 1 km north of the village at about 721 m elevation. The temple covers an area of 18 by 11 meters and is 2.2 meters high. It is thought to have been built at the end of the 17th century and has a large meditating Buddha image now very damaged. The temple was looted and has fallen into disrepair and is not used by villagers.

280. The ruins of some initial foundation works for another temple, Vat Xiengdet, still remain, but construction of Vat Xiengdet never progressed further than original foundation works.

3.1.10 Infrastructure

281. A public access road of about 40 km length connects Ban Xiengdet with the highway at Nong Tang. A footpath connects Ban Xiengdet with the highway at Nam Chat at about 2.5 hours walking distance. The condition of the access road to Nong Tang is not optimal. The access road has steep parts, not allowing hand tractors to pass these parts of the road. Due to logging activities and due to the installation of transmission lines, the condition of the access road has deteriorated not allowing access by 4-wheel drive pick ups during periods in the rainy season.

282. Households swim, bath, and wash in the Nam Ting River. Mostly women and children carry water from the Nam Ting to their houses for cooking, cleaning, and drinking.

283. Most households have no toilets. During the construction of the NN5 dam, upstream of Ban Xiengdet on the Nam Ting, Ban Xiengdet households lost the opportunity to use water for drinking purposes due to increased sedimentation and turbidity. After complaints, NN5 provided a new water supply system to Ban Xiengdet. The new water supply system subsequently resulted in the construction, installation, and use of bathing and sanitation facilities by some households themselves. In general little sanitation facilities exist, no night soil is collected, most households do let roam their pigs in the residential area to remove human faeces.

284. Ban Xiengdet is not connected to the electricity grid. The relatively well off households have installed family hydropower in Nam Ting for their own use. These small electricity generators installed in the Nam Ting do not function well during the peak of rainy seasons when the water levels are high.

285. Two public buildings exist at Ban Xiengdet, one, a primary school, and the second a lean-to-against the house of the village head's house, used as a meeting and administration facility. The primary school consists of two class rooms, teaching children to grade 3. Children at the age of grade 4 used to walk to Nam Sam primary school at more than 2 hours walking distance along the public road.

286. Recently, villagers have constructed a new school at higher elevations with support from the District. The new primary school has 5 class rooms to teach children to grade 5, avoiding the 5 hours walk each day to Nam Sam.

287. The nearest secondary school is at Nong Tang along highway No. 7, at approximately 40 kilometers from Ban Xiengdet. If weather permits, school children travel the existing access road between

Xiengdet and Nong Tang each week end. Access by school children from Xiengdet to secondary education is affected, particularly during the rainy seasons.

288. Table 3-5 shows the summary of fixed assets of the 96 households¹² and the 509 people in the 96 households at Ban Xiengdet during the asset registration of October 2008. A comprehensive table on a household per household basis is included in Annex A.

Table 3-5 Houses, Structures and Fixed Assets at Ban Xiengdet, 2008.

	Number
Houses	96
Rice Bins	89
Rice Mills	16
Pig Huts	19
Chicken Coops	25
Duck Huts	1
Bird Roosts	1
Shops	5
Satellite Dishes	9
Garages	1
Small Garages	1
Metal Processing Hut	2
Spirit Huts	1
Corn Huts	2
Petrol Shop	2
Attached Rice Mill	8

3.1.11 School Attendance

289. School attendance is shown in Table 3-6. There is a marked difference between boys and girls in Primary School (89% against 72%) and an even more distinct difference – but the other way around – for Secondary School (10% versus 47%). There are 2 primary school teachers resident in Ban Xiengdet.

Table 3-6 School Attendance for Children in Schooling Age at Ban Xiengdet

	Primary School		Secondary School	
	Boys	Girls	Boys	Girls
Number of pupils	64	42	2	7
Number of pupils as % of children at schooling age	89%	72%	10%	47%

3.1.12 Literacy

290. Literacy for Xiengdet has been calculated based on the village census and presented in Table 3-7. Data show that men are more literate than women for both ethnic groups. The Tai Phouan are more literate than the Khmu, which can be explained by the fact that Lao language is the mother tongue of Tai Phouan. Khmu children generally communicate at home in Khmu language learning to speak and write in Lao language at the Primary School. Data in Table 3-7 are based on villagers' self-reported literacy. Children in Xiengdet have restricted opportunities to attend higher grades of primary school and secondary school. Girls in particular tend to have less access to higher levels of education due to gender norms and attitudes.

¹² This relates to the 96 households surveyed in October 2008. As discussed in section 7.6, 11 of these households will be split in two, bringing the total of eligible households to 107.

Table 3-7 Literacy of Ethnic Groups, Males, and Females at Ban Xiengdet

Ethnicity		Male	Female	Total
Khmu	Literate	85	68	153
	Illiterate	22	45	67
	Total	107	113	220
	Literacy rate	79%	60%	70%
Tai Phouan	Literate	17	11	28
	Illiterate	3	5	8
	Total	20	16	36
	Literacy rate	85%	69%	78%
Total	Literate	102	79	181
	Illiterate	25	50	75
	Total	127	129	256
	Literacy rate	80%	61%	71%

3.1.13 Health

291. The nearest public health clinic is the health center at Nam Sam (see Table 3-8). Ban Xiengdet has no trained village health workers.

Table 3-8 Health Facilities at Xiengdet

Village	Nearest Health Post	Travel Time by Foot
Xiengdet	Nam Sam	2 to 3 hours

292. Causes of mortality at Ban Xiengdet during a two year period before 2007 are shown in Table 3-9.

Table 3-9 Main Causes of Deaths at Xiengdet

Village	Cause of Number of Deaths in Last Two Years					
	Malaria	Other Fevers	Respiratory Infections	Intestinal Infections	Accidents	Others
Xiengdet	-	-	2	1	1	1

293. The women in Xiengdet have primary responsibility for family health yet their own health is compromised by heavy workloads, frequent pregnancies and inadequate health services. Many of the women complain of chronic reproductive tract infections.

294. Discussions with women during a focus group in Xiengdet revealed very different levels of knowledge about family planning options between the women. Several women of childbearing age in the focus group had never heard of any family planning methods. There are traditional birth attendants in the village, but no formal village health workers.

3.1.14 Women's Position and Gender Issues

295. The division of labor between men and women is by no means absolute, but there are traditions in what is considered male or female work. Table 3-10 lists the most common gender determined tasks and responsibilities at Xiengdet as identified by the gender assessment.

296. The division of labor between men and women implies an inter-dependency of men and women in the establishment of a household unit.

297. Generally, the eldest daughter at young age is delegated with the task of taking care of her younger sisters and brothers leading to less school attendance by girls. In delegating maternal care, mothers can go more to the field to support the household in their struggle for food and self sufficiency.

Table 3-10 Division of Labor Between Men and Women at Ban Xiengdet

Male Work	Shared Tasks	Female Work
Formal positions of authority in the village; Contact with officials and government representatives; Overnight trips to towns or forests; Work with mechanized equipment; Fishing; Ploughing paddy fields; Diversion of streams to provide supplemental rainy season irrigation; Cutting trees for timber use or sale; Hunting and trapping animals.	Clearing land, planting, weeding, harvesting upland rice; Collecting NTFPs; Herding buffalo and cattle; Collecting fuel wood.	Household tasks such as cleaning, washing clothes and preparing meals; Husking rice by hand; Caring for children, the sick and the infirm; Taking care of pigs, chickens and ducks; Taking care of vegetable gardens; Fetching water from the river; Weeding hill and paddy rice; Collecting algae, snails and fish in shallows.

3.1.15 Information and Services

298. Village level leadership structures and patterns of information dissemination in the project area are biased toward male participation. The existing leadership structure in Xiengdet includes a village head and two deputy village heads, all of which are men. There are also village representatives from the Lao Women's Union (LWU), village elders and the front for construction (*Neo Hom*). Typically the only female representative in each village is the representative from the LWU. All other positions are held by males. The project will therefore operate within a socio-cultural system that eschews women from information and decision-making roles.
299. Marketing exchanges including both the purchase and sale of goods in distant towns seems to be predominantly a male activity, thereby giving men access to a wider range of information and experience with outsiders.
300. The issue of differential information access for women and men is clearly exacerbated by language issues in Xiengdet. Many women in ethnic minority communities such as those in the project area lack both the confidence and language skills to communicate effectively with Lao-speaking health care workers, extension workers, and others even when the services relate directly to women's spheres of activity. All official contact with outsiders in Xiengdet has been in Lao language, except when undertaking project communication and consultation procedures, which have been in Khmu and Lao language via Khmu field workers. Women and men noted that when they receive information in Lao they feel that they comprehend at the time, but then later they feel that they do not retain the information well.

3.1.16 Agriculture and Horticultural Landuse

301. Agricultural and horticultural products form 22% of the average household cash income at Ban Xiengdet. Almost two thirds of the households in Xiengdet have paddy fields where lowland rice can be grown, but most households have upland plots growing hill rice. In some cases, hill rice is grown on swidden land, requiring fallow areas.
302. Hill rice land generates much less tonnage of rice per hectare than paddy land. However, cultural daily dietary preferences are for upland sticky rice. Due to required fallow areas and due to less tonnage of harvested rice per hectare, much more land area is required to grow hill rice than lowland rice on paddy fields.
303. Table 3-11 shows the inventory of agricultural and horticultural land uses.
304. The average size of paddy land per household at Ban Xiengdet is 1.5 ha while 1.33 ha is used annually by the average household as upland hill rice plots (Table 3-12).

Table 3-11 Average Landuse per household (in ha) at Ban Xiengdet

	Paddy Land	Upland Hill Rice Plots	Garden Plots	Orchard Land	Fish Pond
Average Area per Household	1.50	1.33	0.52	0.36	0.14
Number of Households	58	83	58	18	15

305. Most households at Ban Xiengdet own paddy field. They have provided these with supplemental irrigation during the rainy seasons by diversion of small streams.
306. At the former 4 kilometers long flat airstrip at Ban Xiengdet, farmers have already experimented the establishment of paddy fields. During the experiments, the rice crop could not be provided with enough water during the rainy season and farmers lost their rice harvests. Experiments with growing corn (requiring less water than rice) at the airstrip also failed, but not by lack of water, but by lack of drainage.
307. To increase the area of paddy fields at Ban Xiengdet, farmers and village authorities have requested since long for financial support to construct an irrigation weir in the Nam Ting to provide supplemental irrigation to a command area of approximately 100 hectares largely consisting of the former airstrip.

Table 3-12 Inventory of Agricultural Land Use at Ban Xiengdet, 2007

No.	HH Code	Name of Household head	Sex of Household head	Spouse	Paddy field		Swidden field	Garden		Orchard		Plantation		Fish pond	
					Area (m2)	Certified ownership	Area (m2)	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership
1	2	Pheng	M	Kham	5,000		8,000	1,530	-						
2	3	Phouvong	M	Sisamai	12,000	1	6,000								
3	4	Tanh	M				12,000								
4	5	Bounmee	M	Phai	5,000	1	1,300	5,000	1						
5	6	Oun	M	Sim			5,000								
6	7	Phet	M	Soam	15,000	1	18,000	2,000							
7	8	Moung	M	Moung	2,000	1	1,000	120	1	300	1				
8	9	Thi	M	Bau	12,000		20,000	4		1,000					
9	13	Santi	M	Toum	150,000	1	15,000	500	1						
10	14	Vone	M	Pock	10,000		400								
11	16	Vanhphone	F		20,000	1	15,000	8,000		5,000					
12	18	Somboun	M	Oung	10,000		10,000	25,000							
13	19	Sy	M	Souk			22,000								
14	20	Chanphone	M	Sida			25,000	10,000	1	5,000					
15	22	Khampoon	M	Vanh	10,500		20,000	40	1	80				72	
16	23	Khamsao	M	Phone	9,000	1	8,000	400	1						
17	24	Khamlue	M	Van	10,000		15,000								
18	25	Aea	M	Phone	20,000		500								
19	26	Sinnakhone	M	Yot			16,000								
20	28	Khamsavath	M	Som			18,000	500							
21	29	Viengkeo	M	Silai	15,000		7,000	9,500						60	
22	30	Maihy	M	Bounnum				100							
23	31	Bouapha	M	La	25,000	1		10,000	1	5,000	1	15,000	1		
24	32	Simma	M	Onsavanh	20,000	1	20,000	10,000	1					8,000	
25	33	Siengkeo	M	Noy			20,000	5,000	1	5,000				540	1
26	34	Bounsou	M				10,000	5,000	1	3,000	-				
27	35	Dongchanh	M	Phone			15,000	5,000							
28	36	Boukherd	M	Som			10,000	8,000	1						
29	37	Bounleard	M	Baukeo	5,000		15,000	117						96	
30	38	Khamphone	M	Phim	10,000		8,000			120					
31	39	Khammouy	M	Doungtone	17,000		30,000	400	1						
32	40	Onnoy	M	Doungsavanh	20,000	1	30,000	1,600						220	
33	42	Lery	M	Vanh			12,000								
34	43	Bauphanh	M	Vee	10,000	-	15,000	120	1					540	
35	44	Bounphet	M	Keo			15,000	300							
36	45	Boukham	M	Eone	7,000	1	18,000	5,000	1						
37	47	Pho	M		12,000	1	16,000	2,000	1	8,000					
38	48	Som	F		22,000	1	25,000	30,000	1						
39	49	Khampan	F		13,000		15,000	24							
40	50	Douangta	M	Bouavone	16,000	1	12,000	15,000	1					96	
41	51	Khamty	M	Kong	13,562		20,000	20,000		300		2,000			
42	52	Khammung	M	Sengjanh	8,760		8,000	200							
43	53	Thon	M	Som	15,000	1	15,000	5,000	1						
44	54	Bounme	M	Sy	5,000		4,000	2,000							

Table 3-11 Continued

No.	HH Code	Name of Household head	Sex of Household head	Spouse	Paddy field		Swidden field	Garden		Orchard		Plantation		Fish pond	
					Area (m2)	Certified ownership	Area (m2)	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership
45	55	Khamchanh	M	Da	10,000		10,000	3,000							
46	56	Khamkone	M	Noun	16,000	1	5,000	10,000	1						
47	57	Sommueng	M	Keosom	5,000		15,000	15,000							
48	58	Somvang	M	Vieng	10,000	1	20,000	15,000	1	10,000				2,500	
49	59	Boualai	M	Tha	38,000		20,000	2,600							
50	60	Phetsamone	M	Boua	35,000	1		15,000	1	5,000	1			144	
51	61	Merng	M	Vanhpeng	6,000	1	10,000							20	
52	62	Khamsone	M	Arn	9,000		10,000								
53	64	Bounhueng	M	Thone	23,000	1	20,000								
54	65	Boun chanh	M	Fearg	20,000	1	10,000	5,000	1		1				
55	66	Thidsida	M	Pome	16,000	1	18,000								
56	67	Singthong	M	Vanh	7,500		8,000	15,000							
57	69	Sarn	M	Keo			15,000								
58	70	Thong	F		6,500		10,000	165							
59	71	Veevone	M	Ngieng	12,000	1	15,000	500	1	800	1				
60	72	Mod	M	Ain	8,000	1	10,000								
61	73	Bounta	M	Bouachan	22,000	1	20,000	5,000	1		1	5,000		225	
62	74	Somsanok	M	Toum	16,000		15,000			400				3,530	
63	76	Pheng	M	Ban			20,000	600	1						
64	77	Khemphone	M	En			20,000	36							
65	78	Bounsy	M	Bounnam			1,000								
66	79	Mee	M	Kham	8,000	1	10,000	42	1						
67	80	Souk	M	En			6,000								
68	81	Bouakeo	M	Chanhsi	20,000			1,000						4,835	
69	82	Kham	M	Kham	3,000	1	10,000	7,000	1		1				
70	83	Thoumma	M	Seang			15,000	5,000	1						
71	84	Seng	M	Doung			12,000	450	1						
72	85	Keo	M	Nome			10,000								
73	86	Oun	M	Phone			10,000	252							
74	89	Vieng	M	Sieng			10,000								
75	90	La	F				5,000								
76	91	Ngame	M	Ta			23,000	5,000							
77	93	Maikod	M	Boeusavanh			10,000								
78	95	Thongla	M	Chum			15,000								
79	96	Vieng B	M	La	800		14,000							60	
80	99	Lerd	M	Manh	8,000		15,000								
81		Khamon	M	Aonh	10,000	1		10,000	1	10,000	1				
82		Aiengthong	M	Sengfong	6,500		20,000	100							
83		Somevang	M		10,000		9,200	120							
84		Vankham	M		15,000		15,000								
85		Phetsavanh	M	Cheng	6,000		8,000	28		6,000					
86		Chen	F				15,000								
87		Dee	F				8,000								
88		Phi	F				15,000								

308. There are four reasons why this proposed irrigation system never went ahead: (i) the construction of the irrigation weir was considered too costly, (ii) with the construction of NN5 dam in the Nam Ting, Nam Ting was believed to have insufficient discharges during the rainy season for supplemental irrigation of a command area of 100 hectares, (iii) NN3 reservoir might inundate the former airstrip, and (iv) a mining company during explorations at Ban Xiengdet explained to farmers and village authorities that they would turn the former airstrip into a commercial mining operation.
309. Considering that the former airstrip will not be inundated by NN3 reservoir, NN3PC believes that it has the opportunity to compensate the affected households with replacement paddy land and to open an opportunity for currently entitled households without paddy to obtain some land, provided that (i) GoL allows NN3 to develop the former Xiengdet airstrip to become part of the irrigated command area of an irrigation weir to be constructed on the Nam Ting, and that (ii) GoL provides land titles to affected households for this replacement land. It is believed that there will be sufficient Nam Ting discharges for supplemental irrigation of 100 hectares of paddy land during the rainy seasons even after NN5 will come on stream. At the time of preparing this REMD, GoL has confirmed there will be no mining on the old airstrip and has indicated agreement to designate it as replacement agricultural land.
310. Other agricultural and horticultural practices include corn, peanut, sweet potato, chilly, cucumber, and pumpkin. Vegetables are grown close to the homestead mostly at home gardens. Fruit trees are grown at banana orchards, but also at the residential area, often in conjunction with home gardens (see Table 3-13).

Table 3-13 Fruit Trees at Ban Xiengdet

Fruit Tree	Number of Trees	Number of Households Claiming Ownership
Coconut	7	4
Tamarind	74	31
Mango	511	56
Jackfruit	45	17
Jujube	59	21
Yellow Egg	20	9
Banana	1,087	46
Citrus	68	25

3.1.17 Rice Sufficiency

311. Sixty-five households (74%) at Ban Xiengdet report to have sufficient rice the whole year around. Among the 26% of households not having enough rice as imputed income for the entire year, four households have enough for 10-11 months, seven for seven-nine months while nine households have rice sufficient only for 3-6 months consumption (Figure 3-1). Households cover this deficiency by growing other crops and horticultural products, and simply eat less rice for part of the year as they do not have enough cash to buy rice.
312. Percentage wise, Khmu households suffer more from rice deficiency than Tai Phouan households. There are 18 Khmu households at Ban Xiengdet that do not have sufficient rice year round.

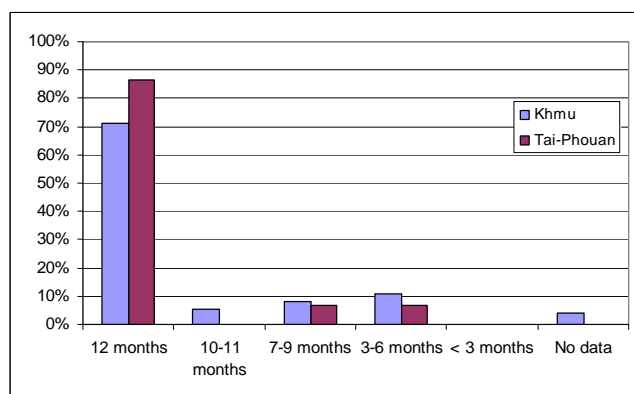


Figure 3-1 Rice Self Sufficiency Among Khmu and Tai Phouan Households at Xiengdet

313. There is no reason to believe that belonging to different ethnic groups could be the reason for differences in rice production by households. Differences in household rice production are caused by the limited area and use of rice paddy. Differences in household rice production depend more on ownership of paddy land that has a clear limit of area of 87 hectares and a clear limit of use by only 58 households of the total number of households of 104.
314. After 2008 the total number of households at Ban Xiengdet has increased, but not all new households can make use of paddy land, as it is already occupied. New households must produce hill rice by shifting cultivation at locations at higher elevation at the cost of forested land and biodiversity. Significant environmental and social impacts do occur at Ban Xiengdet resulting from population growth and influx of new households.

3.1.18 Livestock

315. Livestock forms 16% of the average cash household income source at Ban Xiengdet. Women and men tend to have different areas of responsibility for raising livestock. It is an attractive source of wealth accumulation in kind, quickly to be returned in cash as livestock can be readily sold when cash needs are high. Livestock sales serve as an important asset to deal with a range of family crises from flood or drought-induced crop losses, to major illness of family members.
316. The common practice of local villagers having livestock, particularly big animals like buffaloes and cattle, is to let these animals graze largely unattended on community land during the dry season. During the wet season, they are often placed in pens at night within the village to prevent them damaging crops. In general, there is no supplementary feeding, nor management of natural forage through controlled grazing of different areas at different times of the year. Many households do not provide salt licks for cattle.
317. Buffalo and cattle herding is not common in all households, see Table 3-14. Only nine percent of the households own buffaloes – on average six animals – while 37% of the households own cattle – on average four cows.

Table 3-14 Number of Livestock and Poultry at Ban Xiengdet

Village	Buffalo		Cattle		Pigs		Poultry	
	No.	% of HH owning	No.	% of HH owning	No.	% of HH owning	No.	% of HH owning
Xiengdet	48	9	147	37	350	99	1,500	99

318. Pigs are owned by almost all households, mainly to recycle waste and as a source of income, but also for household consumption and for consumption on festive occasions. In general, pigs are not penned and are left to forage with minimal supplementary feeding. An average household owns about 4 pigs.
319. Chickens and ducks are owned by almost all households, with average ownership of 17 animals. Poultry are kept for sale, household consumption and festive occasions. Chickens are generally allowed to roam free within the residential area with little supplemental feeding.

320. Veterinary services are poor; cattle, buffaloes, pigs, and poultry are generally not vaccinated. Public health risks, particularly for small children, are caused by allowing livestock into the residential area without penning.

3.1.19 Forest Utilization

321. Since the start of the removal of commercial timber from the future NN3 reservoir, commercial timber makes out a surprising 38% of the average village household cash income. However, only a limited number of households participate in the removal of commercial timber. Household income from cutting trees is restricted to a few, only temporarily, and is not sustainable.

322. Transport of commercial timber from potentially inundated areas at Ban Xiengdet has led to an increase of traffic from Xiengdet to the highway at Nong Tang. The 40 kilometers long access road has deteriorated due to transport of timber. During the rainy season, Ban Xiengdet has no access for motor cycles and cars for many days. The condition of the 40 kilometers access road even has been worsened by the construction of a transmission line for NN5 following the access road in parallel.

323. Almost all households report to be collecting Non Timber Forest Products (NTFPs) at Ban Xiengdet making out 8% of the average household cash income at Ban Xiengdet. Although both men and women are involved in collection of NTFPs, the gender assessment revealed that men and women have quite different spheres of knowledge and activity.

324. Figure 3-2 shows the relative importance for different NTFPs for the average household imputed and cash income at Ban Xiengdet. For households in Xiengdet, broom grass (28% of NTFP value), mulberry (27%) and *Imperata indica* (17%) are the NTFPs generating the highest value.

325. It is important to distinguish between two types of utilization of NTFPs; extraction for subsistence and medicinal purposes (often a more casual harvesting of products as the need arises or opportunistically) and extraction for commercial value. The latter method usually involves an agreement between villagers and a middleman who may provide an advance and later return on a fixed date to collect the products.

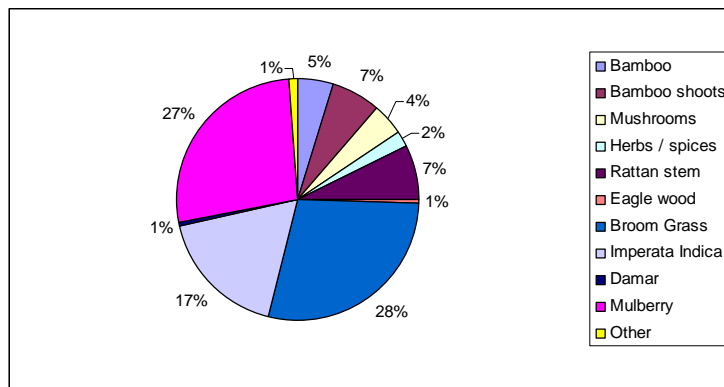


Figure 3-2 Relative Importance of Different NTFPs by Value at Ban Xiengdet

3.1.20 Hunting

326. Households do hunt at Ban Xiengdet. From Table 3-19 it can be seen that relatively well off households earn annually 131 US\$ of their cash income from hunting. Poor households do earn less than 1 US\$ per year with hunting.

3.1.21 Fish Catch

327. All households at Ban Xiengdet fish. Table 3-15 shows that most of the fish is caught at rivers and streams, while also some fish is caught in ponds and paddy fields, resulting from diversion of small streams.

Table 3-15 Household Fishing Locations at Ban Xiengdet

	River / stream	Ponds	Rice Paddy
Xiengdet	82%	14%	4%

328. The main fishing season in Xiengdet is at the end of the dry season and beginning of the rainy season (March – June, see Figure 3-3). Both men and women are fishing throughout the year. The total annual number of days with fishing for men and women is 161 and 96, respectively.

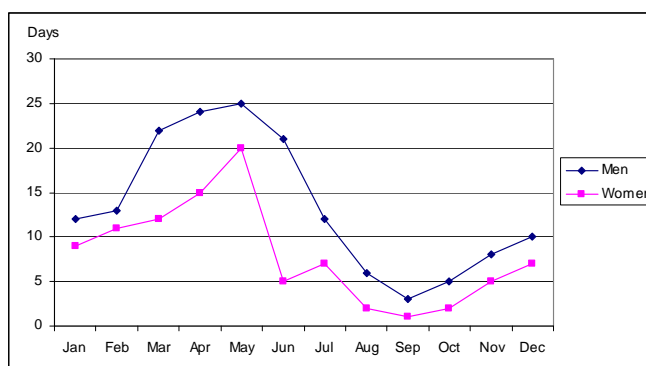


Figure 3-3 Average Number of Monthly Fishing Days for Men and Women at Ban Xiengdet

329. The total annual fish catch in Xiengdet is estimated at 7,300 kg, of which women catch a third (see Table 3-16 and Figure 3-4, below). Variation in the catch effort is reflected in the actual catch with April, May and December being the months with the highest catch.

Table 3-16 Monthly Fish Catch by Men and Women at Ban Xiengdet

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Men	95	150	250	730	850	450	85	80	50	55	930	1,141	4,866
Women	230	280	450	580	698	80	50	5	2	2	20	37	2,433
Total	325	430	700	1,310	1,548	530	135	85	52	57	950	1,178	7,299

330. The total value of fish catch, both consumed and sold, amounts to 1.6 million Kip, which is 6% of the total income (cash and imputed) for an average household. About 55% of the fish catch is consumed, while the rest is shared with neighbours and relatives, or old within the village and at nearby markets or to visitors/merchants coming to the village.

331. The present fish catch analysis shows that fisheries forms 5% of cash income and 6% of total cash and imputed income for an average household. Such analysis appears wrong, but is caused by apparent big differences in household fish catch. In Xiengdet, fisheries forms a high percentage of cash income for poor households at 8%, while for better off households, fisheries forms only 2% of the household cash income. Moreover, better off households consume more fish than poor households. Thus, consuming and selling of fish by households depends on overall household income, but basically depends on the occurrence of fish species and the fishing skills and fishing efforts of fishers as well as the number of fishers.

332. At Ban Xiengdet, highly skilled fishers being a member of one of Xiengdet's relatively poor households can by no means increase imputed and cash income of their households to levels of relatively better off households. Such is the result of limited occurrence of fish populations and the high number of people involved in the utilization of aquatic resources. There are limited opportunities for one household to sell many fish without affecting the consumption of fish by their own household and without affecting the value of fish catch by other households.

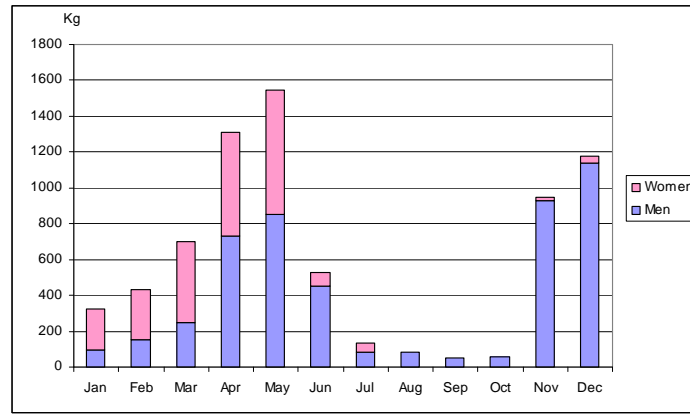


Figure 3-4 Total Monthly Fish Catch by Men and Women at Ban Xiengdet.

333. Table 3-17 shows the average fish catch and fish consumption at Ban Xiengdet.

Table 3-17 Fish Catch and Fish Consumption

Total Annual Village Fish Catch	Annual Fish Catch per Household	Annual Fish Consumption per Household	Annual Fish Consumption per Person
kg/year	kg/year	kg/year	kg/year
7,300	81	45	8

334. The ongoing influx of new households and thus of more fishers and the ongoing impacts by NN5 on water quality exacerbate the reduction in average household fish catch at Ban Xiengdet.

3.1.22 Other Sources of Cash Income

335. The main sources of cash income in Xiengdet are derived from timber, farming, and livestock. Natural resource use as fishing, hunting, and collection of NTFPs forms also a source of cash income, but less important. In addition, some minor non-farm activities are pursued. According to the household survey the most common off-farm activity in Xiengdet is rice milling, mills are mainly owned and operated by medium and better-off households. Some shops also exist and are run mostly by women.

3.1.23 Imputed income

336. Calculation of imputed income is based on information for each household regarding the self use and consumption of items at the current market prices. Figure 3-5 shows imputed income for better-off, medium and poor households in Xiengdet. For the average household, imputed income amounts to about 47% of the total income, about 13 million Kip annually.

337. For household consumption, the two most important food sources are products from the agricultural fields and livestock and fisheries. Understandably, home-grown rice comprises the major component of food consumption for all households and the imputed value of rice consumed for an average household is 6 million Kip annually.

338. Livestock is an important source of cash income for an average household, but in terms of consumption, it only amounts to about one million Kip. Poultry and pigs together with fish are the most important source of animal protein.

339. Use of timber for construction of house, rice barns and animal shed amounts to 2 million Kip for an average household.

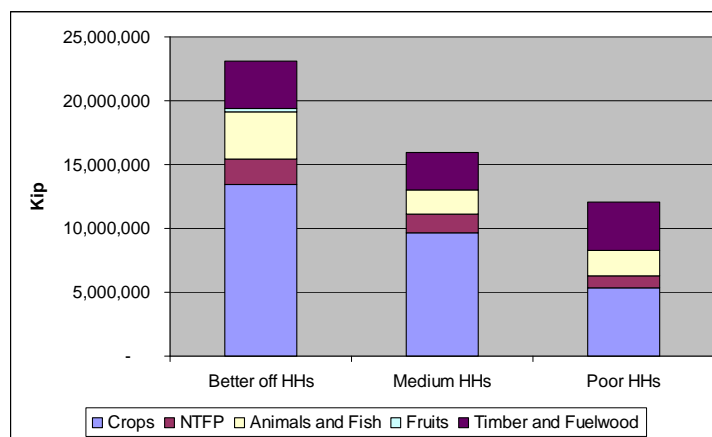


Figure 3-5 Imputed Income for Better-Off, Medium and Poor Households at Ban Xiengdet

3.1.24 Cash Income

340. Cash income per household groups is shown in Table 3-18. The largest sources of cash income are sale of timber and livestock, which constitutes about half of the total cash income for the average household. Especially the better off households rely on livestock for cash income. Poor households rely much more on timber than on livestock for cash income.

Table 3-18 Sources of Cash Income for Xiengdet Households

Source of Income	Better-off HHs	Medium HHs	Poor HHs	Average	Main responsibility		
					Men	Women	Shared
Livestock	14,329,444	1,814,958	499,965	2,233,578	2%	16%	82%
Agricultural products	11,645,556	4,405,542	1,383,544	3,215,611	2%	2%	97%
Fish	1,066,667	1,133,333	505,456	729,011	84%	2%	15%
Hunting	1,111,111	16,667	5,263	118,889	100%	0%	0%
Timber	15,144,444	9,025,000	2,470,175	5,485,556	97%	2%	2%
NTFPs	2,194,556	1,782,646	653,749	1,102,869	10%	16%	74%
Handicrafts	-	133,333	53,333	69,333	100%	0%	0%
Home business	3,858,333	355,333	117,544	555,033	27%	9%	64%
Salary / Regular income	1,582,667	-	-	158,267	0%	0%	100%
Occasional work	55,556	681,458	422,193	440,222	56%	17%	28%
Others	-	812,500	5,263	220,000	0%	0%	100%
Total HH Cash income	50,988,334	20,160,770	6,116,485	14,328,369			

341. For all income groups in Ban Xiengdet and not for better off households alone, agricultural products are an important source of cash income. The most important cash crop is rice, however a large extension of corn fields is in preparation.

342. Most tasks are shared between men and women, but some of the cash income sources have a gender aspect. Sale of fish, game and timber seems to be a sole responsibility of men, while women are more involved in sale of pigs, chickens, ducks, and NTFPs.

3.1.25 Total Income

343. Total (imputed and cash) income per household is shown in Table 3-19.

Table 3-19 Inventory of Household Income (Cash and Imputed) in Kip at Ban Xiengdet, 2007

No	Sex of HH head	Imputed	Cash	Total
1	F	1,388,000	500,000	1,888,000
2	M	2,850,605	260,000	3,110,605
3	F	2,233,330	917,000	3,150,330
4	M	3,009,820	480,000	3,489,820
5	F	4,378,210	395,000	4,773,210
6	M	4,372,663	900,000	5,272,663
7	M	3,972,160	1,375,000	5,347,160
8	M	4,431,660	2,004,000	6,435,660
9	M	4,774,000	1,700,000	6,474,000
10	M	6,772,416	1,215,000	7,987,416
11	M	4,923,000	3,110,000	8,033,000
12	M	6,921,640	1,840,000	8,761,640
13	F	7,247,600	1,757,500	9,005,100
14	M	6,097,500	3,092,500	9,190,000
15	M	6,701,660	2,550,000	9,251,660
16	M	5,450,000	4,185,000	9,635,000
17	M	8,460,000	1,370,000	9,830,000
18	M	7,917,000	1,930,000	9,847,000
19	M	4,936,700	5,225,000	10,161,700
20	M	3,122,000	7,180,000	10,302,000
21	M	9,910,255	950,000	10,860,255
22	M	6,162,000	4,725,000	10,887,000
23	M	5,985,000	5,870,000	11,855,000
24	F	5,470,000	6,755,000	12,225,000
25	M	7,228,500	5,675,000	12,903,500
26	M	9,290,104	3,668,000	12,958,104
27	M	10,032,165	3,151,000	13,183,165
28	M	7,734,680	5,730,000	13,464,680
29	M	11,612,820	2,331,000	13,943,820
30	M	12,848,006	1,649,700	14,497,706
31	M	6,254,000	8,295,000	14,549,000
32	M	4,894,980	10,017,000	14,911,980
33	M	10,749,200	4,589,000	15,338,200
34	M	5,015,300	10,680,000	15,695,300
35	M	8,172,000	7,700,000	15,872,000
36	M	5,494,000	10,569,500	16,063,500
37	M	12,165,500	4,010,000	16,175,500
38	M	12,346,465	3,988,000	16,334,465
39	M	7,309,320	9,507,500	16,816,820
40	M	10,701,608	6,670,000	17,371,608
41	F	7,581,200	10,623,000	18,204,200
42	M	8,796,200	9,420,000	18,216,200
43	M	9,612,700	8,686,000	18,298,700
44	M	6,817,405	11,610,000	18,427,405
45	M	16,711,770	2,205,000	18,916,770
46	M	14,223,505	5,367,500	19,591,005
47	M	8,501,620	11,268,000	19,769,620
48	M	10,583,740	9,297,500	19,881,240
49	M	13,998,180	7,085,000	21,083,180
50	M	14,146,330	7,480,000	21,626,330
51	M	13,761,980	8,545,000	22,306,980
52	M	15,345,912	8,020,000	23,365,912
53	M	19,079,600	4,649,000	23,728,600
54	M	5,528,010	18,715,000	24,243,010
55	M	13,161,510	12,156,500	25,318,010
56	M	9,770,000	17,110,000	26,880,000
57	M	17,443,415	10,435,000	27,878,415
58	M	17,230,900	10,699,000	27,929,900
59	M	14,110,206	14,550,000	28,660,206
60	M	16,177,020	12,804,000	28,981,020
61	M	17,494,100	11,957,500	29,451,600
62	M	10,833,385	20,490,000	31,323,385
63	M	10,269,340	21,200,000	31,469,340
64	M	20,763,318	11,099,000	31,862,318
65	M	25,535,205	7,040,000	32,575,205
66	M	28,524,000	4,124,000	32,648,000
67	M	22,684,500	13,825,000	36,509,500
68	M	18,090,000	20,590,000	38,680,000
69	M	19,859,900	19,700,000	39,559,900
70	M	11,708,000	28,850,000	40,558,000
71	M	21,541,000	19,120,000	40,661,000
72	M	10,188,300	30,525,000	40,713,300
73	M	15,124,400	28,657,500	43,781,900
74	M	29,616,250	14,250,000	43,866,250
75	F	12,550,020	32,034,000	44,584,020
76	M	32,609,010	12,178,000	44,787,010
77	F	8,062,200	38,925,000	46,987,200
78	M	35,066,010	12,620,000	47,686,010
79	M	25,367,000	22,630,000	47,997,000
80	M	18,751,500	29,444,000	48,195,500
81	M	28,479,700	21,069,000	49,548,700
82	M	13,413,700	37,610,000	51,023,700
83	M	17,895,610	44,950,000	62,845,610
84	M	20,601,815	45,190,000	65,791,815
85	M	33,599,600	35,569,000	69,168,600
86	M	19,103,200	53,900,000	73,003,200
87	M	11,422,220	66,700,000	78,122,220
88	M	27,232,270	55,351,000	82,583,270
89	M	28,580,220	77,240,000	105,820,220
90	M	29,506,730	83,159,000	112,665,730

344. Table 3-20 shows that the total annual income for poor households amounts to about 16 million Kip (or approximately \$1900), while better-off households earn nearly 5 times more than the poor ones.

Table 3-20 Average Annual Income (cash and imputed) for Better-off, Medium and Poor Households at Ban Xiengdet

Type of Income	Better-off HHs	Medium HHs	Poor HHs	Average
Imputed	23,633,683	15,988,735	9,790,157	12,773,217
Cash	53,424,125	19,899,479	6,049,381	14,213,769
Total	77,057,808	35,888,214	15,839,538	26,986,986

345. Agriculture is the most important income source for all households; but better-off households have significant higher income from agriculture, livestock, and timber. The total annual income for an average household is 27 million Kip (or about \$3300 at July 2010 exchange rates), with most of it coming from agriculture, livestock and timber/fuel wood.

346. Annual household income from agriculture and livestock fluctuates. One seldom meets farming households earning stable annual incomes. The rice harvest depends on weather conditions each year, particularly critical is the time of planting rice as it is never sure when the rainy season starts. It is not uncommon for farmers cultivating hill rice and farmers growing rice in non irrigated paddy to have to plant twice as the first planted rice is sometimes lost due to a late start of the rainy season. The same

farmers may also lose their rice crop during dry spells in the rainy season. Heavy rainfall just before or during harvesting can result in unexpected crop losses. Farmers that have their own irrigation weirs (of bamboo, wood and dirt) in small streams to divert supplemental water to their paddies (as in Ban Xiengdet) struggle to repair their weirs in time after heavy rainfall. Weeds, diseases, and agricultural pests regularly occur, and the appropriate herbicides and pesticides are not often available at affordable prices and knowledge about their safe use is negligible. Weeding requires also a strong labor force that often cannot be made available. Post harvesting and storage also depend on the availability of labor, facilities, and equipment. Rice farmers as any business person sometimes lose and sometimes gain.¹³

3.1.26 Household Expenditure

347. Household expenditure in Xiengdet is presented in Table 3-21 per category. A large portion of expenditures is used for health and medical treatment, such as visiting health clinics and hospitals and buying medicine. Health expenditure for an average household amounts to 10% of the total expenditures, while poor households spend as much as 17% of their annual income on health. None of the households report buying rice for consumption which indicates that rice-insufficient households either eat less rice than they need or acquire it through barter trade. Purchase of other types of food than rice amounts to about 0.8 million Kip for an average household.

348. Purchasing of household assets is a considerable expenditure for better-off and medium households amounting to 39 and 36%, respectively, while it amounts only to 13% for poor households. Other expenditures cover hired labor (households with insufficient labor for their land need extra labor for during planting and harvesting), education, energy, transportation and community/social obligations.

Table 3-21 Average Annual Expenditures by Households at Ban Xiengdet

Type of Expenditure	Better off HHs	Medium HHs	Poor HHs
Hired Labor	1,330,222	243,958	150,526
Equipment rental and maintenance	1,458,333	467,917	162,281
Other food	1,269,111	1,271,458	645,965
Medical treatment, health services	2,878,889	1,083,417	611,596
Clothing	1,527,778	1,033,750	395,895
Education	3,410,667	536,958	65,965
Household assets	10,353,222	3,843,000	468,070
Community/ religious events	497,222	443,750	219,088
Transportation	1,117,778	242,708	218,491
Energy (fuel wood, fuel for tractor,...)	1,475,556	1,037,208	201,544
Small business	1,333,333	386,250	96,491
Tax	58,333	206,479	28,219
Others	188,111	194,021	301,974
Total	26,898,555	10,990,874	3,566,105

3.1.27 Poverty

349. At the time of the village survey, the official rural poverty line was 80,000 Kip (\$10.0) per month per capita. Data provided in this document reflect this line. Since 2008, it has been updated to 180,000 kip (US\$22.5) per month per capita¹⁴.

350. All households in Xiengdet have average monthly incomes above the official rural poverty line from 1997/98, which indicates that this marker might no longer be up-to-date. The lowest average monthly income per capita was 37.500 Kip in 2007 and two other households have average monthly incomes

¹³ See also Schiller, J.M., M.B. Chanphengxay, B. Linquist, and S. Appo Rao (editors), 2006, Rice in Laos, 2006, International Rice Research Institute.

¹⁴ Decree 285/PM, On Poverty and Development Criteria for 2010-2015, 13th October 2009.

per capita below the adjusted rural poverty line from 2000 at 80,000 Kip. These households are all Khmu.

351. As average household size in the village is 5.3 persons, meaning that the average monthly per capita income for those in prosperous households is 424,528 kip (almost \$52), while in poorer households it is 251,572 kip (almost \$31).
352. The average overall monthly income per capita (cash and imputed) in Xiengdet was 385,000 Kip (2007). The figure for Khmu was 373,000 Kip while it was 449,000 Kip for Tai Phouan villagers.
353. Figure 3-6 illustrates that Tai Phouan households in general are better-off than the Khmu as their income for the 1st to 4th income quintiles are 31% – 58% higher than for Khmu. Only for the highest income bracket are the two ethnic groups at level.

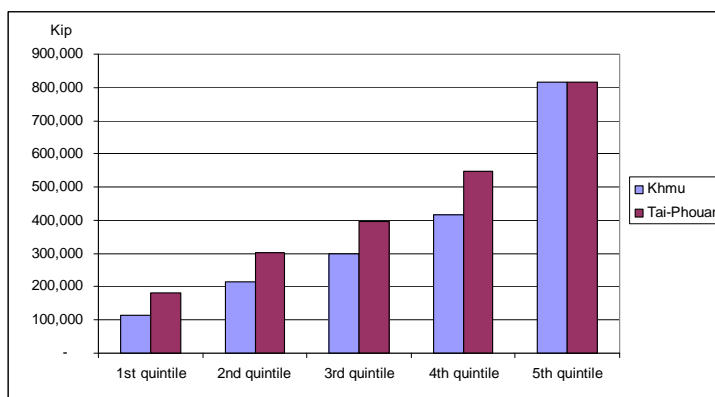


Figure 3-6 Comparison of Average Monthly Income per Capita (Cash and Imputed) of Khmu and Tai Phouan Ethnicity

354. Both Khmu and Tai Phouan are ethnic minority groups in Lao PDR, but at Ban Xiengdet 88% of the village population belongs to the Khmu ethnic group and 12% of the village population belongs to the Tai Phouan ethnic group. Household income of both Khmu and Tai Phouan ethnic groups is depending more at which date they moved into Ban Xiengdet village to establish new livelihoods. Households that moved into Ban Xiengdet at a time after all paddy fields were occupied, by definition have to provide more labor and have less opportunities to become self sufficient as they are largely depending on hill rice farming.
355. Table 3-22 presents the average annual household income by income terciles, discounting expenditures. It is apparent that households in the upper income tercile have an average annual income more than four times what is generated among households in the lower tercile. Households in the lower tercile in average have 40% of the average total income. Households in the lower income tercile are relatively more dependent on imputed income; imputed income accounts for 69% of their total income.

Table 3-22 Average Annual Household Income (imputed and Cash) by Income Terciles at Xiengdet (in kip)

Type of Income	Upper tercile	Middle tercile	Lower tercile	Average
Imputed	18,935,644	10,487,483	5,972,267	11,727,414
Cash	19,390,222	8,056,600	2,718,429	9,965,612
Total	38,325,866	18,544,083	8,690,696	21,693,026

Note: The top eight income earners have been excluded here, as their cash income is primarily based on timber extraction.

3.1.28 Vulnerable Households

356. The village survey identified 6 female headed households, 3 households that have insufficient labor, 3 households with disability, and 8 households where the chief earner is more than 60 years or less than 16 years old (see Table 3-23). All these 20 households have less opportunity to earn sufficient income, while they may belong to either of the two ethnic groups at Ban Xiengdet. This amounts to just under 21% of the village's households being classified as vulnerable.

Table 3-23 Households Vulnerable for Poverty

Village	No. of HHS	Female headed HHS	HHS with insufficient labor to survive without help	HHS with disabled member	HHS where chief earner is > 60 years or < 16 years old
Xiengdet	96	6	3	3	8

357. Recognition of potential vulnerability of households does not necessarily mean that they are economically disadvantaged, though this is often so.

3.2 Peri-Reservoir Villages

358. Nam Sam and Xieng Nga are located close to the upper end of NN3 reservoir and along the access road from Ban Xiengdet to the highway at Nong Tang. Long Cheng (recently merged with Nam Ngua) and Xam Thong are located in the neighbourhood of NN3 dam site.

3.2.1 History

359. Nam Sam was established in 1982 when 48 Khmu households came from Long Khone located along the Khone River in Phou Kout District (Xieng Khouang Province). Their main reason for moving was to look for sustainable production lands. Five years later another group of Khmu (27 Households) also from within Phou Kout District arrived in Nam Sam. Nam Sam consists of three different hamlets.

360. Xieng Nga was established before anyone (among the respondents) remembers. During the war years of 1969-75, villagers temporarily moved to Ban Nam Chim, Phone Hong District, Vientiane Province, returning to the village when it was safe.

361. Xam Thong was established at least in early 1960s as it was made the capital of the Xam Thong-Long Cheng Special Zone. Due to the Second Indo-China War, the village was abandoned in the 1970s and was re-established in 2000, when 23 Khmu and 23 Tai Khang households moved into the village. Both groups came from Muang village in Houaphan Province.

362. Nam Ngua was newly established in 2001, when 45 Khmu households moved from Long Cheng.

363. Long Cheng is known as the American CIA “secret airbase” during the Second Indo-China War which ended in 1975. Before and during the war, Long Cheng was inhabited by Hmong but they were forced to move to other places after the war. At the height of its activity, Long Cheng became the second largest city in Laos, estimated at 300,000 inhabitants with 200,000 ethnic Hmong and 100,000 people of other ethnic background. When the Hmong left, Tai and Khmu ethnic groups settled at Long Cheng from their forest refuges during the war. Recently Nam Ngua became part of Long Cheng.

3.2.2 Project Impacts

364. The project impacts at Long Cheng, and Xam Thong, located at some distance from the deeper end of NN3 reservoir and at Nam Sam and Xieng Nga at some distance from the upper and shallow end of NN3 reservoir concern community land and water uses as cattle grazing, collection of NTFPs, fishing, and hunting. The project impacts at the 4 peri-reservoir villages are much less severe than at Ban Xiengdet, and no housing or agricultural land acquisition is envisaged. The following village background information collected during participatory surveys at the 4 peri-reservoir villages is therefore much less extensive than the information gathered at Ban Xiengdet.

3.2.3 Demography

365. The village survey identified 420 households with a total population of 2,321 people in the peri-reservoir villages (see Table 3-24). The average household size is 5.5 persons.

366. Long Cheng and Nam Ngua merged in one village recently, but data are presented separately. At two of the 5 originally peri-reservoir villages (Xam Thong and Nam Ngua), women comprise less than 50% of the population (45% and 46% respectively).

Table 3-24 Demography at Peri-Reservoir Villages

Village	No. of HHs	Population	Female
Nam Sam	75	395	200
Xieng Nga	98	598	318
Xam Thong	46	289	129
Nam Ngua	48	273	126
Long Cheng	153	766	388
Total	420	2,321	1,161

3.2.4 Ethnicity

367. The villagers in the 5 peri-reservoir villages belong to two main ethnic groups, Khmu and Lao-Tai (see Table 3-25). In Lao PDR, Lao-Tai groups (Lao, Tai Deng, Tai Phouan, Tai Khouane and Tai Khang) are not considered as ethnic minority groups since Lao language is their native language and their traditions are part of the dominating Lao culture. Khmu are part of the Mon-Khmer language family and are considered an ethnic minority as they have customary cultural, economic, social, or political institutions that have differences with those of the dominant upland Lao-Tai groups.

Table 3-25 Ethnicity of Peri-Reservoir Households

No.	Village	No. of HHs	Khmu	Lao-Tai	<i>Tai Phouan</i>	<i>Tai Khouane</i>	<i>Tai Khang</i>
1	Nam Sam	75	75				
2	Xieng Nga	98	21	77	77		
3	Xam Thong	46	23	23			23
4	Nam Ngua	48	45	3			
5	Long Cheng	153	45	108	47	21	17
	Total	420	209	211	124	21	40

3.2.5 Social Organisation

368. The peri-reservoir villages are organized according to the standard administration system in Lao PDR for rural villages.

369. Village leadership positions for the five peri-reservoir villages are similar to Ban Xiengdet shown in Table 3-3. The ethnic composition in the villages is also reflected in the village leadership. Except for Xieng Nga and Long Cheng the village head positions are held by persons of Khmu ethnicity. Except for the LWU position, all other positions are held by males (see Table 3-26). Some changes in this information may be reflected in updated surveys as village elections have recently been held.

Table 3-26 Ethnicity of Village Leadership at Peri-Reservoir Villages

Position	Nam Sam	Xieng Nga	Xam Thong	Nam Ngua	Long Cheng
Village Head	Khmu	Tai Phouan	Khmu	Khmu	Lao-Tai
Deputy VH	Khmu	Tai Phouan	Tai Khang	Khmu	Khmu
Deputy VH	Khmu	Tai Phouan	Tai Khang	Lao-Tai	Khmu
Woman Union	Khmu	Tai Phouan	Tai Khang	Khmu	Lao-Tai
Village Elder	Khmu	Tai Phouan	Tai Khang	Khmu	Khmu
Village Elder	Khmu	Tai Phouan	-	-	-
Front of Construction	Khmu	-	-	-	-

3.2.6 Physical Cultural Resources

370. The existing Physical Cultural Resources at the peri-reservoir villages have been described in the ESIA. The condition – as assessed through interview with village leaders - of some main religious and cultural sites in the 5 villages is shown in Table 3-27. None of these will be affected by the NN3 project.

Table 3-27 Condition of Religious Sites at Peri-Reservoir Villages

Village	Temple	Cemetery	Spirit house
Nam Sam	Poor	Good	Medium
Xieng Nga	Poor	Medium	None
Xam Thong	None	Medium	None
Nam Ngua	None	Medium	None
Long Cheng	Poor	Medium	None

3.2.7 Health

371. The nearest health posts for the peri-reservoir villages are shown in Table 3-28. Long Cheng, Nam Sam, and Xam Thong have small health centres, while villagers of Xieng Nga and Nam Ngua have to rely on health services provided at neighbouring villages. The health post in Nam Sam has five staff which includes volunteers, while the one in Xam Thong has only 1 staff. Long Cheng has a district hospital with 15 staff. A Vietnamese development and aid organization is considering providing assistance to the health center of Long Cheng.

Table 3-28 Health Facilities at Peri-Reservoir Villages

Village	Nearest Health Post	Travel time (hours)	No. of practitioners and volunteers
Nam Sam	In village	0	5
Xieng Nga	Nong Tang	1	2
Xam Thong	In village	0	1
Nam Ngua	Long Cheng	0.25	15
Long Cheng	In village	0	15

372. The main causes for death in the last two years are shown in Table 3-29

Table 3-29 Main Causes of Deaths at Peri-Reservoir Villages

Village	No. of deaths in last two years					
	Malaria	Other fevers	Respiratory infections	Intestinal infections	Accidents	Others
Nam Sam	-	1	3	-	-	-
Xieng Nga	-	-	-	1	1	4
Xam Thong	-	-	-	-	6	3
Nam Ngua	2	-	-	-	-	1
Long Cheng	-	-	-	-	-	3
Total	2	1	3	1	7	11

373. The relatively high number of accidents and other causes of death at Xam Thong is believed to be mainly attributable to high occurrence of UXOs in the village.

3.2.8 Education

374. Education statistics for the peri-reservoir villages are shown in Table 3-30. All villages have access to primary schooling and the conditions of the schools are described as medium. Long Cheng has classes until Grade 8, while Nam Ngua only has classes until Grade 3. The number of pupils per teacher varies significantly between the villages, with Long Cheng having the lowest ratio with only 11 pupils per teacher, and while Nam Ngua and Xam Thong have the highest with 38 and 34 pupils per teacher, respectively.

Table 3-30 Education Statistics for Peri-Reservoir Villages

Village	No. of rooms	Highest class	No. of teachers	No. of pupils
Nam Sam	5	5	4	90
Xieng Nga	7	5	6	128
Xam Thong	5	5	2	68
Nam Ngua	4	3	2	76
Long Cheng	8	8	17	183

375. School attendance for children in schooling age is shown in Table 3-31. Nam Sam and Xieng Nga have the highest school attendance among girls and boys for both primary and secondary school.

Table 3-31 School Attendance for Children at Peri-Reservoir Villages

	Primary school		Secondary school	
	Boys	Girls	Boys	Girls
Nam Sam	100%	100%	94%	100%
Xieng Nga	100%	100%	100%	100%
Xam Thong	95%	100%	89%	100%
Nam Ngua	94%	100%	100%	67%
Long Cheng	99%	100%	31%	14%

3.2.9 Access and Electricity Connection

376. Nam Sam and Xieng Nga are located along the 40 kilometers long access road from Ban Xiengdet to the highway at Nong Tang. Access to Nam Sam and Xieng Nga has been more difficult due to the increased transport of timber from Ban Xiengdet and due to the construction of a new transmission line to NN5.

377. Households at Nam Sam and Xieng Nga now have the opportunity to get connected to the electricity grid.

378. Xam Thong, Nam Ngua, and Long Cheng are located along the public road. Recently a transmission line has been constructed giving households at these villages the opportunity to get connected to the mains electricity grid.

3.2.10 Infrastructure

379. Water supply at the peri-reservoir villages is making use of small streams. Particularly during the dry seasons, insufficient water supply is encountered when natural discharges of these small streams reduce.

380. Sanitation facilities differ on a household per household basis. Particularly, the poor households generally are in need of sanitation facilities. Pigs are used as removers of human faeces.

381. Xaysomboun District has set up a strong *Kum Ban* organization with its office at Long Cheng covering the peri-reservoir villages Long Cheng and Xam Thong and 4 downstream villages including the villages along the public access road from Nam Ngone to Long Cheng.

382. At Phou Kout District, one *Kum Ban* official covers Ban Xiengdet, the two peri-reservoir villages of Nam Sam and Xieng Nga, and 13 upstream villages working from home in Nam Sam.

383. Long Cheng has many buildings in use by the military and a large former airstrip in the middle of the village. Recently a new guesthouse was opened at Long Cheng.

384. Due to the mining development of Phu Bia, the local economy is rapidly developing at Xaysomboun District, while the *Kum Ban* organization based at Long Cheng is getting well prepared for NN3 construction making use of the lessons learned during the development of Phu Bia mining.

3.2.11 Agriculture and Land Use

385. At the peri-reservoir villages there is variation in regard to land use and agriculture production. Information provided by village leaders about types of land use is presented in Table 3-32. All villages grow hill and paddy rice, while paddy and vegetable farming also contribute to the livelihoods at Nam Sam, Xieng Ngua, Nam Ngua, and Long Cheng. At Xam Thong agricultural development is ongoing by making use of an old irrigation weir. Its irrigation reservoir is running out of water during the dry seasons.

Table 3-32 Landuse at Peri-Reservoir Villages

Village	Land use (ha)					
	Paddy Land /HH	Swidden Land /HH	Garden plots total	Orchard land total	Plantation land total	Community forest total
Nam Sam	0.5	0.5	41	6	4	85
Xieng Nga	0.8	0.4	2	1	-	60
Xam Thong	0.0	0.4	-	1	1	5
Nam Ngua	0.8	0.1	2	-	-	6
Long Cheng	0.3	0.2	2	10	-	11

3.2.12 Livestock

386. Many households in Xieng Nga and Long Cheng have buffalos, which is not the case in the other villages (see Table 3-33). Cattle are common in most villages, except in Nam Ngua. Pigs are owned by almost all households in Xieng Nga and Nam Ngua. Poultry (i.e. mainly chickens) are owned by all households in Nam Sam, Xieng Nga and Long Cheng and by most households in Xam Thong and Nam Ngua.

Table 3-33 Number of Livestock at Peri-Reservoir Villages

Village	Buffalo		Cattle		Pigs		Poultry	
	No.	%of HH owning	No.	%of HH owning	No.	%of HH owning	No.	%of HH owning
Nam Sam	25	8	225	87	115	67	500	100
Xieng Nga	215	77	250	82	180	100	1400	100
Xam Thong	11	9	283	96	30	22	150	83
Nam Ngua	21	17	76	31	100	96	150	83
Long Cheng	144	65	308	65	138	33	398	100

3.2.13 Forest Utilization

387. Almost all households report collecting NTFPs in the peri-reservoir villages. Detailed data about collection of NTFPs is only gathered from Xiengdet, but this information is considered to be representative for other villages due to similarity in use of natural resources.

3.2.14 Hunting

388. Household do hunt at the peri-reservoir villages especially deer and serow.

3.2.15 Fish Catch

389. Fish in the peri-reservoir area is mainly obtained from rivers and streams (in average 88%, see Table 3-34). Villagers in Xam Thong constructed and stocked 43 fish ponds in 2007 with the assistance from the World Food Program, but most of the ponds did not have sufficient water and fish died in the ponds after stocking. All 43 fishponds are presently abandoned. Long Cheng has a large pond of which the village has rented out the fishing rights.

Table 3-34 Source of Fish at Peri-Reservoir Villages

Village	River / stream	Ponds	Rice paddy
Nam Sam	98%	2%	-
Xieng Nga	95%	2%	3%
Xam Thong	100%	-	-
Nam Ngua	93%	5%	2%
Long Cheng	78%	21%	-
Average	88%	11%	1%

390. There is considerable variation between the five peri-reservoir villages in terms of how much fish is consumed and how much fish is sold. The survey shows that villagers in Xieng Nga, Xam Thong and Nam Ngua consume almost all their fish, while villagers in Nam Sam and Long Cheng are more market oriented (see Table 3-35). Part of the explanation is that both Nam Sam and Long Cheng host the military. Also a big fish pond at Long Cheng provides a vital source for the local market.

Table 3-35 Fish Catch Consumed and Sold at Peri-Reservoir Villages

Village	Consumed within HH	Sold
Nam Sam	30%	70%
Xieng Nga	95%	5%
Xam Thong	100%	-
Nam Ngua	100%	-
Long Cheng	30%	70%
Average	54%	46%

391. Villagers in the peri-reservoir villages fish throughout the year with an average of 98 days for men and 87 days for women. The dry season from November to May see a marked higher intensity of fishing. The main reason is that it is easier to catch fish when water levels in the rivers are low. Also, the dry season is a low season in the agriculture calendar, as after the rice harvest at the end of each year, there is little to do in the fields.

392. The total annual fish catch in the 5 peri-reservoir villages is 13,000 kg of which men catch 94%. The highest annual catch is obtained in Long Cheng (5,800 kg, see Figure 3-7) and Xieng Nga (4,400 kg), whereas fish catch in Xam Thong and Nam Ngua is very low.

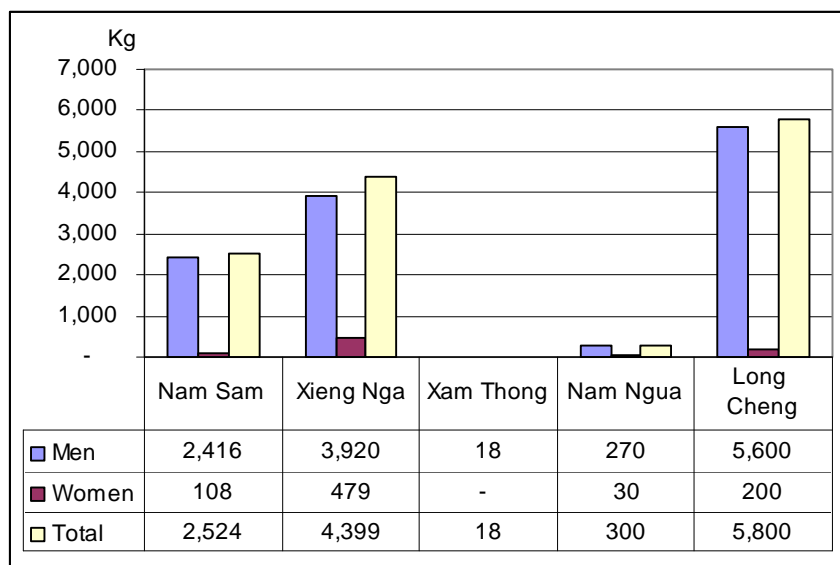


Figure 3-7 Total Annual Fish Catch at Peri-Reservoir Villages

393. Table 3-36 shows the consumption of fish related to the fish catch and population at the peri-reservoir villages.

Table 3-36 Fish Catch and Fish Consumption at Per-Reservoir Villages

Village	Number of HH	Population	Number of Persons per Household	% of Fish Catch Consumed by Households	Annual Village Fish Catch	Annual Fish Catch per Household	Annual Fish Consumption per Household	Annual Fish Consumption per Person
					kg/year	kg/year	kg/year	kg/year
Nam Sam	75	395	5.3	30%	2,524	33.7	10.1	1.9
Xieng Nga	98	598	6.1	95%	4,399	44.9	42.6	7.0
Xam Thong	46	289	6.3	100%	18	0.4	0.4	0.1
Nam Ngua	48	273	5.7	100%	300	6.3	6.3	1.1
Long Cheng	153	766	5.0	30%	5,800	37.9	11.4	2.3

394. The fish consumption per person per year is not higher than 2.3 kg at Nam Sam, Xam Thong, Nam Ngua, and Long Cheng. At Nam Sam and Long Cheng, households give priority to trade fish instead of consuming them. The majority of households at Nam Sam and Long Cheng have one or more household members that are employed as military staff.

395. When calculating the average annual fish caught per household then it appears that in Long Cheng households catch more than 6 times as much as in Nam Ngua, while both villages are located close to each other and households can fish in the same aquatic habitats. It is mainly soldiers at Long Cheng who fish in the Nam Ngum River, more than 9 kilometers from their base. Many fishing practices in the Nam Ngum River are unsustainable and/or destructive, using explosives. Fisheries data will be updated as NN2 has become operational since the NN3 survey, and NN5 is due to become operational shortly. Both dams will affect fisheries in the NN3 peri-reservoir area before the NN3 project impacts will be incurred.

3.2.16 Other Sources of Income

396. Except for Long Cheng and Nam Sam, the main occupation of persons living in the peri-reservoir villages is farming, but some minor non-farm activities are pursued.

3.3 Upstream Villages

397. The 17 upstream villages are located downstream of two hydropower projects of which one is under construction (NN5) and one still in the planning phase (NN4 A & B). Assuming that the two projects will go ahead, 17 villages will be located downstream of NN5 and NN4 A and B and upstream of NN3.

3.3.1 Project Impacts

398. The project impacts at the upstream villages are related to household fish catch only. The project impacts are expected to be positive during the first few years after start of reservoir filling, with higher than normal fish catch opportunities. After two years, windfall fisheries are expected to return to lower, pre-impoundment levels, provided the number of fishers and fishing gears stay the same and no additional impacts of other development projects occur.

3.3.2 Demography

399. The total population of the 17 villages is 10,312 persons with 1,645 households (see Table 3-37). Hence the average village has just below 100 households. The average household size is 6.3 persons ranging from 5.5 persons in Xong to 7.6 in Nam Ting. Overall, there is an even distribution of men and women. However, in Xay and Nam Chat only 46% and 47% of the village population are women.

Table 3-37 Demography of 17 Upstream Villages

No.	Village name	District	HH	Population	Female
1	Nam Ting	Phou Khoun	74	560	275
2	Phouvieng Noi	Phou Khoun	228	1,505	745
3	Phouvieng Nyai	Phou Khoun	118	717	357
4	Xayoudom	Phou Kout	48	302	161
5	Somboun	Phou Kout	67	432	218
6	Nam Chat	Phou Kout	116	704	329
7	Bang Pang	Phou Kout	50	340	176
8	Maang	Phou Kout	103	630	331
9	Yong Tang	Phou Kout	84	513	249
10	Souy	Phou Kout	73	437	227
11	Chomsi	Phou Kout	105	676	328
12	Sak Sort	Phou Kout	86	565	280
13	Na Khuan	Phou Kout	86	526	276
14	Yong Kang	Phou Kout	71	400	203
15	Xong	Phou Kout	124	681	334
16	Dook	Phou Kout	96	620	313
17	Xay	Phou Kout	116	704	325
	Total		1,645	10,312	5,127

Source: NSC, 2005.

3.3.3 Ethnicity

400. Most of the 17 upstream villages have a mixed ethnic composition (see Table 3-38).

401. The 3 main ethnic groups are Lao-Tai (41%), Hmong (32%) and Khmu (26%). Seven villages are predominantly Lao-Tai, three Hmong and four Khmu. Three villages do not have a dominating ethnic majority. The Hmong and Khmu groups are ethnic minorities in Lao PDR as these groups have customary cultural, economic, social, or political institutions that are at variance with those of the dominant upland Lao-Tai groups. But, both Hmong and Khmu are the dominant ethnic groups at most of the 17 upstream villages.

Table 3-38 Ethnic Composition of Households at Upstream Villages

	Village	Lao-Tai	Khmu	Hmong	Other	Total
1	Nam Ting		74			74
2	Phouvieng Noi	2	70	154	2	228
3	Phouvieng Nyai		116		2	118
4	Xayoudom		46		2	48
5	Somboun			67		67
6	Nam Chat	22	47	44	3	116
7	Bang Pang		39	11		50
8	Maang	67		35	1	103
9	Nong Tang	67		17		84
10	Souy	58		15		73
11	Chomsi	80	25			105
12	Sak Sort	40		46		86
13	Na Khuan	84			2	86
14	Yong Kang	71				71
15	Xong	122			2	124
16	Dook	52		42	2	96
17	Xay	30		86		116
	Average	695	417	517	16	1,645

Note: The National Statistics do not indicate ethnic sub-group for Lao-Tai persons

3.3.4 Livelihoods

402. Interviews on fisheries were made in two key villages in the upstream area, i.e. Nam Chat and Nam Ting on the tributaries to the Nam Ngum River of the same names.
403. Table 3-39 shows that the highest livelihood importance in Nam Chat and Nam Ting is given to livestock and farming. Fishing at Nam Ting is seen as not very important whereas fishing did not get any scores in Nam Chat.

Table 3-39 Relative Importance of Livelihood Sources at Nam Chat and Nam Ting

No.	Livelihood Source	Nam Chat		Nam Ting	
		Score	%	Score	%
1	Livestock	6	43	11	28
2	Farming	5	36	11	28
3	Orchards	1	7	7	18
4	Gardening	0	0	8	21
5	Small-scale business and trading	1	7	1	3
6	Collection of NTFPs	1	7	0	0
7	Fishing	0	0	1	3

3.3.5 Fish Catch

404. In Nam Chat and Nam Ting, rivers and streams account for the entire amount of fish harvested (see Table 3-40).

Table 3-40 Fishing Locations by Households at Nam Chat and Nam Ting

Village	River / stream	Ponds	Rice Paddy
Nam Chat	100%	-	-
Nam Ting	100%	-	-
Average	100%	-	-

405. The majority of fish caught in the two upstream villages is consumed by the households (73%, see Table 3-41). However, proximity to National Route 7 (most obviously for Nam Chat) provides an opportunity for marketing some of the catch.

Table 3-41 Fish Catch Consumed and Sold at Nam Chat and Nam Ting

Village	Household Consumption	Household Cash Income
Nam Chat	80%	20%
Nam Ting	70%	30%
Average	73%	27%

406. Fishing takes place especially towards the end of the dry season. Fish are mainly caught in the dry season with April showing the highest catch (460 kg, see Figure 3-8). For women, 78% of the annual catch is obtained in April and May.

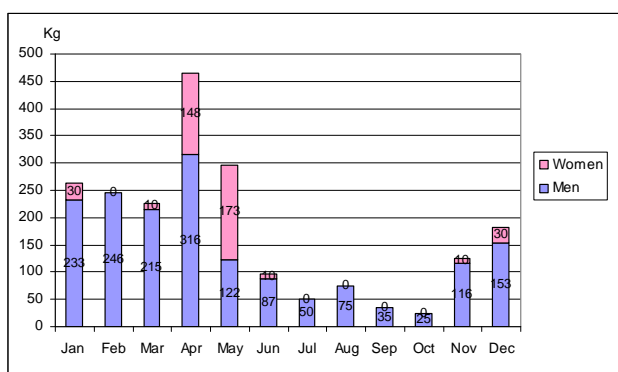


Figure 3-8 Total Monthly Fish Catch by Men and Women, Nam Ting

407. The total annual fish catch for Nam Chat and Nam Ting is 580 kg and 1,500 kg, respectively (see Figure 3-9). Men bring in 80% of this catch and women 20%.

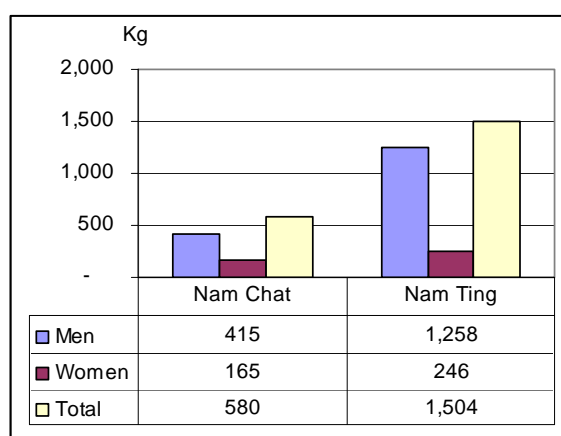


Figure 3-9 Total Annual Fish Catch, Nam Chat and Nam Ting

408. Annual fish consumption per household is 4 kg at Nam Chat and 14 kg at Nam Ting.

3.4 Downstream Villages

409. The 7 downstream villages are located at Nam Pha and Nam Phay watersheds. Both Nam Pha and Nam Phay have their confluence with Nam Ngum River downstream of NN3 dam.

3.4.1 History

410. Louang Phan Xay, Phan Xay, Nam Pha, and Nam Xan are located within Nam Pha watershed.
411. Louang Phan Xay and Phan Xay were established in 1999 - 2000 when large groups of Tai Deng and some Khmu and Tai Dam families moved from Houaphan Province mainly due to poor agricultural conditions at previous locations. Two small villages of Na Xom and Phou Kong Khao were merged with Louang Phan Xay in 2005.
412. Not much is known about the history of Nam Pha apart from that it was re-established in 1976 by mainly Khmu households.
413. Nam Xan was established in 2000, when about 100 Hmong households moved from various villages in Vientiane and Xieng Khouang Provinces to settle in the village. Their main reason for moving was lack of agricultural land.
414. Nong Pou, Pha Hom, and Mouang Phoun are located within Nam Phay watershed.
415. Nong Pou was formed back in 1975 when Khmu households came from Vientiane Province. In 1998 two other Khmu families joined the village. Their main reason for moving was lack of land for agricultural production in their previous village.
416. The most recent established villages are Mouang Phoun and Hom Xay which were formed in 2005, when Hmong, Khmu and Lao ethnic groups moved from various villages in Xieng Khouang and Luang Phabang Provinces. Mouang Phoun was re established.

3.4.2 Project Impacts

417. At the 7 downstream villages the impacts by NN3 are related to fisheries only as a result of the fragmentation of aquatic habitats. The project may impact the household fish catch, if households catch migrating fish species only. Fisheries may already be affected beforehand by NN2 operations downstream of the NN3 project. This will be determined by an update of fisheries data.

3.4.3 Demography

418. At the 7 downstream villages about 2,455 people live in 397 houses. An average downstream household has 6.2 family members, with the highest numbers found in Louang Phan Xay with 7.3 persons per household, while Hom Xay only has 5.6 persons per household. See Table 3-42.
419. In all downstream villages there are more men than women with an average female representation of 48 percent.

Table 3-42 Demography for Downstream Villages

Village	No. of HHs	Population	Females
Louang Phan Xay	67	489	242
Phan Xay	45	258	118
Nam Pha	40	225	110
Nam Xan	103	649	322
Hom Xay	44	246	116
Nong Pou	61	361	169
Mouang Phoun	37	227	104
Total	397	2,455	1,181

3.4.4 Ethnicity

420. There are three main ethnic groups in the seven downstream villages as shown in Table 3-43. Lao-Tai groups (especially Tai Deng) constitute the biggest group (37%). The Khmu, which is a part of the Mon Khmer Language family constitute a large part of the population in Hom Xay and Nong Pou, while

Hmong are the majority in Nam Xan and Mouang Phoun. Lao-Tai groups (e.g. Tai Deng, Tai Phouan and Tai Dam) are not considered as an ethnic minority group since they speak a language that is related to Lao and can understand the majority language and their traditions are similar to the dominant Lao mainstream culture.

Table 3-43 Ethnicity at Downstream Villages

Village	No. of HHS	Hmong	Khmu	Lao-Tai	Tai Deng	Tai Phouan	Tai Dam	Other
Louang Phan Xay	67		2	65	53		7	5
Phan Xay	45			45	45			
Nam Pha	40		37	3	2	1		
Nam Xan	103	103		0				
Hom Xay	44		39	5				5
Nong Pou	61	2	45	14				14
Mouang Phoun	37	21	1	15			1	14
Total	397	126	124	147	100	1	8	38

Note: In some villages, households were categorized by respondents as Lao-Tai, while in others by using the name of the specific ethnic group.

3.4.5 Health

421. Five kilometres is a critical distance between a village and available and appropriate health services. The 3 downstream villages (Hom Xay, Nong Pou, Mouang Phoun) located in Nam Phay watershed report to need 8-9 hours travel to reach their nearest health post, which was in Ban Sone (resettled due to NN2). The other downstream villages located at in Nam Pha watershed report to need less than 2 hours travel on foot to reach their health services at Louang Phan Xay and Long Cheng. See Table 3-44.

422. The most common cause of death in the downstream villages is old age. Intestinal infections, fever, and accidents are also reported to be main causes of death.

Table 3-44 Health Statistics for Downstream Villages

Village	Travel Time to Nearest Hospital / Health Post [hours]	Nearest hospital / health post	No. of practitioners	No. of death in last two years					
				Malaria	Fever	Respiratory infections	Intestinal infections	Accidents	Others
Louang Phan Xay		Louang Phan Xay	2				1	2	2
Phan Xay	2	Louang Phan Xay	2				2		
Nam Pha	0.3	Long Cheng	15						3
Nam Xan	1	Long Cheng	15		1		2	1	3
Nong Pou	8	Sone	14						
Mouang Phoun	9	Sone	14						3
Hom Xay	8	Sone	14		2	1			2

3.4.6 Education

423. Except from Hom Xay all villages have schools that teach up to grade 5, which is the end of primary school. The number of pupils per teacher is the highest in Hom Xay and Nam Xan with only one teacher per 55 and 53 pupils, respectively. At the other end of the scale are Phan Xay and Mouang Phoun, which have pupil-teacher ratios of 6 and 10, respectively. See Table 3-45.

Table 3-45 Health Education Statistics for Downstream Villages

Village	No. of rooms	Highest class	No. of teachers	No. of pupils
Louang Phan Xay	5	5	3	120
Phan Xay	5	5	5	32
Nam Pha	5	5	5	51
Nam Xan	3	5	3	159
Hom Xay	1	2	1	55
Nong Pou	5	5	3	94
Mouang Phoun	5	5	4	40

424. The school attendance in primary school is almost the same for boys and girls (88 percent). The lowest school attendance is found in Hom Xay which only teaches up to grade two. For secondary school the school attendance drops from 88 percent down to 61 percent of boys and to 39 percent for girls. In two of the villages, Phan Xay and Hom Xay the secondary school attendance for girls is zero. See Table 3-46.

Table 3-46 School Attendance at Downstream Villages

	Primary school		Secondary school	
	Boys	Girls	Boys	Girls
Louang Phan Xay	97%	98%	41%	69%
Phan Xay	75%	78%	44%	0%
Nam Pha	100%	100%	70%	27%
Nam Xan	100%	99%	91%	64%
Hom Xay	61%	54%	50%	0%
Nong Pou	100%	98%	87%	50%
Mouang Phoun	85%	95%	40%	60%
Average	88%	89%	61%	39%

3.4.7 Agriculture and Land Use

425. Land use patterns for the downstream villages are shown in Table 3-47, below. The most characteristic for these villages is that paddy cultivation is far more dominating than swidden agriculture. The average paddy for a household is 0.7 hectare, while only 0.1 hectare for swidden land. Lack of available paddy land is often compensated by additional swidden land for rice production, which is also valid for downstream villages. At all villages where there is less than 1 hectare of paddy land per household, households have developed additional swidden land.

Table 3-47 Land Use at Downstream Villages

Village	Paddy land	Swidden land	Garden plots	Orchard land	Plantation land	Community forest
	Hectare/HH	Hectare/HH	Hectares	Hectares	Hectares	Hectares
Louang Phan Xay	0.8	0.1	13		9	33
Phan Xay	0.7	0.4			5	2,765
Nam Pha	0.3	1.0				5
Nam Xan	0.3	0.4	17	10		12
Hom Xay	0.8	0.6	2			
Nong Pou	1.5	-	10	1		10,000
Mouang Phoun	1.1	-	1			200
Average	0.7	0.1	6	2	2	1,859

426. Rice sufficiency for households in downstream villages is shown in Table 3-48. More than half of the households are self-sufficient with rice year round. However, in Louang Phan Xay 76% of the households produce not more rice than sufficient for six months only.

Table 3-48 Rice Sufficiency for Households at Downstream Villages

Village	% HHs with 12 months rice sufficiency	% HHs with 10-11 months rice sufficiency	% HHs with 7-9 months rice sufficiency	% HHs with 3-6 months rice sufficiency	% HHs with <3 months rice sufficiency
Louang Phan Xay	10	3	10	67	9
Phan Xay	4	44	22	11	18
Nam Pha	73	15	13	0	0
Nam Xan	89	10	0	1	0
Hom Xay	34	23	27	16	0
Nong Pou	77	11	11	0	0
Mouang Phoun	86	0	0	14	0

3.4.8 Livestock

427. Table 3-49 shows the number livestock and poultry owned by households. Poultry and pigs are by far the most commonly owned by households in the downstream villages. An average household has three pigs and seven fowls which are mainly held for consumption and important in religious practices. Goats are only held by some households in Nam Pha and Nam Xan. Buffalo and especially cattle are also common, but not held by all households.

Table 3-49 Livestock at Downstream Villages

Village	Buffalo		Cattle		Goats		Pigs		Poultry	
	No. of HH	% of HH that own	No.	% of HH that own	No.	% of HH that own	No.	% of HH that own	No.	% of HH that own
Louang Phan Xay	26	7	135	40	0	0	189	97	350	100
Phan Xay	6	4	76	47	0	0	120	100	360	100
Nam Pha	10	10	87	82	165	33	20	28	300	82
Nam Xan	180	24	300	59	58	6	250	100	560	100
Hom Xay	8	9	11	9	0	0	34	43	350	100
Nong Pou	No information									
Mouang Phoun	11	0	11	0	0	0	300	100	500	100
Average	40	12	103	43	37	6	152	84	403	98

3.4.9 Forest Utilization

428. NTFPs are an important source of livelihood for households in the downstream villages. Many of the products listed are described as very important for their livelihood and daily food consumption, especially bamboo, bamboo shoots, mushrooms, *Imperata indica* and fuel wood. These items are also mentioned as important for cash income generation, although then valued as medium important. Men and women have a shared responsibility for collection of most NTFPs, but some of the products are dominated by men such as cutting of rattan and bamboo, while women are more involved in collection of bamboo shoots, mushrooms, and fuel wood (Table 3-50).

Table 3-50 Importance of NTFPs for Households at Downstream Villages

NTFPs	Importance for Cash Income Generation			Importance for Livelihood			Main Responsibility		
	Low	Medium	High	Low	Medium	High	Men	Women	Shared
Bamboo	25	25	50	14	0	86	29	0	71
Bamboo shoots	0	60	40	14	0	86	0	57	43
Cardamom	20	80	0	20	80	0	0	0	100
Mushrooms	40	20	40	14	14	71	14	29	57
Herbs / spices	100	0	0	40	60	0	20	0	80
Rattan	50	25	25	14	29	57	86	0	14
Roots	50	50	0	0	43	57	14	14	71
Bark Tree	0	80	20	40	60	0	20	0	80
Bark Liana	25	75	0	50	50	0	0	0	100
Broom Grass	25	75	0	0	80	20	0	0	100
<i>Imperata indica</i>	50	25	25	0	0	100	14	14	71
Fuel wood	100	0	0	0	0	100	14	29	57

3.4.10 Fish Catch

429. Villagers in the downstream area get most of their fish from rivers and streams, i.e. Nam Pha and Nam Phay and smaller tributaries. Fishing in the Nam Ngum itself does not take place.

430. In average, 87% of fish caught are harvested in the rivers and streams (see Table 3-51). Fish ponds are an important source of fish in some villages, especially Louang Phan Xay.

Table 3-51 Fishing Locations by Households at Downstream Villages

Village	River / stream	Ponds	Rice paddy
Louang Phan Xay	33%	67%	-
Phan Xay	74%	25%	1%
Nam Pha	94%	5%	1%
Nam Xan	90%	5%	5%
Hom Xay	100%	-	-
Nong Pou	92%	2%	6%
Mouang Phoun	65%	19%	16%
Average	87%	8%	5%

431. Fish are entirely caught for household consumption, except for Nam Pha where 10% of the fish caught is sold.

432. The total catch for the seven downstream villages is 19,900 kg of which 73% is caught by men and 27% by women. According to the survey, more than half of this catch is obtained in Nam Xan (11,200 kg, see Figure 3-10). Total fish catch in Louang Phan Xay, Phan Xay and especially Hom Xay is very low.

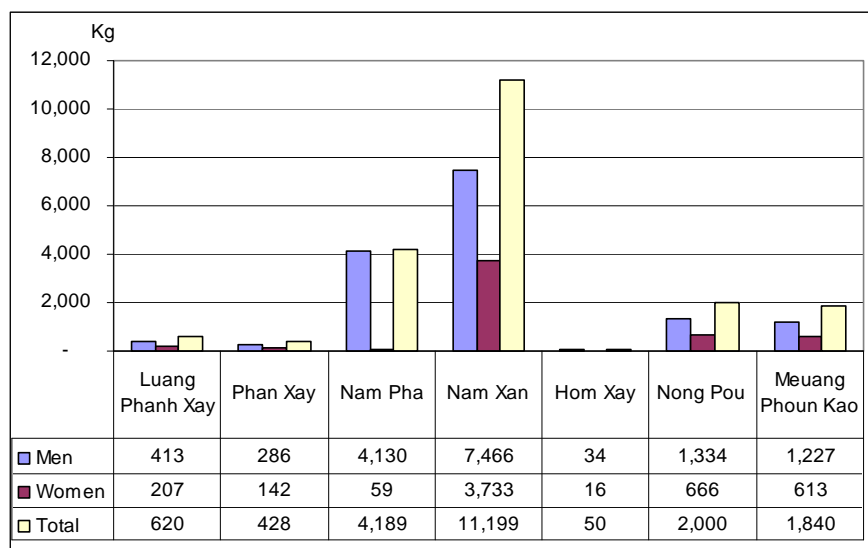


Figure 3-10 Total Annual Fish Catch, Downstream Villages

433. Table 3-52 shows the average household fish catch and fish consumption at the 7 downstream villages.

Table 3-52 Fish Catch and Fish Consumption at Downstream Villages

Village	Number of HH	Population	Number of Persons per Household	% of Fish Catch Consumed by Households	Annual Village Fish Catch	Annual Fish Catch per Household	Annual Fish Consumption per Household	Annual Fish Consumption per Person
					kg/year	kg/year	kg/year	kg/year
Louang Phan Xay	67	489	7.3	100%	620	9.3	9.3	1.3
Phan Xay	45	258	5.7	100%	428	9.5	9.5	1.7
Nam Pha	40	225	5.6	100%	4,189	104.7	104.7	18.6
Nam Xan	103	649	6.3	100%	11,199	108.7	108.7	17.3
Hom Xay	44	246	5.6	100%	50	1.1	1.1	0.2
Nong Pou	61	361	5.9	100%	2,000	32.8	32.8	5.5
Mouang Phoun	37	227	6.1	90%	1,840	49.7	44.8	7.3

3.5 Households at Villages Impacted during Construction

434. During the construction phase, impacts will occur in the areas of the transmission line, the public road Nam Ngone-Long Cheng, and at Long Cheng due to the expected influx of camp followers.

435. Two downstream villages (Nam Pha and Nam Xan) are located along the public road from Nam Ngone to Long Cheng. Background information of these two villages is given in section 3.4 of this socio economic profile.

436. Long Cheng is the location where camp followers will possibly establish themselves. Long Cheng is one of the peri-reservoir villages of which background information is provided in section 3.2 of this socio economic profile.

437. Within a distance of 5 kilometers from the transmission line corridor 21 villages are located. The transmission line has a total length of about 99 kilometres crossing 21 village areas, but no residential areas of the villages. The following table 3-53 shows the demography and ethnicity in each of the 21 transmission line villages. This information will be revised and updated once the final alignment has been determined.

Table 3-53 Transmission Line Villages

	Village	District	Province	Number of Households	Number of Persons	Number of Female Persons	Number of Lao Tai Households	Number of Khmu Households	Number of Hmong Households	Number of Yao Households
1	Nam Gnone	Xaysomboun	Vientiane	186	1,149	562	20	4	162	0
2	Nam Mo	Xaysomboun	Vientiane	330	1,678	789	231	98	1	0
3	Namying	Hom	Vientiane	82	588	293	0	0	82	0
4	Xiangmi	Hom	Vientiane	176	1,281	613	10	1	165	0
5	Napho	Hom	Vientiane	128	912	438	0	0	128	0
6	Vanglouang	Hom	Vientiane	230	1,341	675	223	5	1	1
7	Naxai	Hom	Vientiane	134	1,135	546	0	0	0	134
8	Phonxai	Hom	Vientiane	94	694	259	15	78	1	0
9	Xamkhon	Hom	Vientiane	186	1,264	631	16	166	3	0
10	Khonvat	Hom	Vientiane	367	2,378	1,178	88	38	225	16
11	Sanpatong	Hom	Vientiane	81	572	233	39	0	42	0
12	Vantha Hua	Hom	Vientiane	102	583	259	17	1	83	0
13	Vang Hun	Thulakhom	Vientiane	449	2,706	1,304	0	0	449	0
14	Nakay	Sai Thani	Nakhon Luang	77	384	248	77	0	0	0
15	Na Ngom Kao	Sai Thani	Nakhon Luang	150	890	394	150	0	0	0
16	Na Ngom Mai	Sai Thani	Nakhon Luang	96	496	249	96	0	0	0
17	Natan	Sai Thani	Nakhon Luang	185	1015	588	185	0	0	0
18	Non	Pak Ngum	Nakhon Luang	113	557	179	113	0	0	0
19	Thakokhai	Pak Ngum	Nakhon Luang	442	2,763	1,685	174	0	268	0
20	Nongdong	Pak Ngum	Nakhon Luang	86	516	251	48	0	38	0
21	Nabong	Pak Ngum	Nakhon Luang	264	1,437	777	264	0	0	0

4 Ethnic Groups

438. In the most recent national census (2005), the government of Laos recognizes 49 ethnic groups within 47 main ethnicities¹⁵ and 4 ethno-linguistic families¹⁶. The Lao Front for National Construction (LFNC) recently revised the list to include 49 ethnicities and increasing to over 160 ethnic groups. 160 ethnic groups speak a total of 82 distinct living languages.
439. The term “*ethnic minorities*” is used by some to classify the non-Lao Tai ethnic groups, while the term “*indigenous peoples*” is not used by the Lao PDR as all ethnicities are considered indigenous to the country. For ADB SPS SR3 on Indigenous Peoples (IP) purposes, the SPS SR3 refers to non-Lao Thai ethnic groups in the project area.

4.1 Ethnic Groups in Lao PDR

440. The 4 ethno-linguistic families in Lao PDR are categorized in: (i) Lao-Tai, (ii) Mon-Khmer, (iii) Hmong-Mien, and (iv) Sino-Tibetan.
441. Lao-Tai groups reside primarily in the lowland regions of the country and for the most part cultivate paddy, practice Buddhism and are integrated into the national economy (referred to as Lowland Lao or Lao Loum). This group includes the Lao, the dominant group, and various related ethnic groups such as the Tai Dam, Tai Lüe, Phouan and other Tai-speaking groups, representing approximately 65% of the population.
442. Mon-Khmer groups (often called Upland Lao or Lao Theung) live in the middle hills, practice swidden agriculture, are reliant on forest products and are relatively isolated from the dominant lowland culture, although there has been assimilation and integration for centuries. The Khmu, Makong, Kata, Loven and other smaller groups are the original inhabitants of mainland SE Asia and presently make up approximately 24% of the population.
443. Hmong-Mien groups, including Hmong and Yao, are also often referred to as Lao Soung since they tend to inhabit highland areas in northern and central provinces and practice swidden agriculture. These groups are more recent arrivals from Southern China and form about 8% of the population.
444. Sino-Tibetan groups (referred to as Highland Lao or Lao Soung) dwell for the most part in highland areas and practice swidden agriculture. These groups, Akha, Lahu, Lisu and Pounoy among others, are also arrivals from Southern China and form about 3% of the population and found mainly in the north of the country.
445. The designations of “*Lao Theung*” or “*Lao Soung*”, though still used in provinces and districts, are not used in this REMDP as the elevation distribution of ethnic groups is no longer relevant in Lao PDR. This is primarily due to GoL's compulsory relocation policy to move ethnic minorities down from remote hilly areas and to resettle them near roads and water ways. The REMDP instead refers to ethnic groups in the project area by their ethnic identity.

4.2 Ethnic Groups in the Project Area

446. There are four main ethnic groups (Khmu, Lao-Tai, Hmong, and Yao) in the project affected area as shown in the following tables.
447. Table 4-1 shows that at the village of Ban Xiengdet, an overwhelming number of households belong to the Khmu ethnic group, while a smaller number of households belong to the Tai-Phouan ethnic group, who fall under the Lao-Tai linguistic group. In addition, a large number of Lao-Tai households have established a house or dwelling at Ban Xiengdet since 2008, but are not considered original inhabitants of the village. At Ban Xiengdet the Project causes both physical and economical displacement.

15 National Census of Lao PDR, 2005, Population & Housing Census, Dept. of Statistics, Ministry of Planning & Investment,

16 These are Lao Tai (Tai K'dai); Mon-Khmer; Sino-Tibetan; and Hmong-Mien (also known as Hmong- Yao or Hmong-lu Mien. Language mapping has not taken place in Laos.

Table 4-1 Households of Khmu and Lao-Tai Ethnicity at Ban Xiengdet and four Peri-Reservoir Villages

	Village	Number of HH	Ethnicity	
			% Khmu	% Lao-Tai
	Ban Xiengdet			
1	Ban Xiengdet	90	88	12
	Peri-Reservoir Villages			
1	Nam Sam	75	100	0
2	Xieng Nga	98	21	79
3	Xam Thong	46	50	50
4	Long Cheng	201	45	55

448. In the peri-reservoir villages also many Khmu households live. At Nam Sam 100 % of households belong to the Khmu ethnic group, but at Xam Thong and Long Cheng about half of all households belong to the Khmu ethnic group. At Xieng Nga only a fifth of all households are Khmu. At the 4 peri-reservoir villages, the adverse project impacts are limited to economical displacement at Nam Sam, Xam Thong, and Long Cheng, while at Xieng Nga no adverse impacts are expected to occur.

449. Table 4.2 shows that households at the 7 Downstream Villages belong to three ethnic groups: Khmu, Hmong, and Lao-Tai. At the seven downstream villages, the Project has potential adverse impacts on household fish catch. No other adverse impacts will occur at the downstream villages.

Table 4-2 Households of Khmu, Hmong, and Lao-Tai Ethnicity at 7 Downstream Villages

Village	Number of HH	Ethnicity		
		% Khmu	% Hmong	% Lao-Tai
Louang Phan Xay	67	3	0	97
Phan Xay	45	0	0	100
Nam Pha	40	92	0	8
Nam Xan	103	0	100	0
Hom Xay	44	89	0	11
Nong Pou	61	74	3	23
Mouang Phoun	37	3	57	40

450. Table 4-3 shows that Khmu, Hmong, and Lao-Tai households live at the 17 upstream villages. At the 17 upstream villages no adverse Project impacts will occur.

Table 4-3 Households of Khmu, Hmong, and Lao-Tai Ethnicity at 17 Upstream Villages

Village	Number of HH	Ethnicity		
		% Khmu	% Hmong	% Lao-Tai
Nam Chat	116	19	38	41
Nam Ting	74	100	0	0
Phouvieng Noi	228	31	68	1
Phouvieng Nyai	118	98	0	0
Xayoudom	48	96	0	0
Somboun	67	0	100	0
Bang Pang	50	78	22	0
Maang	103	0	34	65
Nong Tang	84	0	20	80
Souy	73	0	21	79
Chomsi	105	24	0	76
Sak Sort	86	0	53	47
Na Khuan	86	0	0	98
Yong Kang	71	0	0	100
Xong	124	0	0	98
Dook	96	0	44	54
Xay	116	0	74	26

451. Table 4-4 shows that households of Khmu, Hmong, Yao, and Lao-Tai ethnicity live in the villages within 5 kilometers distance from the transmission line corridor. In total not more than 80 households are expected to be economically displaced as they own or use land at the footprints of the transmission towers or at the access roads to be constructed to the transmission line corridor. As the transmission line route has been selected to avoid residential areas, not more 5 households are expected to be physically displaced.
452. During field surveys and inventories to be carried out after the detailed design and site selection has been completed of the transmission line towers and the access roads, the actual affected households will be identified together with their ethnicity.

Table 4-4 Ethnicity at Villages within 5 km Distance from NN3 Transmission Line

	Village	Number of HH	Ethnicity			
			% Lao-Tai	% Khmu	% Hmong	% Yao
1	Nam Gnone	186	11	2	87	0
2	Nam Mo	330	70	30	0	0
3	Namyang	82	0	0	100	0
4	Xiangmi	176	6	1	94	0
5	Napho	128	0	0	100	0
6	Vanglouang	230	97	2	0	0
7	Naxai	134	0	0	0	100
8	Phonxai	94	16	83	1	0
9	Xamkhon	186	9	89	2	0
10	Khonvat	367	24	10	61	4
11	Sanpatong	81	48	0	52	0
12	Vantha Hua	102	17	1	82	0
13	Vang Hun	449	0	0	100	0
14	Nakay	77	100	0	0	0
15	Na Ngom Kao	150	100	0	0	0
16	Na Nom Mai	96	100	0	0	0
17	Natan	185	100	0	0	0
18	Non	113	100	0	0	0
19	Thakhokhai	442	39	0	61	0
20	Nongdong	86	56	0	44	0
21	Nabong	264	100	0	0	0

453. Khmu, Hmong, and Yao groups are classified as ethnic minorities as these groups have customary cultural, economic, social, or political institutions that are considerably different from those of the dominant upland Lao-Tai groups, and must be considered as minorities in this area.

4.2.1 Khmu

Background

454. The Khmu are the original inhabitants of these upper reaches of the Nam Ngum, and like other Mon-Khmer groups can be classified as “indigenous”, probably spreading throughout mainland Southeast Asia around the early millennium AD. The current Khmu population of Ban Xiengdet arrived in 1985 to establish the village, migrating up from Ban Sone in Xaysomboun Special Zone. It was reported that the Khmu were originally from this area but had left due to fighting and disruption during the Second Indo-China War and its aftermath. The majority of the Khmu groups still preserve their traditional social structure and distinct ethnic characteristics. However, some Khmu intermarry and interact on a daily basis with the Lao-Tai groups.
455. The Khmu language is a part of the Mon Khmer language group and consists of a number of dialects ranging from northern to central Lao PDR. With a population of more than half a million (1995), the Khmu are the second largest ethnic group in Lao PDR, after the majority Lao themselves. Khmu have a clan-based form of social organisation and are patrilineal and patrilocal although post-marital location and inheritance take into consideration practical aspects such as order of birth, relative wealth,

available land and employment opportunities. There are numerous patrilineal clans and sub-groups which may co-reside but which preserves exogamous marriage which in turn dictates marriage choice and by association, property rights.

456. Khmu house design is similar to the Lao-Tai houses which are constructed on piles above the ground with ladders and storage areas below the houses for equipment and livestock. However, there are a number of details that differ, such as the height from the ground (Khmu houses tend to be closer to the ground), the organisation of space inside the house and rules of conduct (areas off-limits to women, in-laws and guests). Some lowland Lao and Tai architectural features have influenced Khmu traditional design at Xiengdet, as has the availability of construction materials from towns.

Livelihood

457. Traditionally, Khmu villages are located near streams in forest valleys since they are reliant on swidden agriculture (hill rice), supplemented by hunting, fishing and NTFP collection. The Khmu live in nuclear villages and divide into working groups for swidden cultivation. Groups of approximately ten families are re-organized on an annual basis according to neighborhood relationships and land allotments. Dependency on forest resources is a notable characteristic of most Khmu communities, and wild leaves, vegetables and fruit are eaten regularly at meals.

458. The most important livelihood activity for Khmu people is rice farming.

*“Our elders say: “Making rice fields means eating rice”, and eating rice is EVERYTHING. If there is not enough rice one doesn’t have enough of ANYTHING. To eat rice therefore means to be alive whereas to not eat rice means death“.*¹⁷

459. Both men and women do the work of clearing upland fields. Clearing involves two tasks: the initial clearing of small trees, cutting branches and underbrush and then gathering of food or anything useful from the cleared remains by the women while the men cut down the larger trees. Planting is done with a stick for poking the holes in the ground. Ten to 20 grains of seeds are dropped into each hole carefully so as not to spill any grain which would attract wild animals. The Khmu rice harvest starts around September and can last until December. Seeds from every kind of rice planted for sowing are kept for the following year. Grains are carefully selected and stored separately.

460. Reliance on forest tubers has been an important part of Khmu people’s survival strategy: in years with plenty of rice, the taro yams and sweet potatoes are used as animal feed. However, in times of rice shortages, tubers supplement rice or are substituted for rice as are corn or sorghum, until the next successful rice harvest.

461. The raising of large livestock is a relatively recent development and at Xiengdet it has become an important source of income and livelihood. The Khmu raise both buffalo and cattle. However, because of the high prices for buying and selling such large animals, not every family or household could afford such an investment. In general, well-to-do families own cattle while poor folk and widows’ families raise pigs and chickens only, which is something all households do. Large livestock are raised for a number of important reasons:

- ritual feeding of the spirits;
- community feasts following collective projects;
- visits of important persons or family members from outside the village;
- selling or exchanging for money, valuables, or clothes;
- in times of need or crop failure for cash to buy essential food.

462. Hunting is traditionally an activity reserved for men – fathers of households and older boys. Women on the other hand are, according to Simana (1997), not allowed to touch any equipment. It is believed that the men will be unsuccessful if their hunting equipment has been touched by a woman. Even today Khmu in many areas do not always cultivate sufficient vegetables or fruit for their own consumption. Rather they prefer to go and gather leaves, vegetables and fruit from the forest and

17 Suksavang Simana: Kmhmu’ livelihood - farming the forest (1997), p. 19.

bring them home to eat. The diversity of NTFPs and aquatic products has always been high in the vicinity of traditional Khmu villages:

*“In addition we pull out (tôôc) algae (glay) from the water, break of (pak) fern leaves, pick (do) shoots of wild taro and other leafy plant such as water hyacinths (doong) that grow along the river or around swamps and that can be used for a tasty soup. We pick (tah) a kind of sour berries (plé loot) or an other kind of sour fruit that grow along the mountain rivers (plé phru’) or the fruit or the leaves of the “Iva” tree for making a hot and sour condiment-paste (céév)”.*¹⁸

463. The fruit and vegetables that were planted traditionally include bananas, papaya, cucumbers, squash, pumpkins, hot peppers, eggplants and different varieties of beans. In the project area, however, vegetable cultivation has become an important source of food.
464. Khmu villages are often located near a source of fresh water or stream due to the importance of fishing as a daily source of protein. They utilize a number of techniques to catch fish, including nets, traps, and hook and line. Occasionally, a purpose built bypass will be blocked off upon which a crushed toxic vine is poured into the water to intoxicate the fish, so they can be collected easily. Both men and women fish, though using different sorts of equipment.
465. There has been gradual change in the way Khmu people utilize their resources and how they have adapted to interaction with other groups and pressures on their environment. In general, they have shown an ability to adapt to more lowland, sedentary livelihood systems that are less reliant on traditional hunting and gathering practices. In Xiengdet, this process has been accelerated by the presence of ten Tai Phouan households. However, village resource access is defined by village membership, regardless of kin or clan identity, while use of these resources is regulated by village elders and individuals whose particular skills and knowledge about farming systems are recognized and respected within the community¹⁹.

Social Relations and Religion

466. Khmu people have a strong tradition of helping each other, *pndreh*. The term *pndreh* simply means to mobilize labor help in order to accumulate the strength of many to tackle a labor intensive project that will need to be completed in one or two days. In this way the effort of many people is mobilized in order to have one household or family without cash or formal payment. Projects that qualify for collective labor include: (1) supplying wood for building a house; (2) erecting a house; (3) moving heavy objects; (4) fieldwork such as clearing, planting or harvesting; or (5) transporting rice home from the fields to the rice barn.
467. Khmu people take care not to call upon each other for help for routine tasks. Calling upon others for help requires a good reason, such as when a combined effort is required to complete a task, when the task should be completed in a short time or when a family is short of labor or is in a state of hardship.
468. The Khmu are strongly governed by the spirit world, both benevolent and dangerous, and which influence customary law. The Khmu believe in many spirits such as the house spirit (*hrooy gang*), forest spirit (*hrooy prri*) and the spirits of the water (*hom*), thunder (*indray*), wind and sky. Every village has a guardian spirit and spirit gates over the entrance to their villages. The Khmu follow the agrarian cycle and practice several ceremonies to ensure a good harvest. The Lao and Tai groups believe that the Khmu have power over territorial spirits since the Khmu were the indigenous peoples of much of northern and central parts of the country. Traditionally, the Khmu group buries its dead.
469. The *“greh”* ritual or celebration is a very important event for the Khmu people. It is conducted to mark many aspects of the Khmu life, such as serving and preparing food, planting fields, raising animals, harvesting rice and storing the seed for next year’s planting. The word may have its origins in digging for tubers²⁰. Furthermore, it is a ritual of thanksgiving for all the things that have contributed to a successful harvest. Finally, it is also the ritual in which the personal spirits of children and

18 Suksavang Simana: Khmu’ livelihood - farming the forest (1997), p. 21.

19 Elizabeth Mann & Ny Luangkhot, “Women’s Land and Property Rights Under Customary or Traditional Tenure Systems in 5 Ethnic Groups in Lao PDR,” Land Policy Study No. 13 under Lao Land Titling Project II, Lao-German Land Policy Development Project, GTZ, May 2008

20 *Grway* and *greh* may be the same. According to some sources *greh* just means the ‘ritual of dug-up food’; thus it could mean a ritual meal to commemorate the most basic and ancient staple food that the Khmu know.

grandchildren, nieces and nephews are called to return home and feed the deceased relatives, who now serve as house-spirits. “*Greh*” is also a *rite de passage* to conclude, or “take down” the old year, and to open, or “put up”, a new year. To perform the “*greh*” ritual there does not have to be an important reason or formal occasion.

4.2.2 Hmong

Background

470. Hmong arrived in SE Asia from the end of the 19th Century and have traditionally occupied highland areas. Most Hmong now live in northern and central provinces, but smaller Hmong communities are found throughout the country. In total the Hmong constitute about 8% of the population in Lao PDR. The Hmong in the NN3 project area are mainly found in the construction sites, downstream and transmission line areas.
471. Hmong culture differs significantly from the Khmu culture, both in terms of social organisation and religious beliefs, as well as historically and ecologically. Hmong groups normally occupy the highest areas and are known for practicing pioneer-swidden cultivation that clear-fells forest areas. Strict clan allegiance and marriage rules and self-contained, independent economic systems are characteristics of the group. The Hmong have their own language (several dialects) which is a part of the Hmong-Mien Language family.
472. The Hmong house designs reflect a colder climate and higher land elevation not prone to flooding. The Hmong house is normally built on the ground and comprises extended families of two or three generations. In villages of mixed ethnicity, Hmong typically stay in one part of the village, partly because their funerary rites are quite different from others, and other ethnic groups fear the ghosts these might generate.
473. Of all ethnic groups in Lao PDR, the Hmong have retained the highest degree of cultural autonomy. The Hmong language, religion and clan structure still mark these groups off as unique despite good knowledge of Lao language, integration into the nation state and army to some extent and adaptation of low-land agricultural systems due to the moving out of mountainous areas.

Livelihood

474. Hmong are heavily reliant on swidden cultivation due to their late arrival and lack of available land in lowland areas of the country but have recently resettled both compulsorily and voluntarily in lowland areas and have taken up paddy cultivation where land is available and where technical support has been provided by agricultural extension services from the District.
475. Hmong ethnic groups are found especially in two downstream villages of the project area – Nam Xan and Mouang Phoun – as well as in the construction site area around Long Cheng, and in most villages along the transmission line corridor. The Hmong along this corridor have relatively large swidden areas, while this is not the case in the downstream area. All Hmong villages do, however, have relatively many buffaloes, cattle and large areas for vegetable gardens and orchards. Livestock raising is a particularly important component of the Hmong domestic economy.

Social Organisation and Religion

476. Hmong groups are divided into patrilineal clans (*xeem*) which are strictly exogamous, that is marriage between clans is compulsory. Polygyny is traditional but less observed nowadays than in the past. Loyalty to one’s clan is central and clan solidarity is very important, linking members to villages throughout the country and even abroad. Hmong villages aim to be self-sufficient and autonomous with limited interaction with other ethnic groups.
477. Hmong religion is characterized by traditional shamanistic practices, in which shamans (*txiv neeb*) enter into trances, journeying into the spirit world in order to obtain information, intervene on behalf of the living, or inquire about future events. Ancestor worship and a pantheon of household spirits (*dab*), spirits of deceased family members, spirits in nature, as well as gods inspired by Taoist beliefs are all integral parts of Hmong religion. Ancestor worship includes ritual obligations to deceased clan members.

478. Hmong of the Project Area bury their dead. The ceremony includes offerings to the deceased, animal sacrifices, followed by a feast for the whole clan and village with copious amounts of food and alcohol and finally evocations for the commencement of the soul's journey to join the ancestral spirits. The funeral ceremony normally lasts from between two and seven days, depending on the status of the deceased. Cemeteries are typically located in elevated forest lands, on the outskirts of the village at the distance of 1-2 km. As is the case with most groups, Hmong are not permitted to hunt or extract forest products from this area. In fact villagers generally avoid approaching the area for fear of disturbing the ancestral spirits.

4.2.3 Yao

Background

479. Origins of Yao can be traced back 2,000 years to South China. From the 15th to the 19th century the Yao migrated into Laos, Vietnam, and Thailand in search for farmland and better livelihood opportunities. The migration was agitated by revolts in South China and by the opium trade.

480. There are two distinct sub-groups within the Yao ethnic group in Lao PDR, which are known as Yao and Lanten respectively. The sub-groups speak different languages. The lowland living Yao in Lao PDR speak Kim Mun (also known as Lanten) and the highland Yao speak Lu Mien. Lu Mien is very distantly related to the Hmong language. Together they form the Hmong-Mien language family.

481. The typical Yao houses are built on the ground and not on poles. The houses have three rooms; each room has a small oven to cook.

482. The Yao men and women cover their head with a black or red scarf. Instead of a scarf, some women wear a turban that may have different forms. The traditional suit of women is long and of bright colors. On their shirts they also wear decorations made of silver.

Social Organisation and Religion

483. Although some Yao have converted to Buddhism philosophy and Christian religion, many still remain practicing their traditional beliefs in seven principle spirits representing humans, animals, fields, forests, sky, water, and earth.

484. The Lanten Yao make special paper from bamboo for religious activities. Bamboo paper is used to make the books on which rituals are written and reproduced, streamers for the dead, masks used in religious ceremonies, and to decorate altars. Only bamboo paper can be used for religious ceremonies. While the ceremonies are all carried out by men, the production of bamboo paper is the realm of women.

485. Marriage is traditionally arranged by go-betweens who represent the boy's family to the girl's parents as early as at the girl's age of 12. If the union is considered acceptable, a bride price is negotiated, typically ranging from three to ten silver bars, worth about US\$ 100.-, each a partial artifact from the opium trade. The wedding takes place in two ceremonies, one at the bride's family house, followed by a procession to and a second ceremony at the groom's house.

Livelihood

486. Both shifting cultivation and lowland rice are the main stay of Yao ethnic group. They also grow maize, cassava, sweet potato, beans, cotton, and spices. They are skilled in animal husbandry and breed cattle, buffaloes, horses, goats, pigs, chickens, and ducks.

5 Entitlement Policy

5.1 Background

487. The overall policy of the NN3 Power Company is to provide, whenever it is possible, in-kind compensation for the impacts created by the Project. Cash compensation will only be considered as a last resort option or if some impacted families wish to relocate outside of the Project area. In general terms, this means that houses that will be directly impacted by the project and the associated residential lands will be replaced with new houses and with replacement residential lands, properly titled, at no cost for the impacted households. Similarly the lost agricultural lands will be replaced by new agricultural lands that will be developed by the Project and shall be of comparable agricultural value, all this at no cost again, for the impacted households. Voluntary donations will not be permitted. In the unlikely event there are households who offer to donate land and decline compensation, these households will be provided all the information with regard to entitlements in relation to impacts, and corresponding payment and allowance and all meetings will be recorded. Such donations will be put in writing and confirmed by a third party (such as the Lao Women's Union). The livelihoods of the impacted households shall be restored and improved through agricultural support programmes that shall be in place until after the commercial operation date of the project. In the case of plantations that might be impacted along the alignment of the Transmission Line, existing timber and products will be purchased at market value and cash compensation shall be provided to replace these plantations on replacement lands that shall be identified and the value of the concession right restored by the Project. Entitlements of the affected households are described in details in section 5.3 below.

5.2 Calculating replacement values & detailed implementation framework

488. As mentioned above, the general principle of the project is to compensate in kind for all assets impacted by the Project. However, it is possible that cash compensation proves to be the only alternative in a limited number of cases. If it is such the case, cash compensation shall always be based on the replacement value of the asset, not on the market value, and this transaction will have no cost for the impacted owner.

489. In the case of residential land (if a small portion of the land cannot be physically replaced by the same area of land), the value shall be based on the replacement value for similar type of land with similar access conditions. The replacement value shall be the price observed in land transactions at the time of acquisition in the area. If there is no land market in the area, then the price shall be set on the basis of prices observed in the province in similar conditions. The price shall be set in consultation with both the affected households and the district authorities. In addition to the replacement cost, all transactions cost and fees, and any other associated cost shall be paid by the Company (see entitlement matrix below for details).

490. In the case of agricultural land, the cash compensation shall take into consideration the value of the land plus the value of 7 years or production net value, depending on the type of crops undertaken on that plot of land. This is done to take into consideration improvements made on that land (fertility, terracing, ...).

491. In the case of fruit trees plantations, the cash compensation shall be based on 5 years of production, from the time of loss, if the replacement fruit trees have not been put, successfully, in place before the impact start to occur. The annual production will be assessed in consultation with the technical agricultural and forestry department of the district, the district authorities and the affected households. Similarly if trees have not entered into production at the time of the impact, the value shall be based on the value of all inputs put into the plantation as agreed by the technical agricultural and forestry department of the district, the district authorities and the affected households, from the time of establishment of the plantation (see entitlement matrix below for details).

492. In the case of timber trees plantation, the cash compensation shall be equivalent to the current market value based on species and diameter plus the replacement of timber trees & associated investments (see entitlement matrix below for details).

493. A detailed implementation programme (including detailed unit costs), covering all possible situations, shall be prepared in consultation with the affected households, the agriculture and forestry department of the district and the district authorities. It shall be based on the updated surveys that shall be undertaken in the various villages impacted. The detailed implementation programme will be included in the updated REMDP for each project component/impact area and shall be updated regularly as part of the Annual Implementation Plan, at least until the time the impact shall occur and the compensation shall take place.

5.3 Entitlement Matrices

494. The following entitlement matrices have been prepared, in consultation with the affected households, for the various villages that will be impacted by the project, with the intention to compensate these persons in a fair and satisfactory way. They are part of the obligations of the Company vis-à-vis the Government of Lao PDR as they form an integral part of the Environmental and Social Annex of the Concession Agreement between these two parties.

495. They are presented for the following areas: (i) Ban Xiengdet, (ii) Ban Nam Sam, (iii) Ban Xam Thong, (iv) Ban Long Cheng, (v) the downstream villages and (vi) the villages impacted by the transmission line and the upgrade of the road from Nam Ngone to Long Cheng.

5.3.1 Entitlement Matrix for Ban Xiengdet

496. The following definitions are applicable for Ban Xiengdet:

Resettler Households:

Persons belonging to 96 households with well established proof of residence in Ban Xiengdet (confirmed by Village and District Authorities) before the cut-off date, who have their housing physically relocated, including 11 households of more than 7 persons of natural growth (see definition) who opt to split into 2 smaller households, to establish 2 separate families and to receive separate houses and associated assets (96 + 11, totalling 107 AP households). A further 21 natural growth households were identified in July 2011.

Households establishing houses after cut-off date:

Households moving into Ban Xiengdet after the cut-off date with the purpose of obtaining compensation and support to livelihoods from the project, but who are not considered eligible for entitlements by either village or district authorities.

Natural growth households:

Family members of direct issue from the 96 + 11 household heads at the time of the cut-off date, i.e. sons or daughters and their first-time spouses and children with these spouses. 21 natural growth households were identified in July 2011

Cut-off date:

The date of asset registration and baseline, which was **9th October 2008** at Ban Xiengdet.

Resettlement Period:

Period from start of construction (anticipated to be late 2011) to 4 years after Commercial Operation Date (COD), January 2021. During this period, sale of compensation land, housing and property will be prohibited by district authorities to avoid land and property speculation and manipulation of Resettler households.

Resettler households with recognizable claims to land use rights of agricultural land seasonally affected by flooding and loss of access, and/or re-alignment based on expansion and land allocation of replacement land area:

Persons belonging to 96 + 11 + 21 Resettler households with documentary evidence (land use certificates, land tax documents, or certification from village authorities) of productive land use in Project affected land areas and affected land areas during the resettlement process in the 3 years prior to cut-off date.

Affected Person (AP):

Family member of the 96 + 11 + 21 Resettler Households heads as registered and listed in the 2008 baseline survey and before the cut-off date.

Ban Xiengdet Community:

All households resident in Ban Xiengdet either before or after the cut-off date.

Vulnerable Households:

Households with limited adult labour but with higher number of dependents, low income households, women-headed households, single households with a disability or persons who are elderly, children and elderly households who are with no other means of support, landless households, and vulnerable ethnic minorities. It can be considered that all Khmu ethnic households are vulnerable.

Table 5.1 - Ban Xiengdet; Entitlement & Implementation Issues: **Loss of residential land, house and related assets**

Resettler Households	
<p>Replacement residential land plot of at least the same size, UXO free, adequately levelled, and with comparable access to employment, production and economic opportunities, to medical and social services, and to education services. The new residential land plot shall be demarcated and fenced.</p>	<p>The identification of all residential replacement land (i.e. the Nam Dai resettlement site) and land plots shall be based on consent or broad community support of the physically displaced ethnic minorities households and with the support of the local authorities and the Company.</p>
	<p>There shall be three standard sizes of residential replacement lands depending on the size of the households.</p>
	<p>The size shall allow for the house and other structures to be built and for an adequate home garden (500 m²). The minimum size of the residential land plot shall be 1600 m².</p>
	<p>All related costs (UXO clearance, taxes, fees, ...) associated with the provision of replacement of residential land plot shall be supported by the Company.</p>
	<p>A certificate shall be issued by the UXO clearing company certifying that the land has been cleared of UXO up to a depth of 1 m. The Company shall bear the responsibility in case of future UXO accidents within the residential land plot.</p>
	<p>The residential land plot shall be fenced at the cost of the Company, both in terms of labour and material.</p>
<p>Replacement house constructed on residential plot, of at least the same size of the original house, with the design finalized in consultation with AP households. The house should use concrete posts, durable wooden structure and walls, durable roofing material (corrugated metal sheets, for example). It shall include a separate kitchen and independent toilet and bathroom, with a septic tank, an rain water storage facilities. Ancillary structures, such as foundations for satellite dishes, shall be incorporated on the list of elements to be constructed when they exist on the old housing plot. Electricity connection will be provided to each house. Domestic water supply will be shared between households.</p>	<p>Several standard designs (of different sizes) will be prepared in consultation with the affected persons and selected by the affected households. These standards shall be applied independently of the original house quality, for example a household who currently owns a house of low standards shall be fully eligible to a house having the improved standards offered by the Project. The size category of the house shall be based on the number of household numbers. Housing entitlement shall be a minimum of 15m² per person of the household.</p>
	<p>The construction of the new houses shall be made using local workforce, which might include people from the village. People involved in the construction of the houses will receive the level of remuneration offered in the Xiengkhouang province for a job of similar nature, qualification and responsibility.</p>
	<p>The employment of workforce in the construction should be in full compliance with the Lao Labour law and the core labour standards as required under ADB's SPS 2001.</p>
	<p>The construction of the houses and related infrastructure will be in full compliance with the Lao environmental regulation (proper management of wastes, ...).</p>
	<p>The necessary clearance of the existing vegetation shall be limited to the minimum necessary to allow for the construction of houses and related structure, and for the home garden. This vegetation clearance shall be made at the cost of the Company.</p>
	<p>The Company shall bear the cost of installing one electricity meter in each house, with a minimum of one low energy consumption bulb and one electric socket in each room, with the adequate breakers.</p>
	<p>A proper water supply system (domestic water) shall be provided in the relocation village with at least 10 points distributed in the village, according to the standards that have been promoted by UNICEF in the country.</p>
	<p>Replacement of other structures, including shops, rice mills (but not the rice mills themselves, which shall be dismantled and rebuilt at the cost of the Company), pig pens, chicken coops, etc.</p>
<p>Transport of lost fixed housing assets, such as durable housing plot fencing, shelters, garage structures, etc.</p>	<p>The transport of durable housing and residential plot assets, already compensated and replaced by the Company, shall however be organized by the Company to the residential land plot.</p>
	<p>The Company shall however not be responsible for the labour and cost associated with dismantling of these structures and reinstalling them on the next residential land plot, should the affected households desire to do so.</p>

Relocation of rice storage facilities to the common access plot in the relocation village area	Labour and costs to move rice storage facilities to the new common access plot in the relocation village area shall be fully borne by the Company, who shall organize it.
	Non-durable rice-storage facilities (bamboo walls, ...) shall be reconstructed and the associated cost borne by the Company.
Transport of all moveable household assets from the old to the new housing.	The Company shall be responsible for bearing all costs (labour and transport) associated with the transport of household assets. It will either organize it internally or sub-contract this at no cost for the resettled houses.
Transition allowance of \$20 per household (one time payment). ²¹	The one time payment shall be made in the presence of both husband and wife, and of a witness and properly documented.
	The Company shall bear the cost and pay the kip equivalent of US\$20 per household, once the household is reinstalled.
Relocation of household spirit houses and undertaking of the associated spiritual ceremonies.	All these costs shall be borne by the Company, under the PCR programme.
Residential land plots, houses and related structure shall be titled in joint name of husband and wife, who shall receive a land title.	All associated costs shall be borne by the Company.
	It shall not be possible to sell the residential land and houses, except in exceptional circumstances recognized by the village and district authorities, before the end of the resettlement period.
Households establishing houses after the cut-off date	
Early notification shall be given to the households so that they can self-relocate in an orderly manner, including dismantle the affected residential structures, harvest their crops, and identify replacement lands.	Preliminary notification shall be given 6 months in advance.
	Closer to the displacement of the households and not less than 3 months before it starts, notification shall be given with the deadlines set for dismantling structures and vacating the land.
	Village and district authorities, including representatives from eligible households, shall consider the possibility to provide residential lands to the households established after the cut-off date and who, with the consent of the affected ethnic minority community, wish to settle at the relocation village.

Table 5.2 - Ban Xiangdet; Entitlement & Implementation Issues: [Permanent loss of community facilities & infrastructure](#)

Ban Xiangdet community	
New village access roads within the new village and up to each replacement residential land plot.	The roads will be built as per the Lao standard for village roads. These shall include proper drainage and culverts up to the entrance of each residential plot if necessary. The road shall be covered with gravels. A detailed site development plan for the various public facilities in the village will be included in the REMDP.
Upgraded village road from Ban Xiangdet to Nong Tang.	This road will be built as per the Lao standard for a road of this category. It shall include appropriate devices, such as speed breakers and proper signs, to reduce the speed of vehicles at appropriate locations.
Improvement/construction of a primary school at the new resettlement site.	A new primary school was constructed at the relocation village (see E&S compliance audit report in the ESIA). It will be improved with design based on a number of 3 students per households and a classroom area of 60 m2 per 30 students. It shall follow the standards set by the Ministry of Education at the time of the construction. It shall include in particular concrete flooring, concrete frame, half bricks half timber walls, durable roofing material, electric connection and meter with electric sockets and low consumption bulbs in each room, and the appropriate breakers. Toilets shall be constructed, in a sufficient number, with at least two latrines per classroom and as per the standard of the Ministry of Education. They shall be connected to septic tanks. A proper water supply system and taps shall be provided in

²¹ According to local regulations, all severely affected APs including those affected by the loss of 20% or more of their productive assets (agricultural or commercial land or shop) or loss of primary source of household incomes and in need to be relocated to new site, or reorganizing on existing location, would be entitled to food support for each person in the household for a period of 6 months. APs displaced due to the loss of residential house without any impact on business or source of incomes will be entitled to food allowance for each member of household for a period of three months. The transition subsistence allowance is intended to make up for lost income and to compensate for other household expenses during the transition period while APs are trying to settle down at the new site. The preferred mode of payment of this allowance is in kind. However, where this is logistically not possible and at specific request of APs, this allowance may be given in cash. This requirement is based on the assumption that APs will relocate with no prior livelihood preparation. The NN3 project intends to work for 2 years prior to physical relocation to ensure that there is no loss of primary source of household income by preparing the new agricultural area, planting replacement trees/saplings in the new resettlement area, and supporting livelihood activities in the new location, so that any adverse livelihood impacts of relocation are avoided or minimised. Therefore the actual support will be for much longer than the statutory 8 months, and will attempt to ensure there will be no loss of income. There will also be no household expenses during the transition period, as the project will cover these, as specified in the entitlement matrix.

	<p>sufficient numbers.</p> <p>School supplies, including blackboards, text books, pens, and similar equipment, as per the requirements set by the Ministry of Education shall be supplied from the beginning of operation of the school and until the end of the resettlement period.</p>
One teacher residence house on a separate land plot.	The teacher residence house will be built along the same standards as the ones set for the individual houses, but shall not be eligible for an individual land title. It shall be registered as community property. Its design shall take into consideration the possible sharing of this house by several persons.
One community building for village meetings and administration	The specification and the design of this building will be prepared in consultation with the village, and will follow the standards of similar buildings. It shall be covered with durable roofing material, have a concrete structure, be connected to electricity, have access to the water supply system and have toilets connected to a septic tank. It shall be designed to allow the presence of 1.5 person per household.
UXO clearance of all community lands, and where required, vegetation clearance.	The UXO clearance (up to 1 m depth) and, when and where required, the vegetation clearance, shall be undertaken at the cost of the Company for all these community lands.
Market	A roofed market with durable roofing material, concrete floor, connection to electricity, access to water, and toilets shall be constructed. Its surroundings shall be properly drained. It shall provide a covered area of at least 300 m ² .
Support to non-formal education, with special focus on female literacy	The Company shall support the identification of the needs for non-formal education during the year following the relocation and contribute to the funding of a 5 year programme of such a non-formal education programme.
Upgrading of the Nam Sam public health centre and development of the capacity of the public centre staff.	The Nam Sam public health centre will be upgraded up to the standards set by the Ministry of Health for a centre of this category, both in terms of buildings and equipment, at the cost of the Company.
	The Company shall assist with the sustainable development of the capacity of the public centre health until the end of the resettlement period.
Capacity building of Ban Xiengdet village health workers and setting up of community health outreach programs	The Company shall identify the needs of capacity development for the village health workers, and support the related capacity development programme until the end of the resettlement period. A detailed Public Health Action Plan for Ban Xiengdet will be prepared and included in the updated REMDP.
	The Company shall support the development and the undertaking of the community health outreach programme until the end of the resettlement period.

Table 5.3 - Ban Xiengdet; Entitlement & Implementation Issues: [Impacts on physical cultural resources](#)

Ban Xiengdet community	
Catalogue, record, protect, and if necessary, salvage all PCR structures and artifacts identified in the PCR surveys and the ones, which might be identified in the course of the project activities, including the resettlement activities.	The Company shall organize and fund the cataloguing, recording, protection and, if necessary, the salvage of PCR structures and artifacts during the relocation period.
Drainage and flood protection for the proportion of the community graveyard at potential risk of seasonal flooding	The Company shall undertake, and fund, all the necessary investigations, planning, and constructions measures to protect the community graveyard from seasonal flooding.
	This shall include the various ceremonies that might be necessary in relation to this.

Table 5.4 - Ban Xiengdet; Entitlement & Implementation Issues: **Permanent loss of agricultural lands**

<p>Resettler households with recognizable claims to Project affected agricultural land in use before the cut-off date, which will be seasonally affected by flooding and/or loss of access, and/or re-alignment based on expansion and land allocation of replacement land area.</p>	
<p>Replacement agricultural land of at least equal value and productivity, for the crops usually grown in the area.</p>	<p>The Company shall investigate, at its own cost, with the local authorities and in consultation with the affected households, for replacement agricultural land in the immediate vicinity of the village and of the proposed relocation village, where crops similar to the ones grown in this area, could be established, to support the resettled households and permit an extent of the village by natural growth.</p>
	<p>The replacement agricultural land (i.e. the 100 ha area of land including and around the abandoned airstrip across the present Ban Xiengdet village area) shall be cleared from UXO (up to a depth of 1 m), cleared from vegetation where necessary and in a way which will avoid the unnecessary removal and destruction of organic matter, leveled, demarcated, and titled at the cost of the Company and at no cost for the resettled households.</p>
	<p>The identified replacement agricultural land, including the Nam Ting riverbed, shall not be subject to any mining concession or any activities that will prevent the establishment and operation of an irrigation command area.</p>
	<p>The land title shall be issued in the joint name of the wife and husband.</p>
	<p>It shall not be possible to sell the plot of land, except in exceptional circumstances recognized by the village and district authorities before the end of the resettlement period.</p>
<p>When they exist, field shelters shall be compensated, salvaged, totally or partly, whenever it is reasonable, transported to the replacement agricultural land and rebuilt there at the cost of the Company.</p>	
<p>When impacted and lost agricultural lands are fenced, replacement land shall be fenced and gated at the cost of the Company.</p>	<p>The affected households shall have the possibility to salvage fences and gates, or part of them, erected on their affected and lost agricultural lands.</p>
<p>Access to wet season irrigation for replacement agricultural land.</p>	<p>An irrigation weir and the associated water distribution system shall be investigated, designed and built, and a water user association put in place by the Company and at its cost.</p>
	<p>A full feasibility study shall be undertaken in 2011, which shall include a detailed analysis of the technical, socio-economic, pedological, agronomical, organisational and operational aspects. It shall include a basic environmental and social impact assessment. The findings of the study and the agricultural command area development programme will be included in the updated REMDP for Ban Xiengdet.</p>
	<p>All land necessary for the construction and operation of the irrigation weir will be cleared from UXO and cleared, where necessary, of its vegetation, at the cost of the Company.</p>
	<p>The need for a support programme shall be assessed during the feasibility study. If it appears to be necessary, such a programme shall be implemented, at the cost of the Company, to accompany the first five years of irrigated agriculture.</p>
	<p>Assessments will be undertaken at least twice a year, during the first five years of operation, with the objective to ensure the medium term sustainability of the operations of the irrigation system (maintenance, recovery of cost, ...).</p>
<p>Canoes with paddles will be provided to the village for community use to provide uninterrupted crossing of the Nam Ting.</p>	<p>The Company shall provide at least 2 canoes, with paddles, to the community, which will be responsible for their proper use and maintenance.</p>
<p>Implementation of and participation in a livestock development programme.</p>	<p>A livestock development programme shall be developed and implemented at the cost of the Company to improve livestock management (including animal health, grazing and forage) and marketing (access to existing markets and networks in the province). The livestock development programme will be included in the updated REMDP for Ban Xiengdet.</p>

Table 5.5 - Ban Xiengdet; Entitlement & Implementation Issues: **Permanent loss of home gardens**

Eligible Resettler households	
Replacement home garden provided within the residential land plot.	The Company shall support the establishment of new home gardens, including the promotion of new and improved techniques (organic farming, for example) and diversification of the crops, during the first four years after relocation.
	Attendance to the various trainings offered to the impacted households shall be equally opened to all non-impacted households. However non impacted households may not be entitled to free seeds and equipment that may be offered to the affected households.

Table 5.6 - Ban Xiengdet; Entitlement & Implementation Issues: **Loss of fruit trees, fish ponds and other productive assets**

Resettler households with recognizable claims to Project affected trees and related asset use before the cut-off date, which will be seasonally affected by flooding and/or loss of access, and/or re-alignment	
Replacement of fruit trees to be undertaken not less than 4 years before impact occurrence to minimise economic losses and food security.	Cash compensation shall be based on 5 years of production, from the time of loss, if the replacement fruit trees have not been put, successfully, in place before the impact start to occur. The annual production will be assessed in consultation with the technical agricultural and forestry department of the district, the district authorities and the affected households. Similarly if trees have not entered into production at the time of the impact, the value shall be based on the value of all inputs put into the plantation as agreed by the technical agricultural and forestry department of the district, the district authorities and the affected households, from the time of establishment of the plantation.
	Saplings shall be provided by the Company at no cost to the affected household, in replacement for the trees impacted at a rate of 1 sapling for each tree impacted.
	The cost of labour for the establishment of the new orchard shall be borne by the Company, on the basis of the techniques recommended by NAFRI and NAFES, or compensated at the prevailing worker rate in the province of Xiengkhouang.
	The cost of labour associated with the weeding, watering and replacement of dead trees during the first five years shall be compensated by the Company at the prevailing worker wages in the province of Xiengkhouang.
Replacement of timber trees & associated investments	Cash compensation shall be equivalent to the current market value based on species and diameter plus the replacement of timber trees & associated investments. The cost of labour for the establishment of the new tree plantations shall be borne by the Company.
	The cost of labour associated with the weeding and replacement of dead trees during the first five years shall be compensated by the Company at the prevailing worker wages in the area.
	Other investments made in the plantation shall be reimbursed at replacement value.
Replacement fish ponds , to be sited either adjacent to replacement agricultural land and/or adjacent to newly flooded land, depending on preference of the affected households.	The replacement fish ponds shall be constructed as per the recommendations of the department of fisheries of the Ministry of Agriculture and Forestry and shall be of a comparable size (at least the size of the fish pond to be replaced).
	Fingerlings shall be provided at no cost to the affected persons by the Company during the first two years.
	The need for a support programme shall be assessed by the Company, and if considered necessary, put in place and funded by the Company during the first two years.
Other impacted and unmovable productive assets shall be replaced by the Company.	

Table 5.7 – Ban Xiengdet; Entitlement & Implementation Issues: **Seasonal loss of community NTFP land**

Resettler households	
Guaranteed access to NTFP in replacement forest managed sustainably in the vicinity of the relocation village.	Biodiversity conservation and protection programme developed at the scale of the NN basin shall guarantee the use of NTFP by the local populations and shall be part of the integrated watershed management programme.
Participation in programmes aiming at the domestication of NTFPs .	The Company shall consider the possibility of including the domestication of NTFPs whenever possible as an alternative, and complementary, source of livelihoods.

Table 5.8 – Ban Xiengdet; Entitlement & Implementation Issues: **Loss and disruption of livelihoods**

Resettler households with recognizable claims to Project affected agricultural land use before the cut-off date, which will be seasonally affected by flooding and/or loss of access, and/or re-alignment	
Participation in livelihood restoration programs based on priorities identified by affected households	The Company shall prepare, and then implement, a detailed livelihood restoration programme in consultation with the affected households, during the first five years from the relocation. Such a plan shall include various options for livelihoods restoration, including for example raising livestock. The detailed livelihood restoration programme will be included in the updated REMDP for Ban Xiengdet.
	The affected households will review at the end of each year the livelihood restoration programme, which shall be modified in consequence.
	The livelihood restoration programme shall be reviewed at the end of year 4 of its implementation to define the needs for further assistance at the end of the first five year programme.
	If it is considered necessary, a second phase of the livelihood restoration programme will be designed in year 5 of implementation and then implemented.
	Households not directly impacted by the project shall be able to benefit from the trainings provided by the livelihood restoration programme, but shall not receive equipment, seeds, ...
To minimize impacts on the community, including on vulnerable households, relocation shall not occur during times of the year when the community is busy with (i) land preparation, (ii) rice transplantation; (iii) weeding, and/or (iv) harvesting	The Company shall develop its relocation programme in close consultation with the affected households.
All affected households shall be provided with an in-kind assistance of 16 kg of rice per household member for a period of 6 months from the time of relocation.	This assistance can be provided once every two months.
Vulnerable resettler households	
The most vulnerable households of Ban Xiengdet with no access to agricultural land will be allocated agricultural land during the land allocation process associated with the distribution of replacement agricultural land.	A dedicated programme looking at the most vulnerable households shall be developed by the Company, and in consultation with them, from the project commencement date to identify priority activities enabling them to move out this status within the next 5 years.
The vulnerable households, with limited access to household labour, shall be entitled to receiving free labour during the times of peak agricultural activities (transplanting, weeding, harvesting) during the first two years after establishing the new agricultural lands. The cost of this labour shall be borne by the Company.	
In case of food insecurity experienced by the affected households, and in particular vulnerable households, during the transition period and the first five years after relocation, the Company shall provide rice support, as necessary.	The Company shall monitor the nutritional status of the affected population and the availability of rice throughout the critical periods.

5.3.2 Entitlement Matrix for Nam Sam

Table 5.9 - Ban Nam Sam; Entitlement & Implementation Issues: [Deterioration of public access road to the village](#)

All households at Ban Nam Sam	
Compensation of assets lost during the upgrading of the road	A due diligence shall be undertaken ASAP to assess the assets lost during the construction activities. It shall confirm eligibility.
	Assets impacted shall be compensated in a way similar to the one applied to the other project impacted areas.
Upgraded public access road to Ban Xiangdet, passing Ban Nam Sam	The road shall be built as per the Lao standards for a road of this category.
	Speed breakers shall be constructed at the entrances of the village.
	The Company shall support a road safety programme which shall be implemented during the construction of the road, and repeated once a year during the first two years following the end of the construction of the road.
	The installation of control gates on this road shall be considered during the implementation of the conservation of biodiversity and reforestation programme in the NN3 catchment.

Table 5.10 - Ban Nam Sam; Entitlement & Implementation Issues: [Seasonal loss of community cattle grazing land](#)

Six households identified	
Replacement community grazing land of the same size, and if possible with improved forage composition.	The Company shall identify, secure and develop replacement community cattle grazing land at no cost for the 6 households impacted.
All households of Ban Nam Sam	
	The Company shall develop and implement a programme aiming at improved pasture management for all households of Ban Nam Sam.

Table 5.11 - Ban Nam Sam; Entitlement & Implementation Issues: [Development activities](#)

All households at Ban Nam Sam	
Participation in reforestation & biodiversity conservation/protection programme implemented by MAF as part of integrated watershed management planning in NN3 catchment area	The Company shall ensure that the village of Ban Nam Sam is included in the NN watershed management programme and aiming at the conservation of biodiversity and reforestation in the NN3 catchment.
Upgrading of the Nam Sam public health centre and development of the capacity of public centre health staff	The Nam Sam public health centre will be upgraded up to the standards set by the Ministry of Health for a centre of this category, both in terms of buildings and equipment, at the cost of the Company.
	The Company shall assist with the sustainable development of the capacity of the public centre health during the first 5 years of its operation.
Capacity building of Ban Nam Sam village health workers and setting up of community health outreach programs	The Company shall identify the needs of capacity development for the village health workers, and support the related capacity development programme from the project commencement date and for 5 years.
	The Company shall support the development and the undertaking of the community health outreach programme from the project commencement date and for 5 years.

5.3.3 Entitlement Matrix for Xam Thong

Table 5.12 - Ban Xam Thong; Entitlement & Implementation Issues: [Seasonal loss of community land uses](#)

All households at Ban Xam Thong	
Participation in the development and implementation of the Reservoir Fisheries Management Plan	The Company shall ensure that all households of Ban Xam Thong are consulted during the preparation of the reservoir fisheries management plan, involved in the programme, and can benefit economically from it. The Reservoir Fisheries Management Plan will be included in the updated REMDP for the peri-reservoir villages.
Participation in the reforestation & biodiversity conservation/protection programme implemented by MAF as part of the integrated watershed management planning in NN3 catchment area	The Company shall ensure that all households of Ban Xam Thong are consulted during the preparation of the integrated watershed management plan, involved in the programme, and can benefit economically from it.

Canoes with paddles will be provided to the village for community use to provide uninterrupted access to hunting grounds at the other site of Nam Thone stream	The Company shall provide at least 2 canoes, with paddles, to the community of Ban Xam Thong, which will be responsible for their proper use and maintenance.
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Table 5.13 - Ban Xam Thong; Entitlement & Implementation Issues: **Increased exposure to communicable diseases, including HIV/AIDS**

All households at Ban Xam Thong	
Capacity building of Xam Thong village health workers and community health outreach programs	The Company shall identify the needs of capacity development for the village health workers, and support the related capacity development programme from the project commencement date and for 5 years.
	The Company shall support the development and the undertaking of the community health outreach programme from the project commencement date and for 5 years.
Health baseline and regular health monitoring	The Company shall establish a standard health baseline prior to the start of the main construction activities, and monitor the health status (including STD) in the village. The analysis of the results shall be provided to the village committee coordinating the work of the health workers and the community health outreach programme.

Table 5.14 - Ban Xam Thong; Entitlement & Implementation Issues: **Development Activities**

All households at Ban Xam Thong	
Employment with Contractors in Project construction works and/or providing services to contractors and/or the contractors' workforce	The Company shall ensure that the available workforce from Ban Xam Thong is given the same opportunity than other for direct employment on construction activities, and for the provision of goods and services, in an organised manner, to the contractor workforce.
	All Contractors shall comply with Lao labour laws, core labour standards, and policies and standards described in the Construction Social Management Plan.

5.3.4 Entitlement Matrix for Long Cheng

Table 5.15 - Ban Long Cheng; Entitlement & Implementation Issues: **Loss of access to community land and other natural resources- to be clarified and finalized after household income survey**

All legitimately affected persons (to be determined during surveys)	
Assessment of the impacts of the project on Ban Long Cheng.	The Company shall undertake prior to the start of the main construction activities a household income survey and land use inventory with the objectives (1) to assess the impacts of the project on the livelihoods of the households of Ban Long Cheng, (2) to identify the impacted households and (3) to set up a socio-economic (including health) baseline of the households of Ban Long Cheng. If found necessary and appropriate, a fish catch survey, before the start of the construction shall be undertaken, with the objective to record fish landings and set the baseline before project impacts. Findings of the household income survey, land use inventory and fish catch survey will be included in the updated REMDP for peri-reservoir villages.
Participation in the development and implementation of the Reservoir Fisheries Management Plan	The Company shall ensure that all households of Ban Long Cheng are consulted during the preparation of the reservoir fisheries management plan, involved in the programme, and can benefit economically from it. Details of how Ban Long Cheng will benefit economically from the integrated watershed management plan will be described in the updated REMDP for the peri-reservoir villages.
Compensation for measured losses of fish catch.	Losses of fish catches against the baseline shall be compensated, before the reservoir reaches its equilibrium, either in cash or through the development of fish ponds.
Participation in the reforestation & biodiversity conservation/protection programme implemented by MAF as part of the integrated watershed management planning in NN3 catchment area	The Company shall ensure that all households of Ban Long Cheng are consulted during the preparation of the integrated watershed management plan, involved in the programme, and can benefit economically from it.
Guaranteed access to NTFP in replacement forest managed sustainably in the vicinity of the resettlement village.	The Integrated Watershed Management Programme developed at the scale of the NN basin shall guarantee the use of NTFP by the local populations.

Participation in programmes aiming at the domestication of NTFPs.	The Company shall consider the possibility of including the domestication of NTFPs as an alternative, and complementary, source of livelihoods.
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Table 5.16 - Ban Long Cheng; Entitlement & Implementation Issues: **Increased exposure to communicable diseases, including HIV/AIDS**

All households (civilian & army) of Ban Long Cheng	
Upgrading of Ban Long Cheng Health Centre	The Long Cheng public health centre will be upgraded up to the standards set by the Ministry of Health for a centre of this category, both in terms of buildings and equipment, at the cost of the Company.
Capacity building of Ban Long Cheng village health workers and community health outreach programs	The Company shall identify the needs of capacity development for the village health workers, and support the related capacity development programme from the project commencement date and for 5 years.
	The Company shall support the development and the undertaking of the community health and anti-trafficking outreach programme from the project commencement date and for 5 years.
Health baseline and regular health monitoring	The Company shall establish a standard health baseline ASAP, and monitor the health status (including STD) in the village. The analysis of the results shall be provided to the village committee coordinating the work of the health workers and the community health outreach programme.
HIV/AIDS, STDs and other communicable diseases prevention programme, and anti-trafficking programme	The Company shall support the development and the undertaking of an HIV/AIDS, STDs and other communicable diseases prevention and treatment programme, as well as an awareness programme on human trafficking. A particular focus will be given to the persons the most at risks, including all sex workers. This programme will be executed in close relation with the similar programme which shall be implemented by the Construction Contractors and aiming at their workforce and direct services providers (see below), and similar programme of the Ministry of Defence targeting its personnel based in the project area.
Construction workers and service providers Other households established after the cut-off date	
HIV/AIDS, STDs and other communicable diseases prevention programme, and anti-trafficking programme	The Construction Contractors shall be responsible for the definition, implementation and funding of an HIV/AIDS, STDs and other communicable diseases prevention and treatment programme.
Safe and hygienic food and water.	The provincial authorities shall undertake regular monitoring of the quality of the food made available to the workforce and enforce the ban of the consumption, trade, transformation of wildlife.

Table 5.17 - Ban Long Cheng; Entitlement & Implementation Issues: **Development Activities**

All households of Ban Long Cheng	
Employment with Contractors in Project construction works and/or providing services to contractors and/or the contractors' workforce	The Company shall ensure that the available workforce from Ban Long Cheng is given the same opportunity than other for direct employment on construction activities, and for the provision of goods and services, in an organised manner, to the contractor workforce.
	All Contractors shall comply with Lao labour laws, core labour standards, and policies and standards described in the Construction Social Management Plan.

5.3.5 Entitlement Matrix for 7 Downstream Villages

Table 5.18 - Downstream Villages; Entitlement & Implementation Issues: **Partial loss in household fish catch of migrating fish species**

Fishing households at 7 downstream villages, who fish, consume or trade in fish	
Participatory field survey and household fish catch monitoring.	The Company shall fund and undertake a field survey, and monitoring, of fish catch starting not later than the project commencement date and continuing for five years. The objectives of the survey shall be (1) to constitute a baseline, (2) monitor the evolution of fish catches, (3) value the household fish catches, and (4) come with recommendations on measures to take to compensate the observed impacts. The impacts of other projects and their share of responsibilities shall be integrated into the recommendations expected. Findings of the survey will be included in the updated REMDP for Downstream villages.
Participation in the development and implementation of the Reservoir Fisheries Management Plan	The Company shall ensure that all downstream villages are consulted during the preparation of the reservoir fisheries management plan, involved in the programme, and can benefit economically from it.
Compensation for measured losses of fish catch.	Losses of fish catches against the baseline shall be compensated, before the reservoir reaches its equilibrium, either in cash or through the development of fish ponds.

5.3.6 Entitlement Matrix for Transmission Line Villages

497. Definitions applicable for the transmission line include:

House owners registered as of the cut-off date:

Households owning houses, dwellings, field huts and related fixed assets within the 70 m transmission line ROW and/or access road corridors who will permanently lose use of their house, structures, or fixed assets due to exposure to electric and magnetic fields which exceed the exposure limit as defined by IFC, and/or loss through construction impacts.

Land users of agricultural land with formal legal rights and/or recognised and recognisable claims to such land as of the cut-off date:

Households with recognizable claims to land use rights of agricultural land at the transmission line tower foot prints and/or access roads to transmission line towers, who will be permanently or temporarily affected by loss of land. "Recognizable claims" to land use mean those land users able to provide documentary evidence (land title, land use certificate, land tax document), of productive land use of affected land in the 3 years prior to cut-off date.

Owner or person with customary right to harvest (in cases where impact is only on production and not related to the land):

Owners or users of fruit and productive trees that will be permanently or temporarily lost as a result of construction.

Cut-off date:

The date of asset registration and census, yet to be established.

498. The entitlement matrix is presented below. It will be updated based on the final baseline survey and asset registration along site selection and final design of the transmission line and access roads, and the plans revised and updated accordingly.

Table 5.19 - Transmission Line & road Nam Ngone - Long Cheng; Entitlement & Implementation Issues: **Permanent loss of residential land, house and related fixed assets**

Land owners registered as of the cut-off date and not on a temporary assignment from the Ministry of Defence	
<p><u>In case more than 10% of the residential plot is impacted or the house is impacted</u>, to render the existing plot or house unlivable as before, replacement of the residential land plot in a comparable site of at least the same size, at no transaction costs (taxes, fees, ...) for the impacted household, plus a replacement house (see below).</p>	There shall be no administrative fees, taxes and any other transaction costs charged to the impacted household for the cancellation of the previous land title or land document.
	A new land title shall be issued to the affected households at no cost for them and in the names of the wife(s) and husband, as determined in consultation with the family.
	Restrictions shall be imposed on the sale of the replacement land until the end of the resettlement period.
	If there is any displacement of ethnic minorities, consent will be obtained, documented and included in the updated REMDP for the Transmission line and Public Road
<p><u>If less than 10% of the residential land is impacted and no house structure is impacted in any way or the amount of impacted land is higher but does not affect the ability of the affected family to continue to dwell in the house:</u></p> <p>(i) if replacement land is available, whether it is adjacent or not to the remaining plot of land, entitlement to residential land of the same size as the land impacted provided it has an area of at least 100 m² ;</p> <p>(ii) if no replacement land is immediately available or the area lost is less than 100 m², a cash compensation for the impacted area shall be made at the replacement value assessed at the time of acquisition, with no taxes or fees of any sort to be incurred by the legal owner of the land.</p>	<p>The replacement value shall be the average price consented on land transactions between individuals in the province <u>at the time of acquisition</u> plus all taxes and charges incurred. The price will be established in conjunction with district authorities and shall take into consideration land of similar characteristics and potential.</p>
	<p>Existing land ownership documents of the remaining land shall be modified, at no cost for the impacted household.</p> <p>If there is any displacement of ethnic minorities, consent will be obtained, documented and included in the updated REMDP for the Transmission line and Public Road</p>
<p>In the case the house is impacted, the affected household shall be entitled, depending on their preference, to receive either: (i) a replacement house of equal size and quality, but of a minimum standard; or, (ii) assistance and support for dismantling and removing their existing house and reconstructing it on the replacement residential land plot at project cost, or: (iii) cash compensation for the house at full replacement value at the time of acquisition.</p>	<p>The replacement or rebuilt house shall be registered with a land title in both the names of the wife and husband.</p>
	<p>If the affected household opt for a cash compensation, the household shall be entitled to salvage from their house, whatever material they wish, but at their own cost, and provided that this is done before the deadline set by the Company, which will consist of the date when personal assets shall be removed from the house. The Company shall not be responsible for the transport of the material salvaged.</p>
	<p>If there is any displacement of ethnic minorities, consent will be obtained, documented and included in the updated REMDP for the Transmission line and Public Road</p>
<p>Labour and transport costs for all moveable household assets to be shifted to new housing.</p>	<p>The Company shall bear the costs of labour and transport for these assets for all affected households, irrespectively of the options selected (i), (ii), (iii).</p>
	<p>The dismantling and removal of personal assets shall be undertaken at a period agreed by the affected household and the project, and sufficiently in advance (at least 3 months) to prevent delaying construction of towers and stringing.</p>
<p>Replacement of all unmovable amenities lost</p>	<p>This shall be irrespectively of the option selected by the affected households.</p>
<p>One time payment of a transition allowance of \$20 per affected household and for all affected households, regardless of the compensation choice.</p>	<p>The one time payment shall be made in the presence of both husband and wife, and of a witness and properly documented.</p>

Table 5.20 - Transmission Line & road Nam Ngone - Long Cheng; Entitlement & Implementation Issues: **Permanent loss of agricultural land**

Land users of agricultural land with formal legal rights and/or recognized and recognizable claims to such land as of the cut-off date, and not on a temporary assignment for the Ministry of Defence.	
<p>Replacement agricultural land (including land used for timber plantations) of at least equal productivity (for crops usually grown in the area), similar irrigation potential and comparable access.</p>	There shall be no administrative fees, taxes and any other transaction costs charged to the impacted household for the cancellation of the previous land title.
	A land title shall be issued for the replacement agricultural land in the joint name of husband and wife, all costs to be borne by the project
	Restrictions shall be imposed on the sale of the replacement agricultural land until the end of the resettlement period.

	UXO clearance (up to 1 m), vegetation clearance, if required, levelling of the land, and replacement wells, when applicable, shall be made at no cost to the affected households.
Field shelters shall be compensated, salvaged, totally or partly, whenever it is reasonable, transported to the replacement agricultural land and rebuilt there at the cost of the Company.	
When impacted and lost agricultural lands are fenced, replacement land shall be fenced and gated at the cost of the Company.	The affected households shall have the possibility to salvage fences and gates erected on their affected and lost agricultural lands.
Any affected households losing less than 10% of their agricultural land shall be entitled to cash compensation only for that portion of land lost, at current replacement value and free of transaction costs (taxes, administration fees), value to be assessed as of the time of acquisition, plus all costs to reinstate the integrity of fencing, when applicable.	Updated land documents shall be issued in the joint name of both the husband and the wife, at no cost for the affected households.

Table 5.21 - Transmission Line & road Nam Ngone - Long Cheng; Entitlement & Implementation Issues: [Temporary loss of agricultural land during construction](#)

Land users of agricultural land with formal legal rights and/or recognized and recognizable claims to such land as of the cut-off date	
All damaged assets (structure, fencing, ...) shall be restored to their former condition by the contractor.	A survey of all assets present on the land shall be undertaken by the Company before the handing over of the agricultural land to the contractor. Inspection shall be undertaken at the end of the activities jointly by the Company, the contractor and the owner. The Company shall instruct the contractor to restore damaged assets and to return the land in similar pre-construction conditions.
Any modification made to drainage channels, irrigation channels, water retaining walls, bunds, ... of paddy fields shall be reversed by the contractor at the end of the construction.	
Drainage shall be restored, should it have been impacted permanently by construction activities.	
The land shall be returned free from any kind of wastes.	
Any unanticipated crop loss caused during construction and stringing shall be compensated at replacement value as of the time of the loss, or in nature.	

Table 5.22 - Transmission Line & road Nam Ngone - Long Cheng; Entitlement & Implementation Issues: [Permanent loss of home garden](#)

Land users of agricultural land with formal legal rights and/or recognized and recognizable claims to such land as of cut-off date and not on a temporary assignment for the Ministry of Defence.	
Replacement home garden.	The Company shall support the establishment of new home gardens. This shall include the promotion of new and improved techniques (organic farming, for example) and diversification of the crops. This shall be undertaken, twice a year, for the entire village and during the first two years after the construction.

Table 5.23 - Transmission Line & road Nam Ngone - Long Cheng; Entitlement & Implementation Issues: [Permanent loss of crops and trees](#)

Land users of agricultural land with formal legal rights and/or recognized and recognizable claims to such land as of cut-off date and not on a temporary assignment for the Ministry of Defence	
Compensation, in cash or in kind, to the value of crop loss for a period of the lost cropping season at full replacement value for the season during which loss is experienced	When compensation is made in cash, it shall be to the replacement value of the crop lost during the season(s) impacted by the construction, including the cost of transport of the goods to the house of the impacted household, if products are brought in altogether at one time and no market is available within the village. If replacement products are bought over a longer period of time, the cash compensation shall represent an average value of the crop over the period it is going to be used.
Replacement of fruit trees; and	Saplings shall be provided by the Company at no cost to the affected household, in replacement for the trees impacted at a rate of 1.5 saplings for each tree impacted.

Cash compensation to the value of the crop loss (fruit trees) for a period of five years at full market value.	
For timber trees, cash compensation equivalent to the current market value based on species and DBH; and	
Replacement of timber trees & associated investments	The cost of labour for the establishment of the new tree plantations shall be borne by the Company.
	The cost of labour associated with the weeding and replacement of dead trees during the first five years shall be compensated by the Company at the prevailing worker wages in the area.
	Other investments made in the plantation shall be reimbursed at replacement value.
Replacement fish ponds shall be constructed at the cost of the Company.	The replacement fish ponds shall be constructed as per the recommendations of the department of fisheries of the Ministry of Agriculture and Forestry and shall be of a comparable size (at least the size of the fish pond to be replaced).
Fingerlings shall be provided at not cost to the affected persons by the Company during the first two years.	The need for a support programme, targeting the entire village, shall be assessed by the Company, and if considered necessary, put in place and funded by the Company during the first two years.
Owner or person with customary right to harvest (in cases where impact is only on production and not related to the land)	
For crops and trees, cash compensation at replacement value based on the crops, and type, age and productivity of the tree	The Company shall identify replacement areas where a sustainable harvesting of products can be secured through customary rights.

Table 5.24 - Transmission Line & road Nam Ngone - Long Cheng: Entitlement & Implementation Issues: **Increased exposure to communicable diseases, including HIV/AIDS, and human trafficking**

All households of directly and indirectly impacted villages	
Capacity building of village health workers and community health outreach programs	The Company shall identify the needs of capacity development for the village health workers, and support the related capacity development programme from the beginning of construction and for 2 years after COD.
	The Company shall support the development and the undertaking of the community health outreach programme from the start of construction and for 2 years after COD.
Health baseline and regular health monitoring	The Company shall establish a standard health baseline, and monitor the health status (including STD) in the villages. The analysis of the results shall be provided to the village committee coordinating the work of the health workers and the community health outreach programme. This shall include a health awareness and anti-trafficking awareness programme.

5.3.7 Public Road from Nam Gnone to Long Cheng: additional mitigation measures by the Contractor

499. There are several environmental protection measures that have to be implemented by the Contractor, which are intended to minimise the impacts of road construction and rehabilitation activities on the people living in the right of way, or close to the right of way of the road from Nam Gnone to Long Cheng:

- The Company requires the Contractor to make use of the existing public road from Nam Gnone to Long Cheng in such a way to guarantee the safe and timely transport of equipment, materials, and construction workers. This shall minimise potential land acquisition. Some 40 households have existing houses, structures and/or use land that will be impacted.
- The Contractor is required to provide mitigation and minimization measures to limit production of dust, noise, and vibration as per the Environmental, Health, and Safety guidelines.
- The Contractor is required to implement and enforce traffic management regulations including but not limited to traffic signs, speed limits, convoy traffic, and limiting night traffic. Particular measures shall be taken in areas of greater population density.
- The Company will ensure that construction related traffic will bypass the existing public road at Nam Gnone where there is higher population density within the Right Of Way (ROW), in order to avoid additional land acquisition and displacement.

- The Contractor is required to avoid potential impacts on houses, structures, and land uses of these 40 ROW households wherever possible, by providing access facilities, such as culverts and drainage crossings for uninterrupted access at the NN3PC's cost, or by restricting upgrading activities.
- In case the Contractor, with the agreement of the Company, cannot avoid impacts on houses, structures, and/or land uses within the ROW, the Company will carry out a census, field surveys to identify households and persons physically and economically displaced, conduct consultations on compensation unit rates and entitlements and relocation options and obtain the consent of physically displaced ethnic minorities households, if any. Based on these and after conducting a 100% asset inventory and registration, ESD will update this REMDP section on the resettlement action plan for any affected households along the public road along the lines of the entitlement matrix presented above, and to be implemented by the Company.

6 Public consultation and disclosure

6.1 Introduction

500. The NN3 Power Company recognises that meaningful public consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making such as mitigation measures, resettlement activities, livelihood restoration, compensation, the sharing of development benefits and opportunities, and implementation issues. The public consultation and disclosure process has been undertaken so far for the Nam Ngum 3 project in this spirit and will continue to be so.

501. As of the beginning of 2011, there have been numerous public consultation and participation briefings, presentations and meetings, which have taken place at the local, regional and national levels (Table 6.2). A dialogue has been established with the various stakeholders directly and indirectly involved in the Project and interested in the Project's public consultation programme (Table 6.1). This process has led to the consent of the affected households to the social and resettlement programme developed with them, and presented in this REMDP, including the dispute resolution mechanism should the plans be not implemented or be as successful as they are presented.

6.2 The Stakeholders

502. The main stakeholder groups have been identified during the development of the project and embrace: (1) the people directly and indirectly impacted by the Project; (2) government officials at the district, provincial and national levels; (3) the other hydropower projects upstream and downstream of the NN3 Project; (4) the other industrial projects operating in the area; (5) the broader interested national community; (6) the Civil Society present in Lao PDR, and ; (7) other regional and international groups and organisations.

503. These groups are presented in the following table:

Table 6.1: The NN3 Project Stakeholders

Local	<ul style="list-style-type: none"> • Individuals, households, village of Ban Xiengdet. • The 4 peri-reservoir villages and their communities. • The downstream villages and their communities. • The upstream villages and their communities. • The villages along the upgraded roads. • The villages and communities in and along the corridor of the transmission line from the power station to the Ban Nabong substation.
Regional	<ul style="list-style-type: none"> • Community leaders • District agencies • Provincial agencies • Businesses and contractors • Upstream and downstream hydropower projects (NN2, NN4, NN5) • Mining companies: Phu Bia Mining, and smaller operators
National	<ul style="list-style-type: none"> • GOL Ministries • WREA (now MoNRE) • NNRBCS • The Hydropower and Mining Forum • The People of Lao PDR • National NGOs • National media
International	<ul style="list-style-type: none"> • International contractors involved in the construction • Power utilities • Thai Government

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- Embassies
 - International and other Financial Institutions
 - NN3PC investors
 - International NGOs
 - International media
 - Hydroelectric dam developers
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6.3 Public consultation & disclosure process

6.3.1 Approach

504. As usual for a project of this nature public consultation and disclosure has started and continue to be implemented through a three-phase process.
505. The first phase had the objective to collect and disseminate information on the human and physical characteristics of the current environment in order to foresee the Project impacts. During this phase, information about the project features and the implications on the social and physical environment was also disseminated to the stakeholders. This started to some extent when the first studies were undertaken by RMR in 1998, although the objective was not to achieve any consent from the population and the process is not documented (see Annex B). This was continued with the update of the E&S documentation of the project, when a detailed socio-economic profile was constituted for the Ban Xiengdet village (see Section 3 of the REMDP).
506. The second phase is the consultation with the various stakeholders, emanating from the comments sought from them in response to the information gathered in the first phase and the subsequent adjustments made to the proposed mitigation measures and alternatives. It is also the stage when the consent of affected ethnic minority households in Ban Xiengdet will be obtained. Data and information collected have then been disclosed at Ban Xiengdet and the four peri-reservoir villages Xieng Nga, Nam Sam, Xam Thong, and Long Cheng to formulate compensation and off setting measures, including resettlement planning.
507. This leads to a third phase of active and iterative involvement and participation in the project design and implementation, which is expected to continue during the project implementation. Livelihood restoration models will be developed in this way, such as the layout of the new village or the design of the most appropriate irrigation system for the replacement agricultural land.

6.3.2 Methodology

508. During the public consultation and disclosure process, it was felt important to take into consideration (1) the local power and authority structures, ensuring however that participation in consultations was not dominated by local authorities, (2) the need to enter into good faith negotiations with affected ethnic minority households, (3) the active participation of women and vulnerable groups, and (4) the proper documentation of the process.
509. The consultation techniques used involved, and will continue to involve, (1) the use of visual representations of the project, including pictures, diagrams, posters, (2) face-to-face communication in the form of general village meetings, interviews, small groups discussions, and site visits, (3) translation of key components of the Project documents in Lao language and verbal translations in the Khmu language when and where appropriate (the Khmu language has no written form), (4) dissemination of the project documentation (ESIA, REMDP, Environmental and Social Obligations of the Company, for example) through the Company and ADB websites, and in the future through various public information centres, and (5) site visits for international stakeholders.
510. A particular attention was given to secure the active participation of women in the consultations, as most women are less educated than men and have been less exposed to the outside world.

6.4 Consultation & participation activities

511. Several public consultation and disclosure events took place at local, regional and national levels since the beginning of the development of the project. They are presented in more details in Annex B and summarised in the following table.

Table 6.2 - Consultations, Disclosures, and Public Meetings regarding Environmental and Social Issues

Stakeholder Group	Public Consultations and Disclosure, key information, timing and approaches taken
<p>Central Level:</p> <p>Stakeholders including International Finance Institutes, WREA (now MoNRE), other GoL Organizations and Agencies, General Public, and NGOs.</p>	<ul style="list-style-type: none"> • <u>16th January, 2008</u>: National Consultation Workshop. • <u>8th February, 2008</u>: Public Consultation Workshop. • NN3 Presentations to WREA of Environmental and Social Project Impacts, 2010. • <u>From November 2010</u>: Collection by WREA of comments by line Ministries and relevant GoL agencies on the October, 2010 versions of EIA Report and REMDP. • <u>8th December, 2010</u>: Joint Consultation of Department of Environmental and Social Impact Assessment of WREA and NN3PC. • <u>December 2010</u>: Joint Mission of representatives from International Finance Institutes (IFIs): Agence Française du Développement (AFD), Asian Development Bank (ADB), FMO, International Finance Corporation (IFC), and Proparco to discuss with representatives of GoL and NN3PC. • <u>January 2011</u>: Publication of NN3 EIA Report on ADB website. • <u>25 January, 2011</u>: Technical Consultation Workshop by WREA and NN3PC to present the revised Environmental and Social Impact Assessment Report in the presence of the Provincial Authorities of Xieng Khouang and Vientiane Provinces.
<p>Provincial Level:</p> <p>Xieng Khouang & Vientiane Provinces and Vientiane Municipality. GoL Officials</p>	<ul style="list-style-type: none"> • <u>Oct – Nov 2007</u>: Combined provincial and district workshops held in Phou Kout on the 30th October, in Hom on the 2nd of November and in Xaysomboun on the 20th November. • <u>May 2009</u>: Consultation at Xieng Khouang Province. • <u>May 2009</u>: Consultation at Vientiane Province. • <u>May 2010</u>: Consultation and Disclosure at Xieng Khouang Province. • <u>July 2010</u>: Consultation and Disclosure at Vientiane Province. • <u>December 2010</u>: Consultation at Xieng Khouang Province, with IFIs. • <u>January, 2011</u>: Technical Consultation Workshop with WREA and Xieng Khouang and Vientiane Provinces.
<p>District and Kum Ban Level: Phou Kout, Xaysomboun and Hom. GoL Officials</p>	<ul style="list-style-type: none"> • <u>2007-2009</u>: District and Kum Ban officials have been included in the survey team during fieldwork and village consultations. • <u>May 2009</u>: Consultation at Phou Kout District. • <u>May 2010</u>: Consultation and Disclosure Kum Ban and Phou Kout District. • <u>June 2010</u>: Consultation and Disclosure Kum Ban, Xaysomboun District. • <u>December 2010</u>: Consultation at Kum Ban Xaysomboun District (with the IFIs). • <u>December 2010</u>: Consultation at Kum Ban Phou Kout District (with the IFIs). • <u>January, 2011</u>: Consultation at Kum Ban Phou Kout District (with the Lenders).
<p>Ban Xiengdet: Villagers, Village Authorities, Kum Ban Officials, District Officials</p>	<ul style="list-style-type: none"> • <u>March 2007</u>: Household and village survey. • <u>July 2007</u>: Inventory of fixed assets carried out. • <u>July 2007</u>: Household Consultations carried out. • <u>October 2007</u>: Gender assessment study carried out. • Several field visits to Xiengdet for resettlement land identification, approval, and planning. • Village leadership participated in District Workshop. • <u>December 2007</u>: Village consultation on resettlement site. • Disclosures, Consultations, and Informed Consent; Asset Registration; and <u>October 2008, January 2009, May 2009</u>: planning resettlement, livelihood and social development activities. • <u>2010</u>: Additional planning meetings UXO clearance and resettlement site preparation, with Kum Ban. • <u>December 2010</u>: Consultation with IFIs. • <u>January 2011</u>: Start of (i) resettlement site preparation by villagers, (ii) UXO screening and clearance by UXO-LAO, and (iii) upgrading access road Nong Tang-Ban Xiengdet by GoL. • <u>January 2011</u>: Consultation, with Lenders. • <u>June-July 2011</u>: Confirmation of consent to resettlement, Reaffirmation of Entitlement Policy for Eligible and Ineligible Households at Xiengdet Village
<p>Peri-Reservoir Villages Xieng Nga, Nam Sam, Long Cheng (including Nam Ngua), and Xam Thong Villagers, Village Authorities, Kum Ban Officials, District Officials</p>	<ul style="list-style-type: none"> • <u>July and November 2007</u>: Villages surveys and consultations. • <u>May 2009</u>: Consultation, disclosure, and informed consent at Xieng Nga and Nam Sam. • <u>June 2010</u>: Consultation, disclosure, and informed consent at Long Cheng (including Nam Ngua) and Xam Thong. • <u>December 2010</u>: Consultation at Long Cheng (including Nam Ngua), with IFIs • <u>January 2011</u>: Consultation at Long Cheng (including Nam Ngua), with Lenders
<p>Downstream Villages (7) Villagers, Village Authorities</p>	<ul style="list-style-type: none"> • <u>November 2007</u>: Village and fisheries surveys and village consultations, seven villages.
<p>Upstream Villages (17) Villagers, Village Authorities</p>	<ul style="list-style-type: none"> • <u>December 2007</u>: Fisheries and livelihood survey, two villages. • <u>December 2007</u>: Village consultations, six villages.
<p>Project Construction Land Villages (roads & transmission line) Villagers, Village Authorities</p>	<ul style="list-style-type: none"> • <u>September – November 2007</u>: Village and sampled household surveys, and consultations, 12 villages.

6.5 The PCD process from the initial studies to now

512. Although the initial studies and surveys started in 1998 and included a presentation of the project conceived at that time, as indicated above, the field work undertaken did not aim at obtaining a formal endorsement of the project and proposed measures from the affected persons. It did however present the various components of the project and its impact, but these presentations have not been documented. Formal consultations started when the environmental and social studies were updated from 2007, as Table 6.2 above reveals it clearly and described in details in Annex B.
513. A lot of focus was put on public consultation and disclosure activities at the village level (especially in obtaining the consent of affected ethnic minority households in Ban Xiengdet), in which the district, and sometimes the provincial, authorities have been associated.
514. The assessment of environmental impacts that will lead to impacts on assets, land ownership and land uses, therefore affecting livelihoods, have been disclosed at Ban Xiengdet, the four peri-reservoir reservoir villages, and the upstream and downstream villages to formulate compensation measures, including resettlement planning. To obtain approval to this approach, disclosures have also been held at Kum Ban, District and Provincial Levels and are summarised below. They are presented in details in Annex B.

6.5.1 Broad Community Support from Ban Xiengdet

Documented Process of Broad Community Support

515. ADB's SPS requires that NN3PC ascertain the consent²² of affected ethnic minorities who will experience physical displacement from traditional or customary lands. Over the period from July 2007 to now, the Company has endeavoured to obtain the consent and have entered into good faith negotiations with the affected ethnic minorities getting displaced in Ban Xiengdet. The opinions, concerns and suggestions of people have been collected from each households over a period of several years, issues have been discussed openly and with the participation of affected communities, their leaders and representatives of the district governments and the Company. Outputs of these discussions, as well as the opinions of affected persons and response of the Project, have been recorded and are reflected in more detail in Annex B. Consensus of affected households has guided decisions have guided the identification and selection of the Nam Dai resettlement area, the selection of the airstrip and surrounding land as the replacement agricultural land, and the preparation of the options for resettlement and livelihood restoration, and will continue to do so, for example for the irrigation system appropriate for the replacement agricultural land or the layout of the new village.
516. NN3PC documented the process of obtaining broad community support in Annex B. This process formally started with the village consultation in July 2007 when the Company presented the anticipated impacts of the Project, the draft NN3 resettlement policy and assured the villagers in Ban Xiengdet that a complete resettlement package will be developed and that suggestions from the village will be incorporated in the planning. Recognising that not all voices of villagers may be heard during the community consultation, the Company also conducted individual household consultations in July 2007. Interviews were held with 88 households to understand their most pressing concerns. Details are in Section 3.1 of Annex B.

²² Consent refers to a collective expression by the affected Indigenous Peoples communities, through individuals and/or their recognized representatives, of broad community support for such project activities (i.e. physical displacement). The SPS also states that broad community support may exist even if some individuals or groups object to the project activities.

Table 6.3: Most pressing issues raised by the households of Ban Xiengdet.

Issues raised	% of the households
Full compensation for the loss and damages that the project will create	67%
Compensation in kind, not in cash	73%
Shorter access road from Ban Somboun	84%
Good village layout	73%
Easy access to potable water	72%
Proper lighting & access to domestic electricity	67%
Access to medical services within the village	72%
Improved schooling, with adequate teachers, books and teaching materials	69%

517. Following the consultations in 2007, the Company held several rounds of consultations in 2008, 2009 and 2010 which demonstrates that NN3PC has entered into good faith negotiations²³ with the affected ethnic minority households in addressing the most pressing concerns raised during the previous consultations. The round of consultations in October 2008 focused on details of the resettlement policy, grievance procedures, replacement housing, sustainable livelihood sources, community infrastructure (access roads, health center, public market, etc.), electricity and water supply, among others. The Company carefully considered these development proposals from the community and have outlined their response in the table below.

518. Although villagers have heard about the Project since 1993 and much data has been collected from them since then, they were keen to participate in the household asset registration survey which followed immediately after the consultation meeting of 8th October 2008. During this consultation meeting, none of the villagers questioned the need to physically displace people living in Ban Xiengdet. One villager commented (to which other villages nodded and agreed) that they “...want everything that the company has promised them for years but nothing has happened.” As shown in the minutes of the village consultation meeting in Annex B (Appendix 6, page 7-20), the villagers were more interested to discuss their entitlements, whether the company will provide them replacement cultivation land and help them to construct a permanent water channel to their new ricefields, whether they will be provided with a good house, whether houses will be constructed before flooding, the development activities (electricity, water supply, irrigation, education, etc.) that they would like to see in the new site, among other issues.

Outcome of Broad Community Support

519. **Selection of Resettlement Site.** After the community and household consultations in July, a consultation meeting with Xiengdet villagers in December 2007 was held to identify and reach agreement on the resettlement site. During this meeting and after visiting the proposed resettlement site within the village territory, the Xiengdet Village Administrative Committee members and 99 villagers (including 34 women) unanimously agreed to the site located 1.5 kilometers east of the current residential area near the stream Nam Dai. This decision is documented in the attached Report on the Agreement on the Xiengdet Resettlement Site in Annex B, Appendix 5. The report on the agreement is signed by the village chief of Ban Xiengdet as the representative of the affected villagers. The village chief is democratically elected to this position every four years by all the households resident in the village, and confirmed in post by the District authorities. Community consensus is valid in Laos only with the signature of the village chief. At the time of consultations, the village head and all holders of official posts (Lao Women's Union, Lao Front for National Reconstruction, Village Security, respected male and female village elders, etc) consisted of representatives of affected households, all of whom were Khmu.

520. **Entitlements, Eligibility Cut-off date, Grievance Process, Formation of Committee, Development Proposals.** During the October 2008 meeting, the unit of replacement for lost assets was also discussed and agreed among the villagers such as:

²³ Good faith negotiation involves (i) willingness to engage in a process and availability to meet at reasonable times and frequency; (ii) provision of information necessary for informed negotiation; (iii) exploration of key issues of importance; (iv) mutually acceptable procedures for the negotiation; (v) willingness to change initial position and modify others where possible; and (vi) provision of sufficient time to both parties for decision making.

- Houses will be rebuilt in a style better than the existing houses in selected location. The exact size of the new house depends on the numbers of members in the household. The new house will be made of a better wood than the split bamboo that most of the houses are made of. The new house will have a better roof, and not one made of grass/straw.²⁴
- Land loss will be compensated by land.
- Trees and other non-moveable assets will be given a cash value based on their productivity, and will be replaced in the form of saplings in the new area.
- Together with the villagers, the company and the local government will assist in planning the new village, developing better livelihoods, and addressing other social and economic development.
- The company will assist in improving agriculture activities, forest and land planning, gardening.

521. At the end of the meeting (see pages 20-21 of Annex B, Appendix 6), it was explained that each household represented understood and agree to the following points discussed: (i) that the cut-off date will be after the household asset registration, (ii) that the project will not have impacts before 2013, (iii) the households agree to resettle, (iv) grievance committee procedures, and (v) support to land titling. By participating actively in the discussion about their entitlements, having their names registered in the list of participants, and which includes the consultants involved, village, district and provincial government authorities, this implies that the affected ethnic minority community have provided their broad community support on the physical displacement of Ban Xiengdet. Furthermore, when each household was individually consulted for the purpose of registering their assets, they had the opportunity to express their opinion and understood the purpose of registering their assets. They have all taken part in the asset registration and no opposition was reported.

522. There are no major disagreements between the affected ethnic minorities and the NN3PC. There were concerns raised about the size of the house, how to measure cultivated paddy lands, whether ricefields will be replaced, whether schools will be constructed, etc. These were all resolved by the NN3PC representative committing to re-do any previous measurements to the satisfaction of the affected villager, conduct regular meetings, involve the villagers in the design of the new village; and assign a representative in the field to help the villagers.

523. **Formation and Functioning of the Grievance Committee.** The first action of the constituted Ban Xiengdet Village Grievance Committee in 2009 was to review the case of households moving into the village after the cut-off date to determine whether or not they would be entitled to the same compensation as Khmu households included in the October 2008 asset registration. The conclusion of the Village Grievance Committee was that they were not entitled. It was agreed by the District authorities that this judgement was consistent with its instruction that no households could establish residence or trade in land after October 2008. The entitlement matrix in this REMDP reflects this decision.

Table 6.4: NN3PC Response to Development Proposals from Xiengdet Consultation, October 2008.

No	Development proposal	NN3PC Response
1	Road from Ban Somboun to Xiengdet to Nong Tang	i. Xiengdet - Nong Tang access road: partial upgrading of existing access road at certain locations to enable passage during rainy season. ii. Xiengdet - Nam Chat access road: existing foot track, upgrading for use by bike, motorbike, hand tractor after feasibility study.
2	School: primary, secondary schools and teachers	Construction of a new primary school. Support to secondary school construction, pending allocation of teacher from GoL.
3	Permanent houses, latrines, kitchens	i. Permanent houses with kitchen, latrines and other facilities will be provided to each eligible household. ii. Relocation of structures (e.g. shops, mills, storage huts, barns, antennas, fences) will be supported by the project.
4	Health center	Upgrading of existing health centre in Nam Sam. Additional health services will be supported in Xiengdet.

²⁴ NN3PC calculated the cost of constructing the replacement house as follows. Considering an entitlement of 15m² per household member (see entitlement matrix), using an average household size of 7 members (see socio-economic profile), and using an average cost of US\$60/m², each standard house housing an average household will cost around US\$6,500. To this an average 30 m² of non-residential building is added (shop, other facilities) at a cost of US\$60/m² i.e. a total of US\$1,800. A contingency of 20% is added to the budget to deal with price changes and other variations. Roads and associated drainage in the village area, electricity network, and water supply system are estimated to cost around US\$500,000.

No	Development proposal	NN3PC Response
5	Water Supply	Domestic water supply will be provided at resettlement site for houses (15 houses per tap) and community buildings, including spare parts and tools, capacity building in operation and maintenance.
6	Rice barns, house for rice mills and for tractors	The project will support relocation of existing structures.
7	Electricity with mobile phone antenna	Electricity will be provided (transformer and connections) but each household will have to pay their own electricity consumption. The Project will not support mobile phone antenna.
8	Fishponds	Fish culture will be intensified in existing fish ponds by training, however the production time will be reduced due to flooding. New fish ponds will be provided to replace losses in fish catch. This shall depend on household impact and livelihood priorities by individual households.
9	Market	By providing an access road to Ban Nam Chat, Ban Xiangdet villagers can make use of the recently constructed market facility in Nam Chat for marketing their products.
10	Land for rice fields, gardening, and houses	At the resettlement site, land is available for houses, community buildings, shops, rice mills, and other structures, water supply, and village road for all households in the village. Each house plot will be large enough to include home gardens and fruit trees. The Project will support various options for paddy rice land: i. New paddy rice land at village areas that will not be inundated to be identified and developed, ii. To be inundated paddy land during dry season turned into dry season irrigated paddy, iii. To be inundated paddy land protected from flooding, or iv. A combination of (i), (ii), and (iii).
11	Irrigation channel for wet and dry season	Dry season irrigation will be provided as an option (see above - 10).
12	Animal raising	Support will be provided on training in livestock rearing and veterinary services, depending on household impacts and household priorities.
13	Village Meeting Center, village office	The existing village meeting center provided by NN 3 will be relocated and upgraded. If the village establishes and construct a temple, NN 3 will contribute to its construction. A site for the temple should be allocated at the new resettlement site.
14	Handicrafts, silk weaving	Handicrafts, silk weaving will be supported depending on household priorities, in cooperation with the Xieng Khouang Sericulture Centre.
15	Land titling	The Project will support district authorities with the land title process, with expertise from other provinces, if needed.
16	Higher education, adult education	Adult education will be supported (literacy, numeracy) pending on interest among villagers.
17	Temple for Buddhists	The Project will provide a public meeting facility or temple. The village will have to make a choice.
18	Sports fields	A sport field will be established next to the new primary school. Area to be maintained by villagers.
19	Village fencing	The Project will support fencing, to keep livestock in designated areas.
20	Revolving fund for villagers with low interest	The Project will support such funds within certain sectors, if households can agree on sustainable management of such funds,
21	Training and employment opportunities for young people	Young people will be offered training opportunities alongside with adults. Employment will be offered in terms of Food for Work.
22	Training on new fishing techniques and other business activities	Training on fishing techniques will be offered by the Project.
23	Establish 1 big/medium rice mill in the village	The project will support relocation of existing rice mills.
24	Fishing boat	Provision of fishing boats will be considered based on further consultations.
25	Community ferry for crossing rivers, and community car for transport	i. Nam Ting will not be significantly more difficult to cross ii. A community vehicle for transport during village relocation will be considered.
26	Seedlings for cash crops	To be considered based on local preferences. In collaboration with the nursery in Nong Tang (supported by ADB).
27	Teaching materials for students and teachers	Teaching equipment will be provided initially.

524. **Participatory Planning for the Development of the Resettlement Site.** Additional joint resettlement planning meetings held at Ban Xiengdet and Phou Kout District during 2009 and 2010 were related to (i) UXO screening and removal at the resettlement site, (ii) construction of a new primary school with additional class rooms to be built at the selected resettlement site, (iii) upgrading of existing access road to Ban Xiengdet that was in poor condition, (iv) the timing and selection of possible livelihood activities to be supported by NN3PC, after the required additional topographical surveys and feasibility study of a planned rainy season supplementary irrigation system at agricultural replacement land are completed, and (v) the issue of settlement of opportunistic households and trade in assets, including land.

525. To address these issues, the following was decided:

- The village authorities of Xiengdet, together with the District authorities of Phou Kout have requested UXO-LAO to start screening and removal procedures of UXOs at the selected resettlement site of approximately 10 hectares.
- The villagers have constructed a new primary school with 5 classrooms at the selected resettlement site with support from Phou Kout District. Additional teachers have been recruited, new school furniture has been installed, and new text books have been obtained. Water supply and toilets will be installed.
- The District of Phou Kout has hired the services of a construction company to design and upgrade the 40 km long access road. The road construction company has started their general upgrading activities at the 40 km long access road, including construction of side drains and culverts.
- The start of the livelihood restoration activities and resettlement will be conditioned by attaining the financial close.
- Similarly the resettlement site of Nam Dai was selected in consultation with the villagers who have confirmed their suitability (See Appendices 5 and 6 of Annex B).
- The District Governor of Phou Kout issued instructions in July 2010 (i) prohibiting the sale of any piece of land, (ii) prohibiting any person of any ethnicity from establishing new housing, (iii) instructing families living in Ban Xiengdet whose nieces or family members have newly married (i.e. natural growth households) to obtain a certificate from the village authority, dispute resolution committee, and (iv) instructing the village authority to inspect, monitor and not accept any outsiders.

526. **Selection of Site for Replacement Agricultural Land.** With respect to replacement agricultural land, the farmers and village authorities in Ban Xiengdet have since long been requesting for financial support to construct an irrigation weir in the Nam Ting to provide supplemental irrigation to a command area of approximately 100 hectares largely consisting of the former airstrip. Experiments with growing rice and corn at the airstrip have failed so far, either by a lack of water, a lack of drainage, or any other reasons. The proposal to develop this airstrip into an irrigation command area is responding to the long standing request of the community. A concern was raised by ADB and NN3PC about a mining company which undertook explorations at Ban Xiengdet and informed farmers and village authorities that they would turn the former airstrip into a commercial mining operation. In response to this concern, NN3PC submitted a request to the Ministry of Energy and Mines (MEM) to give priority to land concession for irrigation rather than mining. NN3PC was informed that MEM is not aware of any mining concession to be awarded on this area of land. In December 2010, NN3PC facilitated a meeting between Lenders, representatives of Xieng Khouang Provincial Government and Phou Kout district government as well as from the MEM provincial office. The issue of the mining concession was discussed and the provincial and district officials confirmed that the local airstrip is not being considered to be used by any mining company and that there are no mining concessions in the Ban Xiengdet village area. NN3PC will further pursue this issue, ensure that all replacement lands will be specifically mentioned in the NN3 concession agreement and work towards obtaining a commitment letter in writing from the district government with endorsement from provincial government that the airstrip is allocated to eligible affected people in Ban Xiengdet and that there will be no mining concessions on any Ban Xiengdet land including the riverbed of Nam Ting river.

527. It can be considered that at Ban Xiengdet, the affected ethnic minorities, and the district authorities, have reached consent or broad community support with the NN3 Hydroelectric Project (see Annex B), both in terms of the location of the resettlement site, replacement agricultural land, livelihood restoration activities and other entitlements. Household fixed assets have been registered (see Annex B) and the cut-off date (completion of the household fixed assets survey) was approved by the village and district authorities (October, 2008) setting the eligibility of the households in resettlement and livelihood restoration activities to be implemented and funded by NN3PC.
528. Between 22 June and the first week of July 2011, NN3PC obtained the signatures (thumbprints) of all eligible households, on the original 2008 forms, signifying their concurrence with the information collected in October 2008 and their acceptance of their relocation to the proposed and agreed resettlement site. EcoLao also conducted consultations with the non-eligible households reiterating their ineligibility to physical relocation benefits and installed a notification board informing the local population of the prohibition of new installations in Ban Xiengdet. The results of the EcoLao fieldwork are presented in Annex B, Appendix 13. No objections were raised by both eligible and ineligible households during these consultations. Consultations with affected households were conducted in Khmu and proceedings were photographed and videotaped as there is no written form of Khmu.

Confirmation of Broad Community Support

529. The broad community support to move to Nam Dai resettlement area have been expressed verbally by representatives of affected villagers in Ban Xiengdet during consultations and this was confirmed during various discussions conducted by Lender's consultant with the village as a whole and with individual men and women separately. During the Lenders Mission in December 2010, Xiengdet villagers confirmed to ADB and other lenders that they have accepted the resettlement site and they would now like to get on with the resettlement process without additional delay. They also expressed frustration about the delays and the fact that they missed out on a lot of development opportunities while waiting for the project to come. Consent forms signed and thumbprinted by both household head and spouse confirm that the data collected in 2008 are correct and expressly state that they consent to the physical displacement and relocation to the Nam Dai resettlement site.
530. The ongoing public consultation and disclosure process will address, using the same approach, the other pending issues, such as the design of the resettlement village, feasibility study for the irrigation system, etc. (see section 6.6.2).

6.5.2 Peri-reservoir Villages

531. Public consultation and disclosure re-started in the villages of Nam Sam, Xieng Nga, Xam Thong and Long Cheng (including Nam Ngua) in November 2007. The PCD process led to an agreement about the activities to be implemented at each village - agriculture, livestock, fisheries, collection of NTFP, and improvement of health services – although a detailed implementation planning still has to be done in consultation with the various villages and following the same approach.
532. During the PCD process, consent with the Project has been reached and agreements have been made on the type of impacts and the required additional surveys and monitoring activities to be held. Annex B presents the details of the PCD process in the peri-reservoir villages, including a copy of the presentations made in the different villages and the consent reached.
533. Additional participatory surveys and monitoring activities at the 4 peri-reservoir will identify the specific households affected in sustainable community land uses (hunting, collection of NTFPs, cattle grazing, and fishing) and value more precisely the actual impacts on household income (cash and imputed) in advance of compensation. At the peri-reservoir villages, the project impacts on community land uses are not significant and have been valued at much less than 10% of households' cash and imputed income.

6.5.3 Upstream and downstream Villages

534. Consultations were held in December 2007 in six upstream villages located on the tributaries of Nam Ting and Nam Chat: Nam Chat, Somboun, Xay Oudom, Phou Vieng Gnai, Phou Vieng Noy, Nam Ting.

535. Consultations were held in November-December 2007 in the seven downstream villages located on the tributaries of Nam Pha / Nam Yen and Nam Phay: Louang Phan Xay, Phan Xay, Nam Pha, Nam Xan, Hom Xay, Nong Pou, Mouang Phoun.

536. Issues raised were not that much about the impact of the project, but more about improving their livelihoods in general, through support in terms of agricultural production, livestock, road, water, electricity and school.

6.5.4 Other villages impacted by Project Construction (roads and transmission line)

537. Village consultations were held in connection with the impact surveys. This was carried out in two rounds. Firstly, consultations were held with the nine villages along the proposed transmission line in September – October 2007: Nam Gnone, Nam Cha / Nam Ard, Meuang Long, Houay Xiet, Hin Sor, Tham Din, Nonh, Tha Kok Hai, Nabong.

538. Secondly, consultations were held with villagers in the four villages along the Long Cheng - Nam Gnone road²⁵. These consultations were held in November 2007: Long Cheng, Nam Pha, Nam Xan, Nam Gnone.

539. Many of the issues raised relate to infrastructure improvement (road, water supply, village office, improved school), which fall outside the obligations of the Company (See the entitlement matrix for these areas in section 5 of the REMDP).

540. Extensive public consultation and disclosure shall be undertaken in the second half of 2011.

6.5.5 Districts and Provinces

541. Consultation workshops were held at the three districts of Phou Koot (Xieng Khouang Province), Hom and Xaysomboun (Vientiane Province). Consultations were also undertaken at several occasions at the provinces of Xieng Khouang and Vientiane and the municipality of Vientiane, and whenever new staff was appointed.

542. Participants at these workshops were district officials from all line agencies related to the NN3 HPP activities, key provincial officers, villagers (in the case of Phou Koot District Workshop) and representatives from NGOs and other agencies involved in the project area.

543. The details of the consultation and disclosure process undertaken is presented in details in Annex B and summarised below.

544. In Phou Kout district the public consultation and disclosure workshop was held on the 30th of October 2007, in Hom district on the 2nd of November 2007, in Xaysomboun district, on the 20th of November 2007.

545. The main issues raised during these meetings were the following:

- Need to clarify the roles of the various counterparts at the various levels.
- Need to put in place the infrastructure before people are moved in.
- The resettlement is to be done in close partnership with the villagers and should be done in kind, not in cash.
- Proper attention is to be given to spiritual and cultural artefacts, sites and practices.
- Assistance is to be provided, in the form of rice for example, during the transition period from the old to the new village and fields.
- Support essential services: agriculture, health, education.
- Local labour should be given employment opportunities at construction sites.
- The rights of women, workers and ethnic minorities' people must be protected and promoted during the construction period.

6.5.6 National consultations

546. Two national level consultation and disclosures workshops were organised in Vientiane, on the 16th of January 2008 and on the 8th of February 2008. The first one involved representatives from the central,

25 One of the minor access roads is linking Long Cheng with the Dam Site, whereas the other connects the Power House to the Long Cheng - Nam Gnone road. Whereas the Dam Site is located within the Long Cheng village territory the Power House is located in land not allocated to any particular village. Of the two quarries, one is in the outskirts of Long Cheng while another is along the road to the Power House.

provincial, district authorities and villages; the second involved in addition representatives from international financial institutions, non-governmental organisations and other relevant stakeholders. The objectives of the workshops, the list of participants, the topics raised and the responses provided by NN3PC are presented in details in Annex B.

547. The ESIA, in its December 2010 version, was distributed to WREA (now MoNRE) and 15 Line Ministries and relevant Governmental Organizations for final comments at the same time it was made public on the ADB website in January 2011. On the 25th of January 2011, WREA (now MoNRE) organised a Technical Consultation Workshop to present the latest revised ESIA report and the E&S compliance procedures for approval by the Provincial Authorities of Xieng Khouang and Vientiane provinces.

6.6 The PCD process in the future

6.6.1 Information centres

548. To support and strengthen the PCD process, information centres will be established in Vientiane Capital, in Vientiane and Xiengkhouang provinces and at the project site offices. They will display the safeguard documents in their English and Lao language version, other public documents (progress report, entitlement matrices, environmental and social obligations of the Company), communication posters, photos and maps. These centres will be established after the completion of the next round of village consultations, during which this final draft of the REMDP shall be presented.

549. A Company project website will be set up and it will serve as a way to disseminate information at the national and international level. In addition to the safeguards documents and other public document, the project website will be used to release updates on the progress of the project and provide a mean for interactions.

6.6.2 Planned consultations and disclosures

550. As far as the documentation is concerned, Table 6.4 presents the tentative schedule for the disclosure and public consultations of the final drafts of the ESIA and the REMDP.

Table 6.5: Schedule for consultation and disclosure of the final draft of the ESIA and the REMDP.

Activities	Timeline
Completion of final drafts of the ESIA & the REMDP	
Public disclosure of ESIA final draft to IFIs & general public	Jan 2011
Public disclosure of REMDP final draft to IFIs & general public	April 2011
Consultations at local level	
Production of consultation material, including Lao translation of documents (executive summary in Lao, key sections of the documents in Lao, in particular entitlement matrix)	May- June 2011
Public consultation with local people	June - July 2011
Consultations at national & international levels	
Reading period of documents	April - May 2011
Public meetings	May-June 2011
Finalisation of documents for implementation	
Receive comments	May - July 2011
Finalisation of documents, English version	May - July 2011
Translation in Lao language	June - July 2011
Update of consultation materials in all languages	June - July 2011

551. The PCD process will continue at the village levels. This process will be essential to finalise the planning and to start the implementation of the various activities. Table 6.5 presents the main PCD activities planned at the village level before the end of 2011. Similar activities will be undertaken during the years of the construction period and then during the first years of operation. These will be associated with the regular health surveys, socio-economic surveys, but also through the grievance mechanisms that will be put in place in the various villages.

Table 6.6: Schedule for PCD at the villages level in 2011.

Activities	Timeline
Operationalisation of the Public Health Action Plan & Baseline surveys	Q3 - Q4 2011
Consultations will be undertaken at all villages under this programme and an operational PHAP will be submitted for approval to the authorities concerned.	
Transmission Line	Q2 - Q4 2011
Surveys, consultation, disclosures and consents	
Roads upgrade and construction	Q2 - Q3 2011
Surveys, consultation and compensation	
Ban Xiengdet	
Presentation of the new version of the REMDP, including entitlement matrix	Q2 2011
Feasibility study for the irrigation of the agricultural replacement land	Q2 - Q3 2011
Confirmation survey of affected land uses	Q2 2011
Confirmation survey of affected households on the road from Nong Tang to Ban Xiengdet	Q2 2011
House design, general layout of the residential area at Ban Nam Dai, water supply system & EIA of the new village	Q2 - Q3 2011
Design of irrigation system	Q3 - Q4 2011
Removal of UXO	Q2 - Q3 2011
Plot allocation of agricultural land	Q3 - Q4 2011
Peri-reservoir villages	
Participatory socio-economic baseline survey, and inventory of land and water uses	Q3 2011
Update of livelihood development options and programme	Q4 2011
Downstream & upstream villages	
Participatory socio-economic baseline survey, and inventory of land and water uses (including fisheries)	Q3 2011
Update of livelihood development options and programme	Q4 2011

552. In the case of Ban Xiengdet, the timely detailed design and construction of infrastructure (access roads to and within the village, houses and fixed assets, community buildings, water supply and sanitation, electricity connection ...) will only be achieved through agreements and approvals by the key stakeholders. The key stakeholders are: (i) project affected households, (ii) village, *kum ban*, and district officials, (iii) NN3PC's environmental and social management, and (iv) local/regional construction contractors. Consultations will need to be conducted in Lao and Khmu language. Information disclosures will need to be provided through meetings and distribution of maps, drawings, leaflets, summary documents, contracts, and reports in Lao language (there is no Khmu written language). Agreements have to be made between the local/regional contractors, the households at Ban Xiengdet, and ESD of NN3PC regarding the design and procurement of materials and equipment as well as the involvement of households in construction activities before approval and funding. In addition to the key stakeholders, the other governmental stakeholders, such as provincial officials, line ministries, and MoNRE will need to be informed and consulted on the resettlement site and the planning and construction of infrastructure as (i) for the required infrastructure, land allocation and land titlement is required, (ii) selection of resettlement areas and replacement land should not interfere with potential concession areas of other development projects, and (iii) the resettlement site and the infrastructure and public services to be provided will need to fully satisfy the project affected households.
553. An updated version of the REMDP executive summary, with the new entitlement matrix, and the annex of the Concession Agreement presenting the Environmental & Social Obligations of the Company will be disclosed to the Nai Ban of Ban Xiengdet, and the other villages, in the second quarter of 2011. The same approach as the one followed for the previous public consultation and disclosure will be respected, in particular in terms of preparation of documents accessible to the affected persons and stakeholders (translation in Lao and presentation in Khmu language).

554. The PCD process will also be engaged with other important stakeholders in the Nam Ngum River Basin, in particular with the other hydropower projects (NN1, NN2, NN5 et NN4) and the mining projects, in particular Phou Bia Mining. NN3PC intends to take as active and creative role in the Hydropower and Mining Forum and to support the activities of the NNRBCS both in terms of funding but also in terms in sharing the expertise available within the Company.

555. After the start of the project operation planned in January 2017, consultations and information disclosure should be gradually reduced, as it is anticipated that the majority of the required resettlement and livelihood restoration activities will then be finalized. The grievance mechanism should however continue to be in place during the first 5 years of operation.

6.7 Stakeholder input into the project design

556. The long public consultation and disclosure process has enabled an exchange of opinions and experiences valuable during the planning phase of the project, improving both the quality of the planning and the decision making process. Whenever feasible, practical, and within the scope of the project, the feedback received from the various stakeholders has been taken into consideration. Table 6.6 summarises the influence that the stakeholders have had on the design of the Project.

Table 6.7: Stakeholders concerns and influence into the project planning

Topic	Stakeholder concerns	Influence on project planning
ESIA	Slow progress of project development	The project is developed in compliance with IFI safeguard policies, which takes time, but ensure sufficient attention is given to avoid, mitigate and compensate its impacts.
Fisheries	Impacts on the downstream families dependent on fisheries	The NN3 project is situated between a cascade of other hydropower projects, NN1 and NN2 downstream, and NN5 upstream, which have already seriously impacted the migration of fish in the Nam Ngum river. Nevertheless, the project has taken a proactive approach and shall establish a baseline and compensate the impacts that will be measured. In addition the potential of the fisheries in the reservoir shall be developed, although by its size, shape and hydrology, its potential looks less promising than NN1 or NN2.
Health	Health impacts during the construction period, mainly HIV/AIDS and STDs	The project shall implement various health programmes as part of its overall health action plan. These will target all the villages in the various project areas, the workforce, camp followers and sex workers. In addition, a dedicated health plan shall be prepared by the contractors to deal specifically with its workers and services providers.
	Impacts of camps & camp followers	A dedicated budget has been set aside to develop a plan to manage the camp followers, under the Construction Phase Social Management Plan.
Land issues	Compensation for loss of land and assets	The approach taken by the Company is to favour compensation in kind, i.e. land for land and to only resort to cash compensation if no alternatives are available. Entitlement matrices are very clear and transparent on the rates that shall be used in this case.
Natural habitats & wildlife	Natural habitats lost, and gained, as a result of the project Impacts of the TL crossing the Phou Kao Kouay NPA	Consolidation of existing information was made in early 2011 to clarify the situation. The project will support the integrated watershed management through a funding of US\$3.77M during a 9 year period, and part of this funding shall be used to conduct field surveys. This contribution shall be made to the NNRBC, which shall consolidate the various fundings to implement an integrated plan for the basin. The NN3 TL has been rerouted to follow the NN2 TL alignment, therefore avoiding the impacts of the crossing of the PKNPA.
Public consultation & disclosure	Communities understanding fully the nature of the impacts and their entitlements	The PCD process endeavours and will continue to endeavour to use the most appropriate techniques to secure a full understanding of the impacts and the entitlements of the various impacted persons, including the particular needs of the vulnerable groups. Messages and materials are and will be developed specifically for target audiences.
PCR	Impacts on artifacts, historical places and spiritual and cultural assets	A survey was conducted to assess the presence of PCR within the project area. The contractors shall have the responsibility to develop PCR plans to ensure that PCR are properly dealt with during the

		construction period.
Water quality	Remaining biomass in the reservoir	A salvage logging and vegetation clearing programmes will be implemented during the construction period.
	Poor water quality downstream of the power station and responsibilities amongst the various projects	The project is actively looking at solutions at the scale of the NN Basin, considering the cascade of hydropower projects on the NN river. It considers involving the NNRBC to undertake its water quality monitoring programme.
	Poor water quality upstream due to the NN5 project	NN3PC will engage actively the NN5PC to ensure appropriate water quality downstream of its dam, with the support of the NNRBC.

557. Similarly, the consultations at the village and household levels have strongly influenced the selection of (1) the resettlement site, (2) some livelihood components to be strengthened, (3) infrastructure and housing styles. This PCD process, being iterative in its nature, will continue, and before the start of the main construction activities lead to the selection of a number of typical resettlement houses respecting the local style and traditions, and an appropriate and sustainable irrigation system for the replacement agricultural lands.

6.8 Institutional arrangements for the PCD process

558. GoL will take the lead role in the public consultation and disclosure process, with NN3PC providing the required technical and managerial support, as required. At the level of the villages, dedicated teams will be put in place, with support from the district and training and support provided by NN3PC, in terms of methodology, of understanding of the range information relating to the Project, and of production of consultation materials (maps, posters, manuals, ...).

7 Compensation, livelihood restoration, and relocation

559. In line with Project objectives, policy frameworks, and entitlements for affected persons under the NN3 project, and based on information gathered through participatory surveys, consultations, disclosures, and social impact assessment, a total of 8 Action Plans have been formulated to describe how compensation and mitigation measures will be implemented in different impact locations.
560. The 8 Action Plans are: (i) the Public Health Action Plan, (ii) the Gender Action Plan, (iii) the Construction Social Management Plan, (iv) the Resettlement Action Plan for the public road Nam Ngone – Long Cheng, (v) the Resettlement Action Plan for the Transmission Line, (vi) the Ban Xiengdet Resettlement Action Plan, (vii) the Peri-Reservoir Action Plan, and (viii) the Downstream Action Plan.
561. The Public Health Action Plan (PHAP) and the Gender Action Plan (GAP) (see Annexes E and F) provide a guiding framework for the remaining 6 Action Plans. These remaining 6 Action Plans address also physical relocation, land acquisition, livelihood and household income restoration. In each of the 6 Action Plans ethnic minority and gender issues are integral to the project's development planning. A particular attention was also given to identify and target vulnerable groups.
562. While directly affected individuals and communities are eligible for a variety of entitlements (see section 5), the Project also intends to share the benefits of its activities with unaffected households and communities as a broader development and poverty alleviation goal. By providing or upgrading district and village infrastructure facilities, by strengthening the capacity of district and provincial staff, and specifically focusing on ethnic minority women's health and non-formal education, other households can benefit from NN3's development activities. It is anticipated that communities residing within the area of influence of the project will benefit from the increased access to public services such as (i) improved access to markets, education, and public health services at Ban Xiengdet, Nam Sam, and Xieng Nga, (ii) improved access to electricity, water supply and sanitation at Ban Xiengdet, and (iii) improved access to markets and public health services at Long Cheng, Xam Thong, and downstream villages.
563. Each Action Plan provides an overall framework for the various topics covered. The preparation, operationalisation, and regular updating of these plans will be essential for their good implementation.

7.1 Action Plan 1: Public Health Action Plan

564. Elements of the future Public Health Action Plan (PHAP) are presented in Annex C, which describes the current status of public health, the current access to public health services, the current status of services in the NN3 project area, and presents an assessment of the project impacts on public health. The Public Health Action Plan proposes interventions and procedures to avoid and/or minimize the impacts and proposes additional measures to improve public health services from the main existing health centers at Nam Sam and Long Cheng to the surrounding communities.
565. Actions related to public health to be supported by the project are:
1. Upgrading of the existing public health center at Long Cheng.
 - Integrate specific preventive health care services related to NN3 by capacity building and strengthening of the established primary health care network;
 - Awareness raising and implementing regular health check ups of villagers and camp followers from Long Cheng Health Center to prevent the risks of spread of communicable diseases (such as HIV/AIDS), including coordination and cooperation with the separate health clinic for construction workers to be provided by the contractors;
 - Coordination and integration with ongoing health initiatives in project districts and Vientiane Province by the Ministry of Health and donor organizations;
 - Capacity building in preventative public health services to health center staff and village health workers;
 - Awareness raising in the increased risks of human trafficking;
 - Extending the preventive public health services to Long Cheng, Nam Ngua, and Xam Thong by implementing outreach services and improving health seeking behaviour.

2. Upgrading of the existing public health center at Nam Sam.
 - Integrate specific health services by strengthening the established primary health care network, which supports basic preventive services including maternal and child health, birth spacing, expanded program of immunisation, awareness on first-line control of diarrhoeal disease and acute respiratory infection, malaria and dengue prevention and early intervention, and general health education;
 - Coordination and integration with ongoing health initiatives by the Ministry of Health and donor organizations;
 - Capacity building in preventive public health services to health center staff and village health workers;
 - Extending the preventive public health services to Ban Xiengdet and Nam Sam by implementing out reach services and improving health seeking behaviour.
3. Rapid response programme to any potential outbreak of vector disease or project-associated health problem, in coordination with and through local health authorities.

Table 7-1 Tentative schedule of Public Health Action Plan supported by NN3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Construction Long Cheng Health Center	■	■								
Public Health Services Long Cheng		■	■	■	■	■	■			
Construction Nam Sam Health Center	■	■								
Public Health Services Xiengdet and Nam Sam		■	■	■	■	■	■	■	■	■

566. NN3 commercial operation date is planned at January, 2017. The construction phase will start during the dry season of 2011-2012. The operation phase starts at January, 2017. Public health activities during the construction phase will be implemented from Long Cheng health center, while the public health activities related activities during the operation phase will be implemented from Nam Sam health center (Table 7.1).

7.2 Action Plan 2: Gender Action Plan

567. The framework of a Gender Action Plan is presented in Annex D. Mainstreaming a gender perspective improves the overall project’s ability to meet its goals. Investing in women’s capabilities and empowering them to exercise their choices is an effective way to contribute to economic growth and overall development for individual households and the country as a whole. Increasing women’s knowledge and control over productive resources leads to better family welfare. Women spend proportionally more of the income they control on food and health care for children than do men.

568. The project in conjunction with the Lao Women’s Union will undertake actions across a range of areas that will help both facilitate and focus effort to build gender equality. Most actions apply to the specific project area of Ban Xiengdet while others cut across areas, including Long Cheng, Xam Thong, and the villages along the public road to Long Cheng.

569. The Gender Action Plan (GAP) will be mainstreamed in the 4 thematic Action Plans.

7.2.1 Gender Balance Targets

570. The project will set Gender Balance Targets (GBTs) for female participation in all project activities including decision making. Setting targets, rather than quotas, leaves some room for local interpretation and determination. This is an important means of increasing local awareness and acceptance of gender equality goals while not artificially standardizing numbers, and risking backlash.

7.2.2 Gathering and Applying Gender Specific Data

571. The project will utilize the data provided on gender divisions of labour as a tool to help target training programs more effectively to those who primarily perform the given type of labour while still allowing space for both women and men to participate in all activities. The project will make clear the rationale that the person who does the labour should generally be the one who is trained in new skills and information.

7.2.3 Joint Spousal Authorization and Receipt

572. The project will ensure that women participate equally in the land allocation decisions and the land titling process. All formal documentation issued by the project including land titles, ownership and loan documents will require signatures from both heads of household. The project will furthermore require the obligatory presence of both heads of households when signing documents or receiving inputs to ensure clear understanding and ownership by both women and men. Joint authorization and receipt fosters open communication, and makes a statement that project activities are household-focused, and should not be directed by a single individual. It also negates the risk of forgery or of signing without full understanding of the implications.

7.2.4 Prioritize Women's and Girls Schooling

573. The project will prioritize women's Non-formal Education and girls schooling at Ban Xiengdet. Individual returns from investments in education are the same for men and women, but social returns from education are higher from women. Educating women improves the health, longevity and welfare of the entire family. It also reduces family size, decreases child mortality, improves child nutrition and extends children's schooling. Therefore by prioritizing women and girls education at Ban Xiengdet, the project has an opportunity to improve the status of women immediately with critical follow-on effects that will benefit not only women but the next generation of children. To this end, the project will work closely with Xiengdet households that are not educating girls to provide support.

7.2.5 Improve Women's Health

574. Specific actions at the upgraded health centers of Long Cheng and Nam Sam will focus on :

- Provide reproductive health information and services.
- Reduce Maternal Mortality Rate with targeted interventions aimed at improving women's health overall.
- Target affected women and men with gender-specific information and health check-up services to reduce risks of communicable diseases, including HIV/AIDS.
- Provide awareness training in human trafficking.

7.3 Action Plan 3: Construction Social Management Plan

575. As presented in more details in the EIA, the Contractors are required to strictly follow the IFC guidelines for Environment, Health, and Safety, organised as follows: (i) Environmental, (ii) Occupational Health and Safety, (iii) Community Health and Safety, (iv) Construction and Decommissioning. These represent the environmental obligations imposed on the Contractors, who are then in turn obligated to prepare environmental protection plans and subplans, and Site Specific Environmental Plans.

576. While this aspect is presented in the environmental safeguards documents, the following sections focus on the social issues regarding community health and safety and the required actions required to avoid, mitigate and compensate the project social impacts associated with the construction activities.

577. If the Contractors are required to abide by the Environmental, Health, and Safety guidelines, the Company shall support the implementation of the activities regarding both (i) community health, safety, and social harmony and (ii) land acquisition, relocation, and compensation of the affected households.

7.3.1 Construction Lands

578. Land acquisition at areas to be occupied by the contractors at the dam site, the power station site, tunnelling, quarrying, borrowing and spoil sites, and anticipated worker camps sites will not affect existing land ownership and land uses. No relocation of persons and/or households will be required. Localised compensation, if required, will be undertaken under the principle of the entitlement policy of the Company (Section 5).

579. The Company will require from the Contractors the following at construction lands as per the construction contracts:

- The Contractors shall (1) prepare a Workers Code of Conduct (to be approved by the Company), (2) issue it to all of its employees and sub-contractors, (3) make it mandatory through the Employment

Contracts, and (4) enforce its application. The Code will guide and govern worker's behaviour when employed on the Works, when interacting with other workers and with members of the public on or off construction sites.

- To avoid interference with the livelihoods of members of the public, construction workers will be forbidden to use, keep, consume and trade local natural resources through fishing, hunting, and/or collection of non-timber forest products (NTFPs). A breach of this condition will automatically terminate construction workers contracts.

- The construction workforce should be clearly made aware of national and local rules and regulations, and their implications, regarding prostitution and sex workers, human trafficking and other unacceptable behaviour, in particular towards vulnerable women and girls.

580. The Code of Conduct shall refer to the following: (i) avoidance of all discrimination, with specific reference to culture, ethnic identity, religion, age, social status, and gender; (ii) respect for personal integrity; (iii) avoidance of all forms of bribery or corrupt behaviour; (iv) avoidance of alcohol or drugs when at work; (v) participation in training sessions; (vi) following instructions, respecting rules, regulations, and procedures with specific reference to health, safety, and the environment; (vii) respecting property, (viii) respectful behaviour towards local communities, (ix) respect towards women, (x) avoidance of any behaviour or language which might be considered violent, abusive, or disrespectful, (xi) avoidance of any activity considered illegal, including violence, involvement in production, misuse or trafficking in drugs, or involvement in trafficking of people. Breaches of the Workers Code of Conduct will be the basis for investigation and dismissal.

581. The contractors will need to implement risk management strategies to protect surrounding communities from physical, chemical, or other hazards associated with sites under construction. The construction contracts shall reflect these requirements. Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous materials, or excavations and structures which may pose falling and entrapment hazards. Risk management strategies to be implemented by the contractors will include:

- Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high risk structures and areas depending on site specific situations, including fencing, signage; and communication of risks to the local community;
- Removing hazardous conditions on construction sites that cannot be controlled effectively with site access restrictions, such as covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials.

582. The Company will require the contractors to follow the social requirements *as per* the conditions set in the construction contracts. The contractors shall submit monthly progress reports during the period of their contract. The Company through its Environmental and Social Division shall monitor the contractors' procedures and activities.

7.3.2 Spontaneous Camp Followers vs. Camp Service Providers

583. The contractors will engage a construction work force of several thousands persons and are encouraged to engage as much local capable construction workers as possible. However as it is expected that a large proportion of this workforce will come from outside. This will result in local people and migrants taking this opportunity to provide services to this workforce by opening restaurants, pubs, karaoke's, night clubs, shops, banking facilities, transport services, guest houses, etc. These are usually called the "camp followers", which can represent a population 4 to 5 times the one of the workforce. The project and GoL will prevent the installation of camp followers and will ensure that services are provided, in a controlled and regulated way, within the camps.

584. The NN3 Power Company will support the relevant authorities to ensure that (i) some form of controls of the movements of people are put in place, (ii) basic facilities are provided (infrastructure, potable water, sanitation, waste management, health services, education, police, ...) and their cost recovered, (iii) a monitoring is undertaken regularly.

585. Increased incidence of communicable diseases attributable to the high number of construction workers and the expected influx of camp followers that provide services to contractors, construction workers, and truck drivers represents a potentially serious health threat to the construction work

force, project personnel, local residents, and camp followers. A dedicated component of the health programme funded by NN3PC (see above and section 5) will target this aspect from Long Cheng and Xang Thong through improved infrastructure, capacity building, awareness training, implementation of preventive measures, regular health check ups. A particular attention shall be given to sexually transmitted diseases.

- 586. These strengthened public health centers will be in contact and communication with the contractors' health clinic regarding their public health check ups to jointly identify the potential sources preventing the spread of communicable diseases.
- 587. ESMO will also support the health centers of Long Cheng and Xam Thong to raise awareness to the increased risks of human trafficking that may result from the influx of construction workers and camp followers as well as from the increased traffic and transport opportunities with many empty cars and trucks leaving the construction sites.
- 588. The social actions related to camp followers will be implemented from Long Cheng health center during the construction phase starting in the dry season of 2011-2012 up to one year after the Commercial Operation Date to ensure a progressive phasing out of the programme.
- 589. Table 7-2 summarise the tentative schedule for the main components of the Construction Social Management Plan.

Table 7-2 Tentative schedule for the construction social management plan

Activities	Timeframe
Preparation of a camp follower management policy	Q3-Q4 2011
Preparation of a worker code of conduct	Q3-Q4 2011

7.4 Action Plan 4: Resettlement Action Plan for the Public Road Nam Gnone – Long Cheng

590. The mitigation and minimization measures and the compensation process for potentially affected households along the public road from Nam Gnone to Long Cheng is summarized as follows:

- The Company requires the Contractor to upgrade the existing public road from Nam Gnone to Long Cheng to guarantee the safe and timely transport of equipment, materials, and construction workers, as the existing public road is narrow and in poor conditions.
- Upgrading of the existing public road reduces risk of traffic accidents during the Project's construction phase from increased traffic and transport of materials, equipment, and construction workers.
- The Contractor is required by the Environmental, Health, and Safety Guidelines to provide mitigation and minimization measures for the increased nuisances for the general public along the road due to increased dust, noise, and vibration.
- The Contractor is required to implement and enforce traffic management regulations including but not limited to traffic signs, speed limits, convoy traffic, and limiting night traffic.
- The Company will monitor the Contractors compliance with the Environmental, Health, and Safety guidelines.
- The Company will ensure that construction related traffic bypass the existing public road at Nam Gnone where there is higher population density within the right of way (ROW), in order to avoid additional land acquisition and displacement.
- The Company will ensure that the Contractor limit as far as possible its upgrading activities of the public road to the existing ROW to minimize potential land acquisition.
- However, within this ROW, some 40 households have existing houses, structures, and/or land uses.
- The Contractor is required to avoid potential impacts on houses, structures, and land uses of these 40 ROW households wherever possible, by providing access facilities, such as culverts and drainage crossings for uninterrupted access at the Company's cost, or by restricting upgrading activities.

- In addition, the Contractor will be required to implement more strict traffic management at locations of greater population density, and/or where households have pre-existing houses, structures, and land uses within the ROW.
- In case the Contractor, with the agreement of the Company, cannot avoid relocation of houses, structures, and/or land uses within the ROW, the Company will update this REMDP section presenting the RAP for the public road for approval by MoNRE and ADB, and to be implemented by the Company. Entitlements for affected households in the pre-existing ROW will follow the entitlements presented in section 5.

591. The resettlement plan for the public road will (i) identify affected persons and households, physically and/or economically displaced, and their vulnerability and ethnicity, (ii) register assets in consultation with affected households, (iii) establish the cut-off date, (iv) carry out the valuation of affected assets, including land uses, (v) in consultations with the affected persons and households, identify the appropriate compensation required (in-kind or cash), propose entitlements, compensation measures, and procedures.
592. After approval by MoNRE and ADB of the updated REMDP RAP for the Nam Ngone – Long Cheng public road, the local authorities, with the support of the Company, shall implement the compensation measures. Grievance mechanisms will be put in place to deal with disagreement and complaints.
593. Bypassing the existing public road at Nam Gnone where there is higher population density within the Right Of Way (ROW) is under negotiation in order to avoid additional land acquisition and displacement. Traffic management and avoidance and minimization of noise, vibration, and dust will be implemented during the construction phase from 2011 to January, 2017. The Contractor will be required to avoid potential impacts on houses, structures, and land uses of 40 estimated ROW households wherever possible, by providing access facilities, such as culverts and drainage crossings for uninterrupted access at the Company's cost, or by restricting upgrading activities. If any relocation activities are required, the resettlement action plan will be submitted to MoNRE and ADB during the dry season of 2011 – 2012. The resettlement activities will start as soon as the resettlement action plan of the public road is approved and before start of construction activities for the public road.

Table 7-3 Tentative schedule for the NN-LC public road social plan

Activities	Timeframe
Preparation of a detailed design for road upgrading	Q4 2011
Update baseline information, asset inventory/registration, public consultations and disclosure	Q4 2011
Survey of local land transactions to determine the local value by types, availability of replacement land in a comparable site, and other related information	Q4 2011
Establish the cut-off date	Q4 2011
Consultation and disclosure activities, establishment of grievance committee	Q4 2011
Preparation of an update to the REMDP for the Public Road, including all compensations and procedures	Q4 2011 - Q1 2012
Approval of the REMDP	Q1 2012
Disclosure of the updated REMDP on ADB website	Q1 2012
Development of resettlement site, if required	Q1 2012
Implementation of the REMDP (payment of compensation required, purchase of replacement land, house construction, relocation to new houses, issuance of new land titles to both husband and wife, ...)	Q1 - Q2 2012
Start of Construction Activities for the Expansion of the public road	Q3 2012
Monitoring and evaluation of the resettlement implementation	Q2 - Q3 2012

7.5 Action Plan 5: Resettlement Action Plan for the Transmission Line

594. The number of households that will be economically displaced due to construction of the NN3 transmission line is presently estimated to be around 80, of which 5 households are likely to be physically displaced. Potentially affected households live in the 21 villages located within 5 km distance from the transmission line corridor. The displacement of persons and households depends on the final design by the contractors, which is not yet reached, including (i) the location of new access roads to the transmission line, (ii) the location of the transmission tower foot prints (these can be moved by 20 m if land use is significantly affected), and (iii) based on the preceding and the height of the towers, exposure to magnetic and electric fields.
595. Affected persons and households will be identified during consultations after the contractor has staked the new access roads and the alignment is known. The contractor will be required to adjust the route of the access roads and/or relocate the tower foot print if feasible to avoid and minimize impacts. The Company will make sure that the problems observed with the NN2 transmission line, and other developments, are avoided. Out of the 21 villages located in proximity of the transmission line alignment, 4 of them, of Hmong and Yao ethnicity and vulnerable, have already been resettled more than once due to other development activities and have not had a positive experience of this²⁶.
596. After census, socio-economic survey, identification of affected households, physically and/or economically, and their asset registration, the cut off date will be established for eligibility of compensation for displaced persons. Persons that own land or have recognizable claims to land use at the foot prints of the transmission towers will be provided with adequate and appropriate replacement land or cash compensation at full replacement value, which will be agreed then. Persons that own buildings, houses, field huts, and/or dwellings within the transmission line corridor at locations where the public exposure is higher than the IFC limit will also be provided with replacement house and residential house and/or cash compensation (See section 5).
597. Following this exercise, an update to the REMDP will be prepared, in consultation with the impacted households, for the transmission line route and submitted for approval to MoNRE and ADB, before being implemented. If there are ethnic minorities who will experience physical displacement, their consent will be obtained and documented in the updated REMDP.
598. The risk of electrocution, by people climbing in the transmission towers, will be avoided by technical design by the contractor and a dedicated awareness programme. Nuts and bolts of the towers at the first few meters above the ground level will be welded to avoid theft and subsequent safety risks.
599. During transmission line construction works, the Company will supervise the contractor works to avoid any interference with existing land uses and/or access by implementing erosion control. The stringing of the transmission line will be undertaken after the erection of the transmission line towers, at such a time to avoid or minimise the damage to agricultural crops, which shall be compensated if they are damaged (see section 5). Stringing is not normally undertaken during the rainy season due to risk of lightning strike, and this period is one of busy agricultural activity for farmers.
600. Table 7-4 shows the schedule of resettlement activities for the transmission line. The contractor is required to start its staking activities of the tower foot prints and the access roads in cooperation with the developer as early as 5 years before Commercial Operation Date (COD - 5), during the dry season of 2011 – 2012.

Table 7-4 Tentative schedule for the Transmission Line social plan

Activities	Timeframe
1. Surveys, Consultations, Disclosures, and Consent	Dry season 2011-2012
2. Establishing Compensation Unit Rates	

²⁶ During the construction of the NN2 transmission line multiple access roads to the transmission tower locations were made during the dry and rainy seasons and led to widespread cutting of timber outside the transmission line corridor and damage to private and community land uses. The low unit compensation rates did not satisfy the affected households, which led to a virtual boycott of tower construction activities at some villages through blockage of access. Complaints about marginalization of households at these villages during past resettlement procedures reached the National Assembly of Lao PDR.

3.	Identification of Location of Transmission Line Access Roads	
4.	Identification of Location of Transmission Tower Foot Prints	
5.	Identification of households and physical assets through participatory surveys within corridor where limit of exposure to electric and magnetic fields will be exceeded	
6.	Identification of households, land uses and related assets that will be affected within transmission line corridor and access roads through participatory surveys and inventories	
7.	Establishing cut off date	
8.	Participatory household income surveys of affected households	
9.	Valuation of land, land uses and improvements, houses, structures, dwellings, and field huts	-Dry season
10.	Set up grievances committees at Village, District and Provincial levels	2012-2013
11.	Formulation of detailed resettlement action plan in consultation with the affected households	
12.	Updating of the REMDP - TL section	Q3 2013
13.	Disclosure of updated REMDP - TL section to affected people and on ADB website	Q4 2013
14.	Land acquisition; land allocation and securing land tenure to relocation land for households displaced	Q3 - Q4 2013
15.	Relocation and/or cash compensation at full replacement value of physically and economically displaced households	-Q3 - Q4 2013
16.	Clearance of commercial valued timber from Transmission Line corridor and access roads	Q1-Q2 2013
17.	Clearance of vegetation from transmission line access roads and pruning of vegetation higher than 3 meters from Transmission Line corridor	Q4 2013
18.	Monitoring impacts on land uses during stringing and identification of impacted households	2014 - 2016
19.	Potential cash compensation of household income losses during stringing	2016
20.	Grievances procedures at Village, District , and Provincial levels	2014-2016

7.6 Action Plan 6: Ban Xiengdet Resettlement Action Plan

601. The resettlement action plan at Ban Xiengdet consists of 3 main components: (i) development of new residential area and relocation, (ii) livelihood restoration and development, and (iii) social development and monitoring. The 3 main components include relocation and compensation measures in the form of livelihood restoration for physically and economically displaced households, but also include development measures for the entire village, which for having its status of village to be impacted by the NN3 reservoir has missed development projects opportunities implemented at other villages in the neighborhood, including education, public health services, water supply, and agricultural development. Background information of Ban Xiengdet can be found in section 3: Socio-Economic Profile.

602. **Selection of the relocation site:** During meetings and consultations at Ban Xiengdet in 2007, households have expressed preference for being relocated within the village territory, instead of being resettled in a host village. None of the 96 entitled households have shown preference for self relocation outside of their village. Households at Ban Xiengdet have been requested to identify the new residential area (see section 6 – PCD). During a meeting held in December 2007 and attended by 99 villagers representative of affected households, and also Village and District authorities, the selection of the new residential site based on household preferences was made official by the Phou Kout District authorities. The selected new residential area is located 1.5 kilometers east of the current residential area near the stream Nam Dai along the 40 kilometers access road to the highway at Nong Tang. The residential area identified at this stage covers 10 hectares, which is 2.5 times larger than the existing residential area.

603. **Cut-off date and number of eligible households:** During the community dialogue and asset registration at 9th and 10th of October, 2008, the cut off date was agreed upon and established, as being the 9th of October 2008. In 2007 the number of households at Ban Xiengdet was 90. It had grown

to 104 in October 2008. Of the 104 households, 8 households were not accepted by Village and District Authorities to be entitled for resettlement and development activities to be supported by NN3: These 8 households physically displaced themselves to Ban Xiengdet for opportunistic reasons to receive the benefits of resettlement, livelihood and social restoration and development. Of the 96 households accepted in October 2008 by Village and District Authorities as entitled to benefit from NN3's resettlement, compensation, and development activities, 11 households have expressed their desire to split in two due to planned new marriages and the size of the households. This has brought the total of **eligible households** to **107**. In September 2010, the total number of houses at Ban Xiengdet had changed to 120 due to an extra influx of opportunistic households, although the governor of Phou Kout District had written in July 2010 a formal letter to the village authorities of Ban Xiengdet not to allow any settlement of opportunistic households and also not to allow any trade in assets, including land (see Annex B). NN3PC will continue disseminating the information about these restrictions during consultations for the updating of the REMDP for Ban Xiengdet. NN3PC will also provide visible reminders in public places such as putting up posters or a billboard in the affected village showing the notification from the district government.

604. **Implementation of activities in anticipation of the project.** While during consultations and disclosures, households became fully aware of the project impacts and while resettlement activities and entitlements were discussed and agreed upon (see section 6 and Annex B), little resettlement activities could be implemented by the Company before the project's power purchase agreement, concession agreement, shareholders agreement, and financing arrangements come formally in place. In the meantime, Ban Xiengdet community suffered from downstream impacts by NN5, which had to be addressed (see section 2.2.6). It took some time to separate the impacts and responsibilities and to coordinate compensation measures between NN3 and NN5 with approval by GoL.
605. While much confusion existed within Ban Xiengdet how to implement livelihood development activities in anticipation of impacts by NN3 at the start of consultations, the public consultation process has led to initiatives taken by the community itself. The primary school of Xiengdet, which consisted of only two classrooms needed an expansion to 5 rooms with extra teachers to teach children at grades 1 and 2. The Ban Xiengdet community decided to build by themselves their new primary school with 5 class rooms at the selected resettlement site. GoL supported this initiative by recruiting extra teachers and with construction materials. The Company will bring this school to the standards of the Ministry of Education according to the entitlements presented in section 5 (including electric connection, water supply and sanitation), will further support the school with the provision of school equipment and supplies, and will fund the construction of a teacher house at the new village.
606. Other livelihood development activities that have been implemented by Ban Xiengdet community during the last two years have been (i) clearance of large areas along the public access road at higher elevations than expected flood levels for growing corn, and (ii) extension of swidden culture areas at elevations higher than expected flood levels.

7.6.1 Development of the new residential area & Relocation

Village Lay Out

607. The village lay out will have to be developed and agreed in consultation with village households. This will include issues such as the location and size of the household land plots (target is 1,600 m²), of the village community facilities, water supply and sanitation options, electricity connection, and the design and construction of the new houses.
608. While the selected residential area has a promising location, there will be a limit to the number of household land plots at the new site. This will depend on the contour intervals in the area, the shape and size of house plots, the natural population growth, and the influx of opportunistic households.
609. The village lay out and the size of the household land plots will be based on an estimated total of 135 households, including natural growth. The lay out of the residential resettlement area will include space for internal access roads, water pumps, electricity transmission poles, community buildings, and a separate area where rice storage facilities will be located, as it is not common for households at Ban Xiengdet to store rice at individual house plots.

610. A company with experience in design, resettlement planning, topographical surveying, and working with households of Khmu ethnicity will be engaged to start a topographical survey at the residential resettlement site and provide a proposal including a map with 135 house plots, and location and size of community buildings (administrative building and teachers accommodation), internal access roads, water supply and sanitation, electricity poles, and household rice storage facilities.
611. Each house plot should have sufficient area to accommodate the house, a toilet and septic tank, fruit trees, home garden, chicken coop, and pig pen. The asset registration revealed that a limited number of households also need to be provided with sufficient space for rice mill, corn hut, duck hut, bird roost, satellite disk, shop, garage, metal processing hut, and spirit house. An area of 1,600 m² will be targeted for the house plots to accommodate more livelihood opportunities at each plot and enable the long term growth of the village.
612. The survey and design of village lay out will be conducted during the dry season of 2011-2012, in consultation with the affected households and subsequent approval by village and district authorities. The village and Phou Kout district authorities will formally agree with each of the affected households replacement residential household plot.
613. Ban Xiengdet does not have a health center or a temple. The nearest health center is located at the neighboring village of Nam Sam. The health center of Nam Sam will be upgraded and supported by NN3 through capacity building and transport facilities to provide health services to Ban Xiengdet as well.

House Design

614. Eligible households will be entitled to one new house, depending on the household size. Three types of houses will be designed to accommodate households of different sizes. The design of houses will be similar to the existing houses in use by the relatively well off households. Such houses are made of wood, instead of bamboo and are constructed on pillars providing storage and parking space below the house. These houses have a roof of corrugated iron sheets. No local timber will be used for the resettlement site construction, unless its origin can be certified. New housing materials should be termite resistant, choosing the right wood and/or impregnated vulnerable materials.
615. Figure 7.1 below shows a wooden Khmu house of a relatively well off household in Xiengdet village with a corrugated iron roof and private electricity connection to family hydropower and a more simple Khmu house with bamboo walls with a thatched roof without electricity connection also in Xiengdet. Both houses belong to the higher category of incomes and many houses at Xiengdet are less "luxurious".



Figure 7-1 A and B: Existing Houses at Ban Xiengdet (A: bamboo and thatched roof; B: wood and corrugated iron roof)

616. Traditional Khmu houses have an orientation of the house such that doors and windows do not open to the west. Houses generally have a spirit post (sao khwan) and a first post (sao haek). The spirit post forms the corner of the parent's bed room. A shelf facilitating offering ceremonies to ancestral spirits is situated above the entrance of the parent's bedroom. The arrangement of the bedrooms or sleeping quarters generally reflects the hierarchical organization of the family in terms of age and gender. The kitchen, hearth, and washing area are to the west of the house, at the other end of the house from the spirit post. See Figure 7-2.

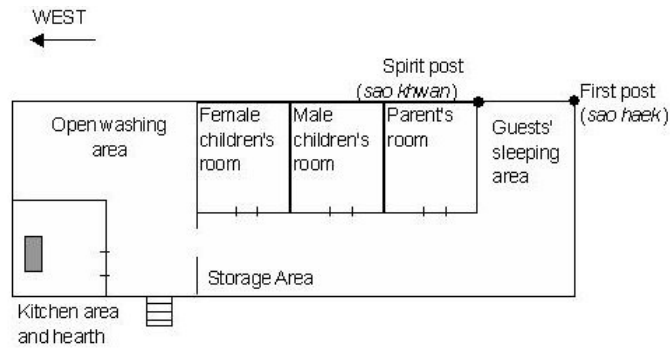


Figure 7-2 Standard Plan of Khmu House

617. There are no specific differences between houses owned by households of Khmu and Tai Phouan ethnicity; nevertheless if Tai Phouan households do have requests to changes in house design, then such will be addressed and provided.
618. Households used Nam Ting as the river to bath and wash, and as the source for obtaining cleaning, cooking, and drinking water. Especially women and children spent much time and energy to bring water to the houses. Presently, NN5 provides Ban Xiengdet with a water supply system using a small stream as the water source. Such was installed after villagers complained about the high turbidity in Nam Ting resulting from NN5 construction that did not make Nam Ting a proper source for drinking water.
619. At the residential resettlement site approximately every 10 households will be provided with a water pump using an appropriate ground water aquifer as the water source. These water pumps will provide opportunities for bathing, washing, and drinking and for tapping water and easy transport to the new houses. NN3 will provide spare parts, tools, and training to maintain the water pumps.
620. Many of the existing households do not have toilets. All the newly constructed houses for eligible households will be provided with a toilet and septic tank located outside the house within the new house plot.
621. Only the relatively well off households at Xiengdet have self installed electricity connection to family hydropower. Such electricity can only be generated during part of the year when Nam Ting river discharges permit. At the resettlement site houses, shops, and community buildings will be provided with electricity connection from the recently build electricity line to NN5 passing Ban Xiengdet. Step down transformers with accessories and safety features, a transmission network through the residential area, and individual house and public building connections with meters will need to be installed. The house construction contractor will provide safe wiring and power points in the houses, toilets, shops, and public buildings. NN3PC will support the electricity connection to be carried out by EDL, households and administrators of public buildings will need to pay for their use of electricity.

Village Access Road

622. Ban Xiengdet has an existing access road, passing Nam Sam and Xieng Nga to the highway at Nong Tang. This access road passes over steep hills, not allowing parents to bring sick children and family members from Ban Xiengdet or Nam Sam to the hospital by hand tractor. The condition of the access road has deteriorated considerably by the transport of commercial timber and by the construction of transmission lines to and from NN5. Presently Nam Sam and Ban Xiengdet are not accessible even by four wheel drive pick up trucks during many days of the rainy season. Villagers of Xieng Nga complain about the present conditions of the access road.
623. To carry out the construction works for new houses and buildings at Ban Xiengdet and ensure the proper supply of construction material and equipment, the access road needs upgrading to an all weather access road. Such will benefit the two peri-reservoir villages of Nam Sam and Xieng Nga and also benefits Ban Xiengdet.
624. The upgrading of the existing access road will also improve access to markets by the 3 villages of Xiengdet, Nam Sam, and Xieng Nga, improves access to the health center and the primary school at

Nam Sam, improves access to the secondary school at Nong Tang, and improves access to hospital and medical services in Xieng Khouang Province. Traffic management and maintenance of the access road will be the responsibility of Phou Kout District.

625. The District of Phou Kout and the Province of Xieng Khouang have engaged a road contractor for the design of the upgrading of the public access road. The exact nature of the upgrading activities will be relying very much on traffic management: If over-loaded logging trucks are still allowed to continue using the new public access road, then upgrading activities will be restricted to side drainage facilities, instead of placing culverts and building bridges.

Physical and Cultural Resources

626. The ruins and remains of the temples Vat Vangsiang and Vat Xiengdet will be flooded each year for a short period of time when the NN3 reservoir is close to Full Supply Level. Also spirit houses, a relative small part of the existing graveyard, and a holy tree might be affected by periodic flooding (Refer to the PCR Annex of the ESIA).
627. The part of the graveyard potentially at risk of flooding will be protected from the flood and drained. The spirit houses will be relocated with the necessary ceremonies to appease the spirits. Flood protection by surrounding Vat Vangsiang with a small dyke will reduce the risk of seasonal flooding. The foundations of Vat Xiengdet and Ban Xiengdet's holy tree do appear not to be significantly impacted by seasonal flooding. Any necessary relocation and/or protection physical and cultural resources will be supported by NN3PC, with the involvement of the villagers.
628. The village authorities will be consulted for further necessary measures to be implemented to appease spirits and to minimize the impacts of flooding on physical and cultural resources in Ban Xiengdet.

Construction and Transition

629. Contractors will upgrade the access road and construct the new houses, buildings, and facilities at the resettlement site and by doing so will provide qualified villagers opportunities for employment. Contractors' work force will be trained in chance find procedures of archaeological artifacts and supervised by NN3 ensuring appropriate environmental, health, and safety measures, including occupational health and safety and community health and safety. The same standards will apply as the ones for the project main construction activities (IFC's Environmental, Health, and Safety guidelines).
630. During relocation of the households and their assets from their existing houses to the newly constructed houses at resettlement site at not more than 2 kilometer distance no temporary shelters are required for eligible households. The relocation will need to take place before the rainy season of 2016. NN3 will support the affected households during transition by providing transport and cash allowances.
631. The detailed entitlements for relocation are presented in section 5.

7.6.2 Livelihood Restoration

632. All livelihood restoration plans should be fully implemented before the rainy season of 2016 and require regular updating, consultations, and negotiations with households for necessary adjustments. A follow up of these activities will continue after the commercial operation date.
633. The entitlements for livelihood restoration and development at Ban Xiengdet are presented in section 5.

Paddy Fields

634. The significant project impact on Ban Xiengdet livelihoods will be the seasonal flooding by the NN3 reservoir of paddy fields, causing losses of the rice crops. The paddy fields at Xiengdet currently produce only one crop per year, transplanted at the beginning of the rainy season and harvested at the end of the rainy season. Rice production uses supplemental irrigation by the diversion of small streams through the construction of small weirs made of wood and bamboo. During the dry season the small streams fall dry and the farmers let the paddy fields turn fallow and their cattle graze there.
635. **Hill paddy.** Replacing the affected paddy fields with hill rice fields is not feasible, as the productivity is three times more important for paddy fields than hill rice fields. To compensate the 36 affected

households owning a total paddy area of 42.34 hectares, more than 126 hectares of hill rice area will be necessary, without even considering the rotation period necessary to regain the fertility of the hill rice fields. Even if such a large area can be found at Ban Xiengdet at acceptable distance from the residential resettlement site, households could not provide sufficient labor to maintain these large hill rice plots, which are very labor intensive, in particular for the weeding.

636. **Flood resistant rice varieties.** One potential compensation measure could be the introduction of flood resistant rice varieties. The International Rice Research Institute (IRRI) in Manila has developed rice varieties that can withstand 17 days of flooding. IRRI in cooperation with the Agriculture Research Center has distributed these flood resistant rice varieties in Lao PDR for testing and application, and Ban Xiengdet could be piloting their use, although it would not be acceptable to have the impacted households having to bear the risks of this experimentation.
637. However, while the elevations of the to-be-flooded paddy areas can be measured exactly, it is difficult to predict the flooding patterns by the NN3 reservoir on an annual basis. One year a paddy field may be flooded for 30 days and another year the paddy field may be flooded for 10 days only. One year flood waters rise to 2 meters above a paddy field, another year only 1 meter. One year flooding occurs during flowering of rice, another year flooding occurs before or after rice flowering.
638. The time, duration, elevation, area, and turbidity of flooding at Ban Xiengdet will fluctuate on an annual basis, depending on rainfall and NN3 reservoir management. Heavy rainfall as much as 0.5 meter per day can be expected about once every 4 to 5 years, when typhoons from the South China Sea hit the coast of Vietnam and peter out in Lao PDR generally occurring during the month of September or October.
639. It is therefore not guaranteed that households do earn each year their income from affected paddy land by planting flood resistant rice varieties. Nevertheless, as indicated above, the testing of flood resistant rice varieties at selected paddy fields in the inundated area will be carried out to see if flood resistant rice varieties can form a good livelihood option for a limited number of households at Ban Xiengdet guaranteeing a more or less stable annual income. The introduction of flood resistant rice varieties can turn out being a good additional development measure for the village as such, but less so a guaranteed compensation measure for those households that own flooded rice paddies. After Commercial Operation Date, flood resistant rice varieties will be introduced for testing at the 42.34 hectares of inundated paddy.
640. **Irrigation system.** To increase the area of paddy fields at Ban Xiengdet, farmers and village authorities have requested since long for financial support to construct an irrigation weir in Nam Ting to provide supplemental irrigation during rainy seasons to a command area of approximately 100 hectares largely consisting of Xiengdet's former airstrip. Most of the airstrip is currently laying fallow.
641. There are four reasons why this proposed irrigation system never went ahead: (i) the construction of the irrigation weir was considered too costly, (ii) with the construction of NN5 dam in Nam Ting, Nam Ting was believed to have insufficient discharges during the rainy season for supplemental irrigation of a command area of 100 hectares, (iii) NN3 reservoir was believed to flood the former airstrip, and (iv) a mining company which undertook explorations at Ban Xiengdet explained to farmers and village authorities that they would turn the former airstrip into a commercial mining operation.
642. Presently, the conditions for development of irrigated paddy fields at the former airstrip has changed: (i) NN3 needs to compensate 36 households who will lose their 42.34 hectares because of the seasonal inundation, (ii) the development of 100 hectares of paddy land requires less water diversion from Nam Ting than $2 \text{ m}^3/\text{sec}$ during the rainy season only, which is secured and can be diverted from the Nam Ting with and without the development of NN5; and (iii) the NN3 reservoir does not inundate the airstrip. Regarding the fourth point, NN3PC submitted a request to the Ministry of Energy and Mines (MEM) to give priority to land concession for irrigation rather than mining. As of this date, the MEM is not aware of any mining concession to be awarded on this area of land. However, there are some site investigations for possible alluvial gold mining concession along the Nam Ting river, which needs to be checked against the NN3 project concession area. In order to further ensure that these lands are allocated to the project, the district will be requested to issue a letter of commitment by the end of June 2011, endorsed by the province, confirming that (i) there will be no mining or other concessions

on any of Ban Xiengdet village land, Nam Ting river banks and river bed, and (ii) the old air strip, and surrounding land, is the site for replacement agricultural land.

643. NN3PC with approval from village, district, and provincial authorities is now planning to develop the irrigated fields in the area of the airstrip by building an irrigation weir in the Nam Ting.
644. The resettlement site and replacement paddy land were agreed with the Provincial and District officials (see section 6 and Annex B). Meeting with Provincial and District authorities confirmed in December 2010 that there are no proposed mining concessions for the resettlement village.
645. NN3PC will undertake a full feasibility study (socio-economic, financial, technical, pedological, agronomical, and organisational) and a detailed design of the irrigation weir in Nam Ting and of the irrigated command area at Xiengdet's former airstrip, including water distribution canals, drainage facilities, and household paddy size. The design will aim at securing supplemental irrigation of paddy fields during the rainy season for at least 36 affected households. Soils are described as being of better conditions than the paddy fields currently cultivated.
646. Once these investigations are undertaken, a land use mapping identifying the ownership of the various plots of land within the command area will be undertaken.
647. Construction activities for the new irrigation system and development of the command area will start in advance of the relocation and/or compensation of the affected households and well in advance of impoundment (see Table 7-4 Schedule of Activities). After completion of construction, training will be provided in water use, operation, and maintenance of the irrigation system allowing hand over to the village authorities.

Maize Fields and Banana Orchards

648. At the tail end of the irrigation command area, maize (corn) growing areas and banana orchards can be developed for about 9 households by providing a small supply of water from the irrigation system and appropriate drainage during the rainy season. The required area of replacement land for inundated maize fields is 4.22 hectares owned by 6 households and for inundated banana orchards 1.20 hectares owned by 3 households.

Fish Ponds

649. Fifteen households at Ban Xiengdet own fish ponds with a total area of 2.09 hectares that will be affected by the NN3 reservoir. At affected paddy fields, opportunities also exist to build more fish ponds, depending on the interest of the affected villagers. Also, the newly constructed irrigation system will most likely include a water reservoir that could also provide opportunities to raise fish.
650. Affected fish ponds will be relocated and replaced and affected households will be provided with training for intensified fish pond culture.

Vegetable Gardens and Fruit Trees

651. At Ban Xiengdet 35 households own vegetable gardens with a total area of 1.80 hectares. At each house plot at the resettlement site, all displaced households will be supported by the NN3PC to allocate at their house plots space for a home garden for household self sufficiency. Also each house plot of the affected households will be provided with fruit trees saplings.
652. If the compensation measures turn out not to be acceptable for certain affected households, and if these households have enough argument for receiving additional livelihood restoration activities, additional compensation measures will be identified during consultations and subsequently implemented.

Livestock and Poultry

653. With the relocation of the households to the Nam Dai resettlement site all house plots occupied by affected households will be provided with facilities to accommodate poultry and pigs. Poultry and pigs will be provided with appropriate pens, shelters, and roost facilities at each house plot.
654. The 48 buffaloes owned by 10 households and 147 heads of cattle owned by 41 households roam on paddy fields during the dry seasons and also on community land. During the rainy seasons buffaloes

and cattle do not have access to paddy fields and they depend totally on community land as their sole grazing area within the village area of Ban Xiengdet. Buffaloes and cattle return to the residential area late in the afternoon each day. Due to the relocation of the residential area, cattle and buffaloes will need to cover a longer distance to the existing paddy fields and community land used as grazing areas.

655. The existing grazing area will be affected by seasonal flooding each year. However, due to the flooding pattern of the NN3 reservoir, more grass lands will become available during the dry season for cattle grazing. Limits to the number of buffaloes and cattle are generally set during the dry season when not enough fodder becomes available. This is expected to change after the impoundment of the reservoir. Forage development programme will be implemented to secure fodder, both in terms of quantity and quality, during the dry season and cut-and-carry methods of livestock feeding will be introduced. In addition, NN3PC will support cattle and buffalo owners to provide appropriate shelter and penning facilities and veterinary services.

Timber and NTFPs

656. Forestry related management is the responsibility of the Ministry of Agriculture and Forestry (MAF). MAF is cooperating with the Ministry of Defense in this field at Ban Xiengdet. The GoL is responsible for the removal of commercial timber from the NN3 impoundment area and hired contractors to remove commercial trees. GoL has also the rights to remove commercial timber at the village areas, and it hired the services of a group of villagers to assist in the removal of commercial timber. However, commercial timber in the village area is limited and the cash income of the households involved in timber extraction will reduce considerably once these operations are completed.
657. Forestry management rules at village areas allow villagers to fell commercial timber only for building their own house and not for cash income. If villagers wish to make wooden furniture they are required to obtain forestry concession rights to fell trees. However villagers are allowed to collect Non Timber Forest Products (NTFPs), including fuel wood and bamboo from forests. At Ban Xiengdet the average household cash income from NTFPs is 1,110,000 Kip per year.
658. Due to the removal of commercial timber and the planned removal of the remaining vegetative biomass from the impoundment area within Ban Xiengdet's administrative boundaries, the collection of NTFPs will be affected. This area is however located far away from the residential area of Ban Xiengdet, requiring to set up expeditions to collect NTFPs, which is making it less interesting to the villagers.
659. A participatory household income survey, including the household income from collection of NTFP's from flooded areas and non-flooded areas will identify the value of the project impacts on collection of NTFPs. Based on the valuation of impacts, affected households will need to indicate if reforestation and biodiversity protection/conservation sufficiently compensate for identified losses in collection of NTFPs. Opportunities to develop domesticated NTFPs will also be explored.
660. To compensate for these impacts on opportunities to collect NTFPs at Xiengdet, NN3PC will support the Ministry of Agriculture and Forestry in proposed reforestation activities within Ban Xiengdet village area as part of the integrated watershed management planning (see the environmental safeguard document). Depending on the outcome of the household income survey, cash compensation to the affected households could also be considered.

Access to Household Income Sources

661. Apart from access to NTFPs, the major changes in access of farmers to their income sources will result from the location of the resettlement site and the development of new irrigated rice paddy area at the former airstrip. Both selections have been made on advice from Ban Xiengdet farmers themselves.
662. Farmers will have to cross Nam Ting that will have considerably higher water levels during some weeks during the rainy season due to the NN3 reservoir. It is during the rainy season that the rice paddies at the former airstrip can be irrigated and will be in use. NN3PC will provide canoes for any transportation that will be required to operate the irrigation system during the rainy season.

663. Presently, farmers and hand tractors cross the Nam Ting at a location where water levels are not higher than knee deep during the dry season. Crossing the Nam Ting at this same location will not be exacerbated by the NN3 reservoir for longer than some weeks during the rainy season.

7.6.3 Development and Monitoring

664. In addition to relocation and livelihood restoration activities, the Environmental and Social Division of NN3PC will also support the implementation of development measures at Ban Xiengdet, such as:

- New and better houses provided with water supply, sanitation and electricity connection to the grid;
- Increased size of house plots providing livelihood restoration and improvement opportunities for home gardens, raising chickens and pigs, and planting fruit trees;
- Penning of cattle and buffaloes, reducing health risks;
- Upgrading public access road; providing improved access to markets, education, and public health services;
- Introduction of flood resistant rice varieties, potentially returning flood affected rice paddies into productive land.

665. The livelihood restoration activities will be provided before actual project impacts materialise during the rainy season of 2016, providing affected households the opportunity for double cropping and adequate transition.

666. During double cropping, vulnerable households, who cannot access sufficient labor, will be provided with support to recruit additional labor.

667. Additional development measures at Ban Xiengdet include the upgrading of the health center at Nam Sam, capacity building and training of health workers, implementation of preventive measures to avoid outbreak of diseases, awareness raising for health issues related to maternal care, hygienic measures related to water use (chlorination, hygiene, consumption, and cooking), reducing consumption of raw fish and meat, and deworming of children. The health center should also make villagers aware of health risks from the present procedures regarding solid waste disposal. There is little solid waste, but villagers mostly burn their solid waste, including plastics leading to increased health risks. An effort will be made to follow better practices in terms of waste management and will be supported by NN3PC.

668. Ban Xiengdet's primary school will be upgraded and supported with education materials and equipment. Non formal education will be supported by NN3PC during the dry seasons after harvests and before land preparation, when household members are not fully occupied in sustaining their livelihoods.

669. NN3PC will monitor its performance by regular household income surveys focusing on household cash and imputed income from affected income sources to make sure that all affected households are appropriately and adequately compensated.

670. The District of Phou Kout and the Province of Xieng Khouang have started upgrading the public road from Nong Tang to Ban Xiengdet. This is an initiative of the district and provincial officials. If the Project Company is requested to reimburse the costs of the construction, an Environmental and Social Compliance Audit will be undertaken, and corrective measures taken as necessary.

7.6.4 Schedule of the Ban Xiengdet Resettlement Action Plan

671. Table 7-5 summarizes the schedule of the main activities of the Ban Xiengdet Resettlement Action Plan.

Table 7-5 Schedule Ban Xiengdet Resettlement Action Plan

	Activities	Timeframe
1.	Village Residential Resettlement Site Identification and Selection	Completed
2	Preliminary Cadastral Survey Land Uses	Completed
3	Household Income Survey and Household Asset Registration	Completed
4	Consultations, Disclosures, and Consent	Completed, Consultation Process Ongoing

	Activities	Timeframe
5	Identification of Households Having (i) Legal Rights, (ii) No Formal Legal Rights, but Recognizable or Recognized Claims, and (iii) Neither Formal Legal Rights, or Recognized, or Recognizable Claims to Land Occupied that will be Inundated by NN3 Reservoir	Completed, Consultation Process Ongoing
6	Establishing Cut Off Date	Completed
7	Set Up Formal Village Development Coordination Committee, and Village Grievances Redress Committee	Completed
8	District/Provincial Government issuance of commitment letter for replacement lands	-Q4 2011
9	Update of socio-economic baseline	Q4 2011 - Q1 2012
10	Full feasibility study (socio-economic, financial, technical, pedological, agronomical, and organisational) and a detailed design of the irrigation weir in Nam Ting and of the irrigated command area at Xiengdet's former airstrip, including water distribution canals, drainage facilities, and household paddy field size.	Q4 2011 - Q1/2 2012
11	Topographical Survey and Confirmation Survey of Affected Land Uses and Land Ownerships	Q4 2011 - Q1 2012
12	Detailed Design of Upgrading 40 Km Public Access Road from Nong Tang to Ban Xiengdet	Q4 2011 - Q1 2012
13	House Design and Layout of Residential Area	Q4 2011 - Q1/2 2012
14	Design Irrigation System	-Q3/4 2012
15	Removal UXOs (all areas)	-Q4 2012
16	Mapping Contours, Existing Land Uses, Residential Resettlement Site, and New Irrigation Area	-Q2/3 2012
17	Consultations to establish land allocation options	2012
18	Environmental Assessment of the resettlement site and of the irrigation command area.	-Q3/4 2012
19	Updating of the REMDP (Ban Xiengdet RAP to reflect village maps based on topo survey and confirmation surveys, residential site design, revalidation of affected landholdings to take place in the dry season of 2011 and 2012, irrigation command area design, land allocation, detailed livelihoods development plan)	-Q3/4 2012
20	Disclosure of updated REMDP-Xiengdet RAP section to the affected people and on ADB website.	Q4 2012
21	Construction Access Road Nong Tang - Ban Xiengdet	-Dry season 2012/2013
22	Traffic Management and Maintenance Public Access Road Nong Tang - Ban Xiengdet	Starting -Q1 2013
23	Land Acquisition New Irrigation Area; Compensation; Land Allocation; and Securing Land Tenure to Agricultural Replacement Land	Q1-Q2 2013
24	Revalidation and Updating of Household Assets Registration in the Residential Area, Construction Residential Area, Including Houses, Community Buildings, Shops, Businesses, Electricity Connection, Water Supply and Sanitation, and Access, Planting Fruit Tree Saplings	2013, 2014
25	Construction Irrigation System and Command Area	-2013 - 2014
26	Household Income Survey of Economically Displaced Households	2014
27	Set Up Village Focus Groups	2014
28	Set Up of Operation & Maintenance Group of Supplemental Rainy Season Irrigation System	2014
	Flood Protection and Ceremonies for to be Inundated Physical and Cultural Resources	2015
29	Relocation and Development of Home Gardens, Pig Pens, Chicken Coups, Cattle and Buffalo Fencing, at New Residential Area	Dry season Q4 2014
30	Relocation of Households and their Assets to New Residential Area	Dry season Q4 2014
31	Support for Transport during Relocation	Dry season Q4 2014
32	Start of Land Uses at Irrigation System Command Area	-Q2 2014
33	Start of reservoir filling	2016
34	Construction Fish Ponds and Operation Support	2016 - 2020
35	Potential Cash Compensation for impacts on NTFPs collection	2017
36	Introduction Flood Resistant Rice Varieties	From 2017
37	Support to Primary School and Non Formal Education	From 2012

	Activities	Timeframe
38	Support to Fisheries Management	From 2017
39	(Re) Forestation and Biodiversity Conservation/Protection	From 2017
40	Monitoring Income of Economically Displaced Households from Income Sources, Including Irrigated Rice Fields, Flood Resistant Rice Varieties, Fruit Trees, Orchards, Fish Ponds, Livestock and Poultry, Hunting, Fishing, and Collection of NTFPs	From 2017
41	Household Income Survey of Economically Displaced Households	2017 and 2019
42	M&E of resettlement implementation	From start of implementation

7.7 Action Plan 7: Peri-Reservoir Action Plan

672. At the villages of Xam Thong, Long Cheng of Xaysomboun District, Vientiane Province and Nam Sam and Xieng Nga of Phou Kout District, Xieng Khouang Province, households have had opportunities to benefit from development projects in the recent past such as fish farming, rural electrification, and water supply. The peri-reservoir villages may also have benefited from the ADB supported Nam Ngum River Basin Development Sector Project by the implementation of agricultural related activities. Village background information of Xam Thong, Long Cheng, Nam Sam, and Xieng Nga can be found in section 3: Socio-Economic Profile.

7.7.1 Long Cheng

673. During construction phase, the public road from Nam Gnone to Long Cheng will be upgraded. An influx of construction workers is expected but also employment opportunities for the Long Cheng community through a direct involvement in construction activities and the provision of services to contractors and the contractors' workforce. The potential adverse impacts are the increased risks of human trafficking and spread of communicable diseases. The Construction Social Management Plan, outline above, has the objective to minimize these risks.

674. At Long Cheng the project will cause three categories of social impacts caused by land inundation of governmental land. Households will experience minor losses in household income (imputed and cash income) from: (i) collection of NTFPs, (ii) hunting wild life, and (iii) fish catch.

675. The value of losses in household income from reduced opportunities to collect NTFPs, hunt deer and serow, and catch and consume migrating fish species as Pba Ke and Pba Keung will be determined during the participatory household income surveys and inventory of land and water uses to be held at Long Cheng during the dry season of 2011 - 2012.

676. At Long Cheng, the possibility for cash compensation for partial losses of NTFPs, hunting, and fish catch, will also depend on legality of the use of the resources base, to be determined during household income survey and inventory of land uses. The value of the impacts by the project are presently considered to be non significant. Most likely, the project impacts have a total value less than 10 % of annual household income. Cash compensation will then be an option.

677. The amount of cash compensation will also depend on the success of the two development plans to be implemented at Long Cheng: (i) reservoir fisheries management plan, and (ii) the integrated watershed management plan.

678. The fisheries management plan, including sustainable reservoir fisheries will give households living at Long Cheng opportunities for participation in reservoir fisheries after the rainy season of 2016. Avoiding destructive and unsustainable fisheries practices will increase opportunities for households to catch more fish.

679. Households will also have opportunities to participate in the reforestation & biodiversity conservation/protection program implemented by the Ministry of Agriculture and Forestry as part of the integrated watershed management planning in the NN3 catchment area.

7.7.2 Xam Thong

680. Households at Xam Thong do not have any agricultural land uses at the project inundated areas within the village. Household do catch very little fish. Fish consumption at Xam Thong is less than 100 gram

per person per year. The project impact on household fish catch would therefore affect fish consumption in negligible amount. NN3PC will formulate a reservoir fisheries program based on village and household consultations in cooperation with MAF's Department of Veterinary Services, Livestock, and Fisheries. Particularly, households at Xam Thong will have opportunities to get involved in the NN3 reservoir fisheries. At Xam Thong there is an existing access track ending at a tributary to the Nam Ngum River. This tributary will become part of the NN3 reservoir. A fish landing place for Xam Thong fishers can be established by NN3 at the end of this access track.

681. The main adverse impact by the project was identified to be more difficult access to hunting grounds at the other site of the Nam Thone stream. The households agreed with the proposed compensation measure in the form of 2 canoes with paddles.

682. Nevertheless, the project will build capacity of health workers and implement community health outreach programs, including health check, and checkups of sexual transmitted diseases. Households will have also the opportunity to participate in the reforestation & biodiversity conservation/protection programme implemented by MAF as part of the integrated watershed management planning in the NN3 catchment area.

683. During consultations no vulnerable groups could be identified for the resettlement action plan at Xam Thong.

7.7.3 Nam Sam

684. During consultations at Nam Sam the households stated that the sheer distance from the residential area to project affected land is the reason why land uses will not be affected. However, it appeared that 6 households might be adversely impacted starting from the rainy season in 2016 when the reservoir will be filled. These 6 households bring their cattle to project affected areas during the peak of the rainy seasons. The 6 households will be identified during the rainy season of 2011 and during subsequent consultations, replacement land for cattle grazing will be selected and allocated. If no replacement land can be identified, the 6 households will be compensated in cash at a rate to be agreed with affected households, district authorities and the project.

685. The Nam Sam public health centre will be upgraded after which health workers will benefit from capacity building to provide community health outreach programs.

686. The public access road to Ban Xiengdet that passes Nam Sam will be upgraded.

687. Households will have the opportunity to participate in the reforestation & biodiversity conservation/protection programme implemented by MAF as part of the integrated watershed management planning in the NN3 catchment area.

688. During consultations no vulnerable groups, apart from the 6 cattle holders, could be identified for the resettlement action plan at Nam Sam.

7.7.4 Xieng Nga

689. During consultations with households and village authorities of Xieng Nga, it was agreed that there will be no adverse Project impacts on houses, structures, and assets, nor will there be any Project impacts on land uses. Households stated that Project affected land was located too far from their residential area for any land uses and uses of aquatic resources.

690. The public access road to Ban Xiengdet that passes Xieng Nga will be upgraded.

691. Households will have the opportunity to participate in the reforestation & biodiversity conservation/protection programme implemented by MAF as part of the integrated watershed management planning in the NN3 catchment area.

7.7.5 Schedule of peri-reservoir villages compensation plan

692. The schedule to identify households that will be affected by the project due to losses in household income (cash and imputed income) because of impacts on household fish catch, hunting wildlife, and collection of NTFPs is shown in table 7-6. This schedule is integrated with the reservoir fisheries management plan and the public health action plan as well as the compensation measures to be implemented due to expected influx of camp followers.

Table 7-6 Schedule Peri-Reservoir Action Plan

	Activities	Timeframe
1.	Updating of the REMDP - Peri -Reservoir Action Plan to reflect findings of the participatory household income surveys, inventory of land and water uses, confirmation survey for Nam Sam cattle holders, detailed livelihoods development plan for households engaged in fishing, hunting and NTFP collection	Q1 2013
2.	Disclosure of updated REMDP-Peri-Reservoir Action Plan section on ADB website	Q1 2013
3.	Participatory Household Income Surveys and Inventory of Land and Water Uses Long Cheng	-2012
4.	Confirmation Survey, Replacement Land and/or Cash Compensation 6 Cattle Holders Nam Sam	-2013
5.	Confirmation Survey, Replacement land and/or Cash Compensation 6 Cattle Holders Nam Sam	2016
6.	Cash Compensation Households at Long Cheng, if necessary (Losses in NTFPs collection, Fish Catch, and Hunting)	2016
7.	Canoes and Paddles Xam Thong	2016
8.	Reservoir Fisheries Management Plan Consultations and Formulation	2016
9.	Grievances Redress Procedures at Village, District, and Provincial Levels	From 2013
10.	(Re) Forestation and Biodiversity Conservation/Protection	From Q1 2017 to 2021
11.	Reservoir Fisheries Management Plan Implementation	From Q1 2017 to 2021

7.8 Action Plan 8: Downstream Action Plan

693. Of the 7 downstream villages, the two villages of Nam Xan and Nam Pha are located along the public road Nam Ngone to Long Cheng that will be upgraded. The social action planning for the villages of Nam Xan and Nam Pha regarding the public road is included in section 7.3.3.

694. The only potential adverse impacts by NN3 that may occur not earlier than the NN3 reservoir filling will be on fish species that possibly migrate from Nam Ngum River into Nam Pha and from NN2 reservoir into Nam Phay.

695. Such may result in small losses of imputed income and/or cash income by fishing households living in the 7 downstream villages, but only if these fishing households do catch migrating fish species.

696. The participatory field survey in 2012 is intended to gather data to determine if there are households engaged in fishing. If there are households who catch migrating fish, then this will be followed by a one-year participatory household fish catch monitoring to determine value of potential losses.

697. Depending on the outcome of the fish catch monitoring, cash compensation will be provided to affected fishing households for the losses in household fish catch over a 5 year period prior to actual impact.

8 Grievance redress mechanism

698. Most complaints and grievances in resettlement arise mainly due to (i) a lack of transparency, (ii) weak information dissemination, and (iii) implementation procedures without adequate consultations, disclosures, and participation of the affected persons. But, irrespective of how well conceived, planned and executed the resettlement and livelihood restoration programme may be, individual, household, or village complaints are likely to be encountered.
699. Due to different perceptions, values, objectives and responsibilities among different stakeholders, a range of conflicts may occur among and between affected people, government authorities and the Company. This is even more the case where different development projects have adverse environmental and social impacts at the same locations on the same people. In addition, when impacts are felt as a consequence of illegal and/or unsustainable land and water uses in the area of the Project, the situation is even more complex as it is then difficult either to assign one responsible party, or to compensate at full replacement cost to the satisfaction of the land and water users.
700. Moreover, conflicts can arise from differences in official and market rates for all types of affected assets, especially in cases where barely any market rates do exist, or where market rates rapidly change resulting from increase of access to natural resources and/or increased access to markets. In addition, to avoid forced resettlement, mechanisms and procedures have to be established to deal with the opportunistic households.
701. An important step in conflict resolution is conflict avoidance. The consultative and participatory nature of decision making by the various stakeholders is aimed at minimizing the occurrence of disagreements and conflicting positions. In instances where disagreements do occur, it is important that they are resolved quickly and properly before positions harden and the conflict escalates. The earlier a discord is recognized and dealt with, the higher the chances are of a successful outcome.
702. GoL's Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects of March 2010 require the following procedures and mechanism to redress grievances.
703. The phases of conflict development and appropriate interventions can be summarized as follows and are outlined in the flow chart on the next page (Fig. 8-1):
- Conflict avoidance → Consultations, disclosures, participation in planning and decision making;
 - Simple disagreements → Informal negotiation, discussion and mediation;
 - Early conflict development → Reference to Village Grievance Committee;
 - Conflicting positions taken → Reference to Grievance Committee at District level; and
 - Conflicting positions hardened → Reference to Provincial Authorities; and
 - Intractable conflict → Refer conflict to Court of Law.
704. To ensure that the basic rights and interests of project affected people are protected, that their concerns are adequately addressed and that entitlements are delivered, a grievance procedure is outlined below. If an affected person or group is not satisfied with the resettlement or compensation package, or if, for any reason, the compensation does not materialize according to the Entitlement Policy, he or she has the right to make a claim.
705. The Environmental and Social Division of NN3PC, through its Community Development Unit should make every effort to find an amicable settlement to complaints or grievances brought by Project Affected Persons. To pre-empt disagreements being referred to the Grievances Redress Committees at Village, District, and Provincial Levels, and ultimately to the Court of Law, the Project shall address complaints by Project Affected Persons through consultations conducted in a transparent manner to reach consensus at the project level.

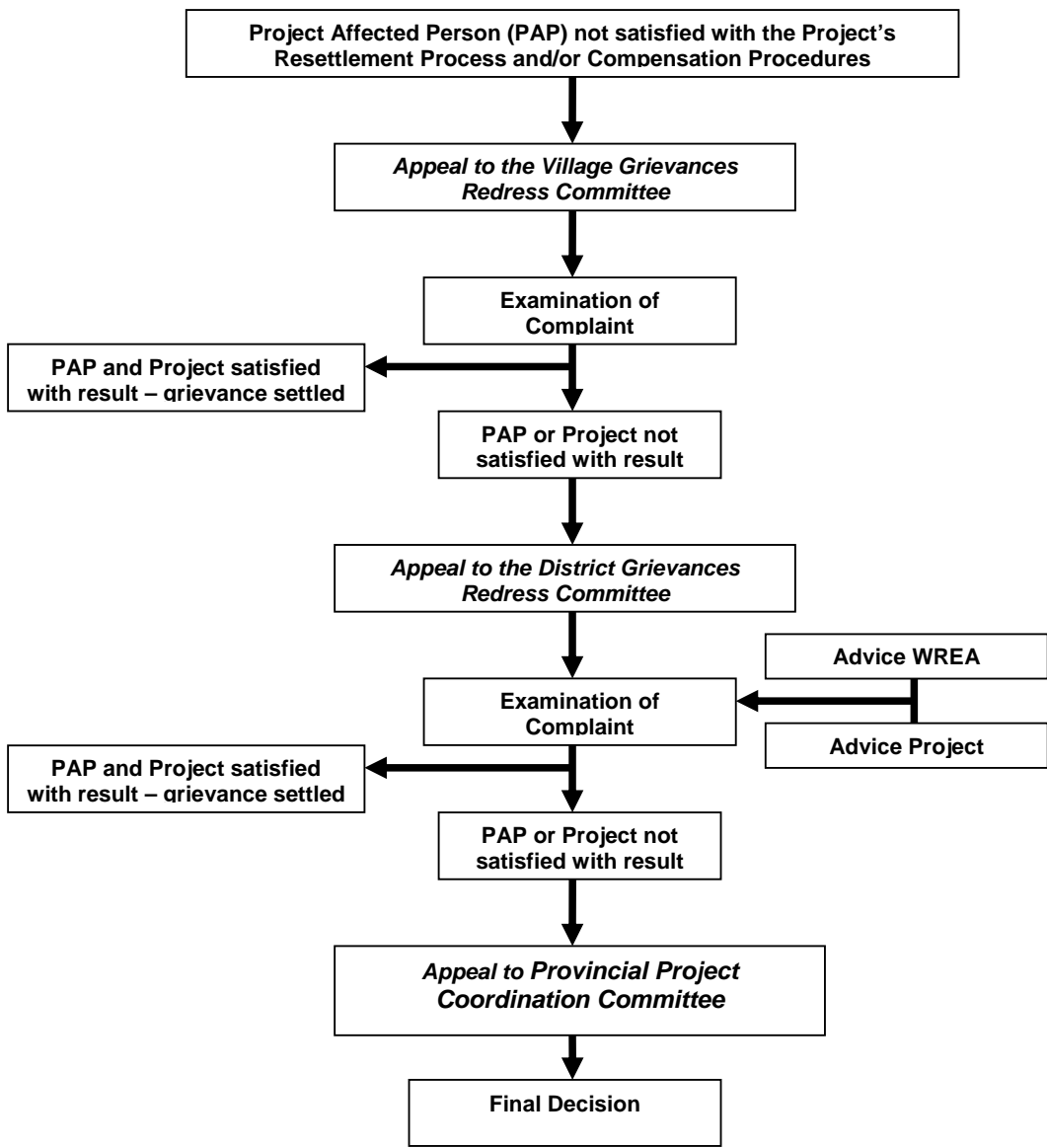


Figure 8-1 Schedule whereby Grievances Redress Mechanism will be applicable

- 706. All complaints and grievances relating to any aspects of the Project or sub project should be properly documented by ESD’s Community Development Unit. If, the Project Affected Person is not satisfied with the decision at project level, the affected persons and/or households can submit a formal complaint. The Grievances Redress Procedures will comprise the following steps.
- 707. The formal complaint by the Project Affected Person will be examined by the Village Grievances Redress Committee, comprising village head, representatives of village authorities, village elders and/or representatives of mass organization, including Lao Women’s Union. The meeting by the Village Grievances Redress Committee will be held in a public place allowing attendance by representatives of Project Affected Persons, local non-for-profit organizations, and Project representatives.
- 708. If the Village Grievances Redress Committee cannot resolve the complaint to the satisfaction of the Project Affected Person and/or the Project during the public meeting to be held within 15 days after formal receipt of the grievance, the next step can be taken, either by the claimant or the Village Grievances Redress Committee on his/her behalf. Representatives of affected people, local non-for-

profit organizations, and mass organizations may ensure that the complaints are forwarded to the Grievance Committee at District Level.

709. Upon approval of the Project by the GoL and prior to start of the resettlement implementation activities, the project authorities will make a formal request to establish District Grievance Redress Committees in each District covered by the Project to address any complaints and grievances pertaining to land acquisition, compensation and resettlement related to Project activities that are brought forward by affected persons. The Grievances Redress Committees shall comprise the following representatives: (i) a local government representative, (ii) village head(s), (iii) representatives of the affected persons other than village heads, (iv) village elders or local representatives of mass organization, (v) representatives of local non-for-profit organizations, (vi) project owner representatives.
710. NN3PC representatives will provide essential information to the committee members on inventories, entitlements, compensation rates, and prior activities undertaken for review of a particular complaint. The Committee must maintain a public book showing all claims received and the decisions made.
711. If the affected people do not receive any response from the Grievances Redress Committee at District Level within 20 days of filing the complaint, or if the matter is not resolved to the satisfaction of the affected people and/or the Company representatives, the representatives of the affected people, local non-for-profit organizations, or mass organization on behalf of the affected persons will submit the complaint to the Provincial Coordination Committee for examination and judgement in consultation with representatives of MoNRE and NN3PC.
712. If the matter still remains unresolved within 20 days after filing the complaint to the Provincial Coordination Committee, the complaint will be forwarded to the Court of Law at the request of the affected people and/or at the request of the representatives of local non-for-profit organizations and mass organization on behalf of the affected people. The Court of Law will follow up with relevant authorities to make the final and binding decision.
713. All administrative and legal costs incurred pursuant to the grievance redress procedures by affected persons or their representatives at Grievances Redress Committees at District Level, Project Head Office and MoNRE, and the Court of Law will be covered by the Project in the cases that the Project has been found responsible for negligence of compensation at full replacement cost of project affected people. Claims of all such costs are to be submitted to the project authorities by the affected people. A copy of the claims should also be submitted to MoNRE for record and information.
714. The Project in agreement with and approval by MoNRE will recruit an independent monitoring team ensuring that the grievances redress procedures is implemented appropriately and timely.

Table 8-1 Schedule whereby Grievances Redress Mechanism will be applicable

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Grievances Related to Project Impacts during Construction										
Grievances Related to Project Impacts during Operation										

715. NN3PC will implement the resettlement activities during the project construction phase to ensure that resettlement activities are fully implemented before the actual impacts occur. Grievances will be addressed by NN3PC during construction phase. Grievances redress procedures at higher than village level will be put in place sufficiently before the start of operation in order to ensure that the affected households are properly compensated well before actual impacts by NN3 occur.
716. NN3PC, in coordination with the contractors, will ensure that appropriate resettlement activities are implemented in time without an increase of scope, delay, or possible hindrance during the construction phase. It is in the interest of NN3PC to administer and redress any grievances related to construction works in a timely and honest manner to avoid any delay in construction.

9 Institutional arrangements and implementation

9.1 Overall E&S organisation of the NN3PC

717. The NN3 Power Company will establish the Environmental and Social Division responsible for implementing and coordinating all the environmental and social measures. The ESD will be headed by an E&S Manager who will report to the Project Manager, and at the same authority level as the Engineering and Construction Manager and the Administrative and Financial Manager. This person shall be responsible for the overall implementation of all environmental and social obligations set in the Concession Agreement, the REMDP and Action Plans describe therein, and the necessary interactions and coordination with the various parties, as shown on the overview of the institutional framework on figure 9.1.

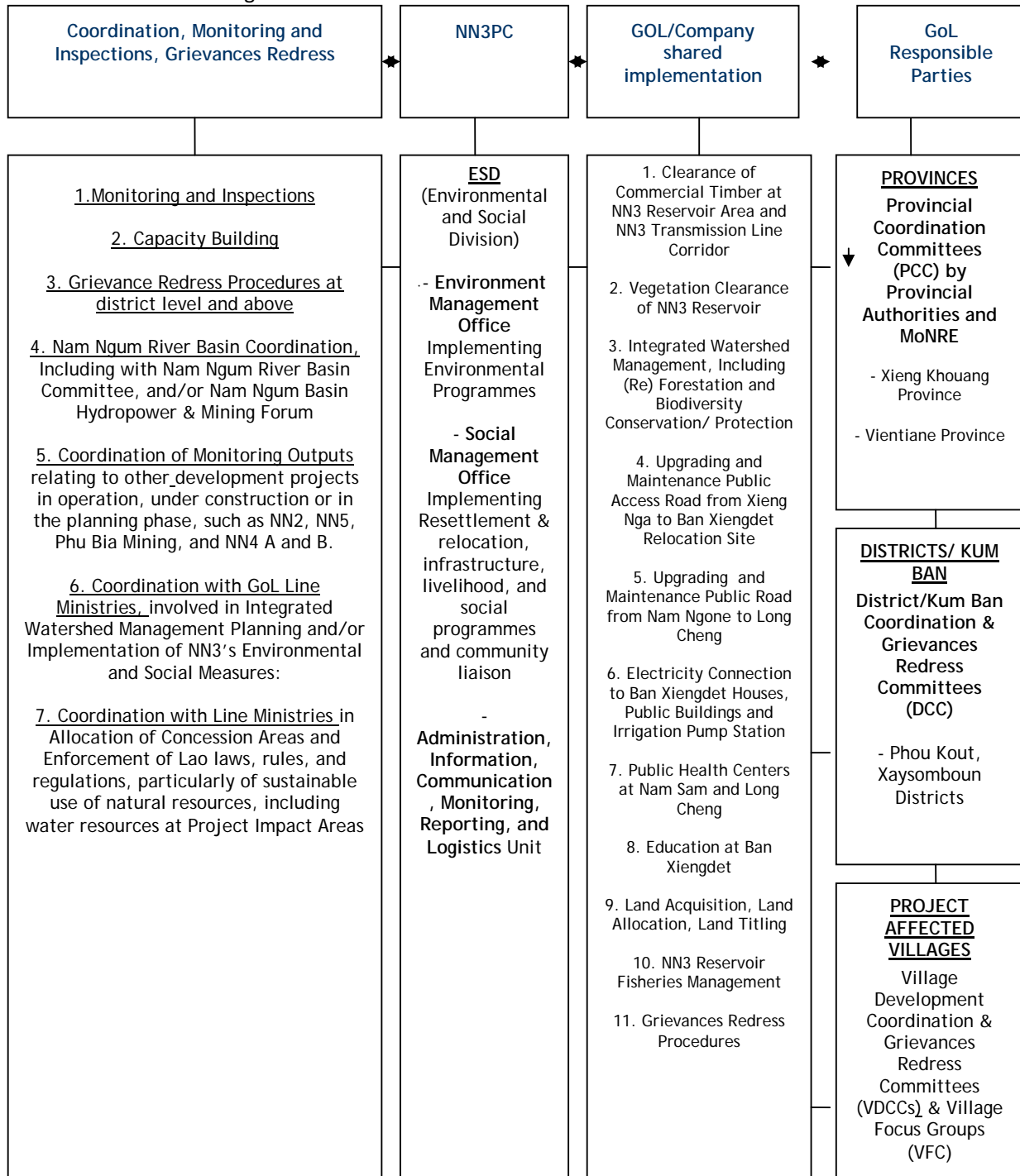


Figure 9-1 Overview of the institutional framework

718. The ESD will consist of the **Environmental Management Office**, dealing with all environmental issues, including in particular (i) the construction sites environmental compliance, (ii) the biomass clearance programme, (iii) the UXO clearance, and (iv) an environmental monitoring laboratory and the **Social Management Office**, dealing with (i) the resettlement and relocation programme, (ii) the infrastructure programme, (iii) the livelihood restoration programme, (iv) the social programme, and (v) community liaison. There will be interactions between the EMO and the SMO.
719. The ESD will have three offices: (i) at the NN3 project office in Vientiane, (ii) an Environmental, Health and Safety Unit based in Xaysomboun District, and (iii) a Community and Livelihood Development Unit based in Phou Kout District or Xiengdet village.
720. Table 9-1 presents the anticipated key staffing of the ESD. It does not include supporting consultants and staff, who will be provided under the various thematic programmes, and work under the supervision of the key ESD staff.

Table 9-1 Anticipated staffing of the ESD

Positions	# pre COD	# post COD
E&S Manager	1	1
Senior administrative assistant & GoL liaison officer	1	1
Administrative assistant	1	1
GIS Officer	1	1
HSE Manager	1	1
Administrative assistant	1	1
Environmental engineer	1	1
HSE inspectors	4	1
Environmental monitoring laboratory (WQ)	1	1
UXO Clearance supervision & coordination	1	0
Reservoir Biomass Clearance supervision & coordination	1	0
Social & Resettlement Manager	1	1
Deputy Social & Resettlement Manager & GoL liaison officer	1	0
Administrative assistant	2	1
Resettlement and relocation officers	4	2
Infrastructure officer (team leader)	1	0
Irrigation engineer (team leader)	1	0
Agriculture support & coordination officer (team leader)	1	1
Livelihoods support officer (team leader)	1	1
Fisheries support officer (team leader)	1	1
Social programme officer (team leader)	1	1
Gender Advisor (Consultant)	1	0
Health officer (team leader)	1	1
Community liaison & grievance officer	2	2

721. The Vientiane project office and the two field offices in Phou Kout and Xaysomboun Districts will also function as public information offices.

9.2 ESD Vientiane Office

722. In anticipation of the environmental and social impacts of the NN3 hydropower project within the Nam Ngum River Basin, GMS Lao, as one of the project shareholders, has recruited consulting firms to prepare, in compliance with the Safeguard Policy Statement of ADB, the ESIA report and the REMDP, and to guide project E&S implementation activities and processes in line with these safeguards documents. The required consultations and information disclosures regarding the project involving key stakeholders held so far have been discussed in section 6 and in Annex B.
723. Key stakeholder engagement activities presently in the process include (i) the signing of the concession agreement between NN3PC and GoL, including the integrated environmental and social obligations, (ii) the loan agreements by IFIs and other lenders, (iii) the awarding by NN3PC of the three main construction contracts, (iv) the opening of the NN3PC project office in Vientiane, and (v) the recruitment of project and ESD staff to monitor and supervise construction and implement the environmental and social measures, including surveying, monitoring, implementation, consultations, information disclosure, reporting, and stakeholder liaison to avoid, mitigate, minimize, compensate, and off set environmental and social impacts.
724. All five mentioned activities are presently in progress and are expected to be completed before main construction activities commence in the dry season of 2011 – 2012. Key stakeholders include Design Engineers, Lenders, Lenders Technical Advisors, GoL, MoNRE, Line Ministries, Provincial Officials, Project Steering Committee, villagers, shareholders of NN3PC, Board of Directors, Contractors, and NN3PC Project Management Staff.
725. From NN3PC Vientiane office, the overall E&S activities will be managed, including the recruitment of the ESD staff and consultants, human resource management, finance and administration. ESD will coordinate surveys, monitoring, consultations, information disclosure, GoL liaison, and report to stakeholders.
726. In addition, ESD Vientiane office will supervise and coordinate field activities to ensure that primary stakeholders, namely project affected households, are compensated in a meaningful, adequate, and transparent manner.
727. The ESD of NN3PC will open field offices at Xaysomboun and Phou Kout District from which the environmental and social measures on the ground, including participatory surveys, consultations and information disclosures will be implemented by staff to be recruited during the rainy season of 2011. To enhance the communication process on the ground, ESD will support project affected households and village authorities, particularly the affected ethnic minorities at Ban Xiengdet, to establish a Village Development Coordination Committee (VDCC) and livelihood development focus groups.

9.3 ESD Xaysomboun Field Office

728. From the field office at Xaysomboun District, ESD will monitor and supervise the environmental measures to be implemented by the contractors, monitor and supervise their occupational health and safety performance, monitor and implement the required community health and safety measures in coordination with the contractors, avoiding, mitigating, and minimizing project impacts and if necessary offsetting impacts and/or compensating households affected during construction works during the period from October, 2011 to January, 2017. These monitoring, supervision, and compensation activities are related to (i) construction sites, (ii) public road from Nam Ngone to Long Cheng, (iii) camp followers, (iv) transmission line, and (v) access roads to power station and dam sites.
729. Key stakeholders will be the NN3 Project Management Staff, including construction supervisors, Contractors, project affected households, village authorities, kum ban and Xaysomboun District officials, and Provincial officials, as well as monitoring agencies including MoNRE, IFIs, Lenders, and an External Monitoring Team, as appropriate.
730. From the ESD field office at Xaysomboun District the field surveys, the monitoring activities, and the required consultations and information disclosures regarding project impacts during operation of the project will be implemented. The field surveys and monitoring activities related to project impacts that potentially will occur not earlier than reservoir filling during the rainy season of 2016 will be

implemented at Xam Thong, Long Cheng, and the 7 downstream villages of Louang Phan Xay, Phan Xay, Nam Pha, Nam Xan, Hom Xay, Nong Pou, and Mouang Phoun. At Xam Thong and at Long Cheng the stakeholder engagement has been started, involving the village authorities, village elders, and the kum ban. Surveys and monitoring will be carried out by ESD at these villages, followed up by consultations, information disclosure, including reporting not only to potentially affected households, but also to village authorities, Kum Ban, Districts, Province, MoNRE, and Lenders. The field surveys and monitoring activities will be implemented in a participative manner, fully involving potentially affected households in administration of their household fish catch (including quantity and fish species), their fishing locations, their fishing gears, and their fishing efforts. The field surveys and monitoring activities regarding impacts that occur not earlier than the rainy season of 2016 will be implemented starting from the dry season of 2012 – 2013.

731. Results of the monitoring activities by ESD from the field office of Xaysomboun District will be reported to key stakeholders as Village, District, and Provincial Authorities, but also to MoNRE, IFIs and Lenders on a quarterly basis. However, analysis, reporting, and disclosure of the survey and monitoring results may be on an immediate and/or periodic basis; such will depend on the monitoring and supervision activities. For instance monitoring by ESD of the occupational health and safety measures to be implemented by the contractors might require immediate action, including reporting and information disclosure, while analysis and information disclosure of field surveys and monitoring of household fish catch will only be meaningful on the longer term as for instance one rainy season or one dry season, or even after one year. Accidents during construction will be reported immediately to MoNRE and relevant Districts.

9.4 ESD Phou Kout Field Office

732. From the ESD field office at Phou Kout District (or Xiengdet village) the activities will be coordinated for Ban Xiengdet, and the peri-reservoir village of Nam Sam. The potential project impacts for the village of Xieng Nga and the 17 upstream villages are likely to be positive. Ban Xiengdet is the only village where all households, of which majority are ethnic minorities, will be physically displaced. Stakeholder engagement at Ban Xiengdet is presently in full development with the involvement of village kum ban, district, and provincial authorities, and will continue to be so. Specific activities and responsible parties for undertaking resettlement activities for affected ethnic minorities and other affected households in Ban Xiengdet are discussed below

Key Activities	Responsible Parties
Resettlement Site Development	
UXO removal at residential site and irrigation Area	NN3PC to provide support
Survey and design of village lay-out	NN3PC in consultation village households Village and district authorities to give formal approval
Construction of new houses and buildings at the Resettlement Site	NN3PC
Upgrading of existing access road to Ban Xiengdet	Phou Kout District and Province of Xieng Khouang have engaged a road contractor.
Conduct of necessary ceremonies for the relocation or protection of physical cultural resources of ethnic minorities in Ban Xiengdet (e.g. spirit houses)	NN3PC and affected village households
Training of the Resettlement site Construction Contractors on chance find procedures, community health and safety, local customs and practices	NN3PC staff at ESD field office at Phou Kout District
Land titling	NN3PC will support the process of land titling
Livelihood Restoration activities	
Allocation of former airstrip to Ban Xiengdet affected ethnic minorities	Phou Kout District and Province of Xieng Khouang to issue a commitment letter
Feasibility study, detailed design and development of irrigation command area and building of a weir in Nam Ting	NN3PC
Introduction of flood resistant rice varieties	NN3PC, contracted technical specialists and affected village households

Key Activities	Responsible Parties
Development of maize fields, banana orchards, fish ponds	NN3PC and affected village households
Provision of fruit trees saplings	NN3PC
Livestock and Poultry - Forage development program, shelter and penning facilities and access to veterinary services	NN3PC
Reforestation activities in Ban Xiengdet area	MAF with support from NN3PC
Upgrading of health center at Nam Sam and capacity building of health workers	NN3PC in coordination with Ministry of Health district officers
Upgrading of Primary School in Ban Xiengdet	NN3PC
Conduct of Meaningful Consultations	
Conduct of consultations during revalidation of asset registration and updating of REMDP	NN3PC, Ban Xiengdet Village Development Committee, Affected Households
Disclosure of updated REMDP in a form and language that affected people can understand	NN3PC Field Staff, Ban Xiengdet Nai Ban

733. NN3PC staff at ESD field office at Phou Kout District (or Xiengdet village) will coordinate all these activities and ensure that necessary resources are provided on time and activities have achieved the desired effect. The NN3PC ESD field office at Phou Kout District (or Xiengdet village) will include resettlement and livelihood officers including a field staff, preferably coming from the same ethnic minority group and with knowledge of Khmu culture. The field office staff will also be responsible for conducting meaningful consultations with affected ethnic minorities during implementation to ensure that they participate effectively in planning, implementation and monitoring and ensuring that women also participate in accordance with the gender balanced targets as described in the GAP.

9.5 GoL Organisation

734. GoL organizational levels will consist of (1) the Provincial Coordination Committees (PCCs), (2) the District Coordination & Grievance Redress Committees (DCC), and (3) the Village Development Coordination Committees (VDCCs).

9.5.1 Provincial Coordination Committees

735. The PCCs shall be appointed by GoL and established in Xiengkhouang and Vientiane provinces. Their responsibilities will be as follows:

- Overseeing and monitoring the planning and implementation of the Social Measures;
- Controlling and supervising the planning and implementation of the Social Measures;
- Giving instructions to DCC, and VDCCs in relation to the implementation of Social Measures.

9.5.2 District Coordination and Grievance Redress Committees

736. The DCCs shall be established by the PCC and work under their supervision and the one of the SMO. Their main responsibility will be the implementation of the resettlement and livelihood restoration activities for the PCC.

9.5.3 Village Development Coordination Committees

737. The VDCCs shall be established by the DCC and their main function will be to implement the implementation of the resettlement and livelihood restoration works under the supervision and instruction of the DCC and the SMO.

738. A Village Focus Group (VFG) will be set up in Ban Xiengdet 3 years prior to commissioning date. NN3PC will be working with the VFG will be in actual implementation of resettlement and livelihood activities for affected households in Ban Xiengdet, including: infrastructure, socio-cultural activities, water supply, sanitation, micro credit, livelihoods, public health, education. In other project affected villages, the scope of livelihood activities will be based on the entitlements for each impact area, which again is a reflection of the anticipated impacts. Members of the VFG will be elected through a process to be agreed with affected people. One way is through secret ballot procedure and tentatively represent the following sectors: crop farming (one man, one woman), large livestock (one man), small livestock (one woman), forestry activities, handicraft & small business, infrastructure, water supply

(one man/irrigation and one woman/ domestic water), micro-credit, public health (one woman), sanitation and hygiene (one woman) and education.

9.6 Coordination & roles of the various parties

739. The overview of the institutional framework is presented on figure 9.1 above. The activities of the various parties will need to be synchronised with important project milestones (signature of the Concession Agreement, Financial Close, start of Preliminary Construction Activities, award of main construction contracts, ...) and the schedule, and progress, of construction activities. Detailed implementation schedules (Gantt charts) will be prepared during the rainy season 2011, and other *ad-hoc* schedules will be developed for activities that will be implemented before this.
740. The actual fieldwork by ESD in the villages, including surveys, monitoring, and compensation activities will be reported during regular meetings with the Provincial Coordination Committees (PCCs), District Working Groups (DWGs), and Village Development Coordination Committees (VDCCs).
741. In the case of Xaysomboun District and Phou Kout District, NN3 is working presently with the District's Kum Ban representatives and Village authorities in the field during additional consultations and planning meetings. NN3 is reporting at Provincial and District Level regarding the outcome of these consultations and meetings.
742. MoNRE at central and provincial levels and the Provincial Coordination Committees (PCCs) will coordinate the involvement of GoL's Line Ministries through the Nam Ngum River Basin Committee (NNRBC) and its Secretariat. The Integrated Watershed Management Activities, including reforestation and biodiversity protection/conservation to be implemented by the Ministry of Agriculture and Forestry will be overviewed by the NNRBC.
743. Other coordination activities by the NNRBC and its Hydropower and Mining Forum will be sought for:
- Agreeing a common grievance framework to address multiple and overlapping impacts, or opportunistic claims to obtain compensation from several different parties;
 - Agreeing common indicators and process for monitoring water quality and fisheries;
 - Early flood warning system and emergency evacuation planning related to dam safety of the cascade of hydropower projects in Nam Ngum River Basin;
 - Agreeing budget allocations to pay for these activities.
744. In addition to the grievances redress mechanism and procedures presented in section 8, a number of activities will be implemented by GoL agencies with support and in coordination by ESMO: (i) salvage logging of commercial timber in the NN3 reservoir area and transmission line, (ii) biomass clearance of the NN3 reservoir, (iii) Upgrading and traffic management of the public access road from Xieng Nga to Ban Xiengdet, (iv) Upgrading and traffic management public road from Nam Ngone to Long Cheng, (v) Upgrading health centers and capacity building of health workers at Long Cheng and Nam Sam, (vi) Education at Ban Xiengdet, (vii) Land acquisition, land allocation, and land titling at Ban Xiengdet and for the transmission line corridor, (viii) NN3 reservoir fisheries management.
745. The *kum ban* representative who is responsible for development activities in a village cluster will enhance the communication between project villages and the District. Presently, NN3PC is directly communicating with village authorities at Ban Xiengdet during meetings attended by the kum ban representative. NN3PC is also having regular meetings with authorities of Phou Kout District regarding the resettlement of Ban Xiengdet, including consultations and information disclosure. This consultation and communication process will be strengthened and improved once a dedicated structure is put in place and operational.

10 Budgets

746. The environmental and social budgets are connected in the way that by avoiding, mitigating, and minimizing environmental impacts, it can be considered that the social impacts will be less severe. The environmental and social budgets of the NN3 project total US\$22M before COD and US\$10.2M after COD, i.e. a total of US\$32.2M.

10.1 The environmental budget

747. The environment budget is organized around the following programmes: (i) the monitoring of the health, safety and environmental protection undertaken by the construction contractors, (ii) the integrated watershed management, (iii) the water quality monitoring and management, and (iv) the construction social management plan.

748. Table 10.1 shows its distribution over the different programmes and over time and provide some information on the nature of the activities involved. The environmental budget totals US\$6.9M before COD and US\$5.3M after COD.

Table 10-1 Environmental Budget

		pre COD (5 years) US\$	post COD (4 years) US\$	Total US\$
1	ESD OVERALL MANAGEMENT, COORDINATION & COMMUNICATION	4,327,400	2,392,450	6,719,850
1.1.1	Overall management of ESD & shared resources (personnel, offices, transport)	735,900	535,200	1,271,100
1.1.2	Health, Safety & Environmental Protection (all HSE programmes) (personnel, offices, transport)	2,274,000	1,176,000	3,450,000
1.1.4	Office, public information centers, accommodation, equipment, vehicles, boats, communication, food, ...	1,262,500	631,250	1,893,750
1.3	Attendance to meetings, monitoring and inspection, strengthening MONRE departments (national and provincial levels)	55,000	50,000	105,000
2	INTEGRATED WATERSHED MANAGEMENT	990,000	2,562,000	3,552,000
2.1	Support for environmental improvement activities in the NN3 catchment area with emphasis on reforestation and biodiversity conservation and protection securing the water quantity and quality on NN3 reservoir inflows and off-setting the NN3 impacts of the reservoir (flooding of forested area) and land take by the transmission line. Access to NTFP by peri-reservoir & downstream communities will be secured.			
3	WATER QUALITY MONITORING AND MANAGEMENT PLAN	1,350,000	350,000	1,700,000
3.1	Demarcation of the limits of the reservoir at Full Supply Level (FSL).	50,000	0	50,000
3.2	Inventory of commercial timber and of the soft vegetative biomass below FSL.	50,000	0	50,000
3.3	Preparation of a salvage logging management plan of the reservoir (below FSL)	100,000	0	100,000
3.4	Preparation of a soft vegetative biomass removal plan in the reservoir	50,000	0	50,000
3.6	Clearance of Soft Vegetative Biomass below FSL of Reservoir (including procurement of equipment required, necessary boat landings, access tracks, ...).	500,000	0	500,000
3.7	Monitoring of Water Levels, Water Discharges, and Water Quality (including NN3PC set up of basic WQ monitoring).	500,000	300,000	800,000
3.8	Clearance of Debris from Reservoir.	100,000	50,000	150,000
4	CONSTRUCTION SOCIAL MANAGEMENT PLAN	290,000	20,000	310,000
4.1	Preparation of a camp followers policy and camp service providers management plan (Objective is to regulate and control the influx of camp followers, ensure proper health and hygiene conditions, guarantee proper water supply, management of liquid and solid wastes, prevent and forbid hunting, trade and consumption of wildlife, human trafficking, ...)	80,000	0	
4.2	Support to Vientiane Province and Xaysomboun District in managing the camp followers, health and human trafficking	80,000	20,000	
4.3	Preparation & dissemination of a code of conduct applicable to all workers, camp followers, staff of the Company and contractors & visitors	30,000	0	
4.4	Overall environmental and social awareness in the project areas (health, human trafficking, unsustainable use of natural resources, PCR)	100,000	0	
	TOTAL ENVIRONMENT BUDGET	6,957,400	5,324,450	12,281,850

10.2 The social budget

749. The social budget is organised around the following programmes: (i) the Public Health plan, (ii) the Ban Xiengdet resettlement and development plan, (iii) the peri-reservoir and downstream action plan, (iv) the management of the social impacts of the transmission line and the new and upgraded public road and associated resettlement action plans.

750. The total social budget amounts to US\$19.9M and is distributed per programme and over time as shown on Table 10-2.

Table 10-2 Overall Social Budget (in US\$)

		pre COD	post COD	Total
1	ESD OVERALL MANAGEMENT, COORDINATION AND COMMUNICATION	4,387,600	2,756,450	7,144,050
5	PUBLIC HEALTH PLAN	880,000	350,000	1,230,000
6	BAN XIENGDDET RESETTLEMENT AND DEVELOPMENT PLAN	8,280,000	906,000	9,186,000
7	PERI-RESERVOIR & DOWNSTREAM ACTION PLAN	650,000	898,000	1,548,000
8	MANAGEMENT OF THE SOCIAL IMPACTS OF THE TL & NEW/UPGRADED PUBLIC ROADS	845,000	0	845,000
	TOTAL SOCIAL BUDGET	15,042,600	4,910,450	19,953,050

10.2.1 ESD overall management, coordination and communication

751. The budget presented on Table 10-3 covers for the cost of management of the various social measures by the ESD, and in particular for all resettlement and livelihood activities, for the operation of the public information centers, but also for the setting up of the various committees required at district and provincial level, including those necessary for the implementation of the grievance redress mechanism. The social part of the ESD budget for management, coordination and communication amounts to US\$7M, including US\$4.33M pre-COD.

752. A significant part of the budget is for the management and coordination of the various social measures. Table 9-1 above presents the anticipated permanent personnel of the ESD. It is however possible that modifications will be necessary. These changes will be made within the overall allocated budget, and if necessary by reallocation of other unused budget lines after agreement with GoL.

Table 10-3 ESD overall management, coordination & communication budget (in US\$)

		Pre COD (5 years)	Post COD (4 years)	Total
1	ESD OVERALL MANAGEMENT, COORDINATION AND COMMUNICATION	4,387,600	2,756,450	7,144,050
1.1.1	Overall management of ESD & shared resources (personnel, offices, transport)	735,900	535,200	1,271,100
1.1.3	Resettlement and livelihood restoration, (personnel, offices, transport)	2,194,200	1,440,000	3,634,200
1.1.4	Office, public information centers, accommodation, equipment, vehicles, boats, communication, food, ...	1,262,500	631,250	1,893,750
1.2	PCCs, DWGs, and implementation of the grievances redress procedures	140,000	100,000	240,000
1.3	Attendance to meetings, monitoring & inspection, strengthening of MONRE departments (national and provincial levels).	55,000	50,000	105,000

10.2.2 Public health plan

753. The budget presented in Table 10-4 has been prepared on the basis of the public health action plan and the health related entitlements presented in section 5. It provides funding for the upgrading of the health centres of Ban Nam Sam and Ban Long Cheng, the development of the capacity of their staff and of health workers, for community health outreach programmes, for health baseline surveys and monitoring, and for dedicated HIV/AIDS, STDs and other communicable diseases prevention programme. The public health plan budget totals US\$1.23M, including US\$0.88M before COD.

Table 10-4 Public health action plan budget (in US\$)

		Pre COD (5 years)	Post COD (4 years)	Total
5	PUBLIC HEALTH PLAN	880,000	350,000	1,230,000
5.1	Upgrading of the Nam Sam public health centre & development of the capacity of its staff	100,000	50,000	150,000
5.2	Upgrading of the Ban Long Cheng public health centre & development of the capacity of its staff	150,000	50,000	200,000

5.3	Capacity building programme of health workers & community health outreach programmes (including Maternal and Child Health Program, family planning and reproductive health information and services) in Ban Xiengdet, Ban Nam Sam, Xam Thong, Long Cheng, and other villages impacted by the TL and public roads.	230,000	100,000	330,000
5.4	Health baseline survey (including collection of gender-disaggregated health data) and regular health monitoring (including monitoring of women and child health) at Ban Xiengdet, Ban Nam Sam, Xam Thong, Long Cheng, and villages impacted by the construction of the TL and the public roads.	200,000	100,000	300,000
5.5	Dedicated HIV/AIDS, STDs and other communicable diseases prevention programme for all villages impacted by the project (including the provision of gender-specific information and services targeting women and men to reduce risks of HIV/AIDS, alcoholism and violence against women)	200,000	50,000	250,000

10.2.3 Ban Xiengdet resettlement & development plan

754. The budget for the resettlement of Bang Xiengdet, livelihoods restoration, social development, monitoring and grievance redress mechanisms total amounts US\$9.18M, including US\$8.28M before COD. It is presented in more details in Table 10.5.

755. The rehabilitation of the road to Ban Xiengdet, passing through Nam Sam and Xieng Nga and the associated social measures are estimated at US\$1.11M pre-COD. The budget of the development of the Nam Dai new residential area totals US\$4.32M pre-COD. The livelihood restoration and development budget amounts to US\$2.35M pre-COD. The budget for social development is set at US\$0.39M pre-COD and covers the cost of a new primary school, education materials and equipment, support to non-formal education and proper management of community PCR. The budget for monitoring and grievance redress mechanism is set at US\$0.11M pre-COD. Details are provided in Annex G.

Table 10-5 Ban Xiengdet resettlement and livelihood restoration budget (in US\$)

		Pre COD (5 years)	Post COD (4 years)	Total
6	BAN XIENGDET RESETTLEMENT AND DEVELOPMENT PLAN	8,280,000	906,000	9,186,000
6.1	Road to Ban Xiengdet			
6.1.1	Rehabilitation of the road to Ban Xiengdet, passing Nam Sam and Xieng Nga.	700,000	0	700,000
6.1.2	Traffic management and awareness programme for the villages crossed by the road	50,000	0	50,000
6.1.3	Provision for compensation	300,000	0	300,000
6.1.4	Maintenance	60,000	60,000	120,000
6.2	Development of Nam Dai residential area	4,320,000	0	4,320,000
	This budget includes: - Design of houses & other structures and overall layout of the residential area; - Household residential land plot allocation & official titling (Land titles will be given in the name of both spouses and will require the presence of both husband and wife on receipt); - Vegetation clearance (as required) and UXO clearance of the new residential area, new access roads and community area (including school, market, ...); - Construction of residential access roads; - Construction of houses, community buildings, shops, structures, disturbance allowance, dismantling and reconstruction; - Electricity connection to houses, community buildings, shops, and irrigation pump station if required; - Water supply and sanitation in the village; - Relocation to the new houses.			
6.3	Livelihood restoration and development			
6.3.1	Pre-feasibility and feasibility study for the optimal development of irrigated agriculture and potential alternatives of the proposed agricultural replacement lands.	150,000	0	150,000
6.3.2	Topographical survey and mapping of the proposed agricultural replacement lands.	50,000	0	50,000
6.3.3	Vegetation clearance (as required) and UXO clearance of the agricultural replacement lands.	150,000	0	150,000
6.3.4	Detailed design and construction of irrigation system and command area (including levelling where required, support and maintenance programmes)	1,000,000	250,000	1,250,000
6.3.5	Agricultural replacement land allocation and titling	80,000	0	80,000
6.3.6	Plantation of fruit trees	20,000	0	20,000
6.3.7	Agricultural support programme (including the potential introduction of flood resistant rice varieties, home gardens, ...) (will also involve other villages impacted by the	300,000	200,000	500,000

	project).			
6.3.8	Livestock support programme (will also involve the other villages impacted by the project)	300,000	200,000	500,000
6.3.9	Fish ponds replacement & support programme	50,000	0	50,000
6.3.10	Other livelihood support programme (e.g. implementation of savings and loans or other credit programs that could ensure that poor and vulnerable women are able to participate)	140,000	0	140,000
6.3.11	Transition allowances and food security	50,000	0	50,000
6.3.12	Support to the most vulnerable households (including support to women-headed households)	50,000	30,000	80,000
6.3.13	Provision of canoes for crossing (and maintenance).	10,000	0	10,000
6.4	Social Development			
6.4.1	Primary school (including girls schooling)			
	Construction of school and teacher(s) residence	100,000	0	100,000
	Education materials	90,000	60,000	150,000
6.4.2	Support to non-formal education (including women's NFE)	100,000	70,000	170,000
6.4.3	PCR: flood protection or relocation of cemetery, other relocation ceremonies (temple ruins and others)	100,000	0	100,000
6.5	Monitoring & Grievance			
6.5.1	Update baseline household income and sources (including data disaggregated by gender and ethnicity)	25,000	0	25,000
6.5.2	Monitoring household income and income sources (including data disaggregated by gender and ethnicity)	65,000	36,000	101,000
6.5.3	Support of implementation of the grievance procedures at the village level (Including dissemination of information in a language and form that is easily accessed by women with low levels of education. Women will also serve on grievance committees)	20,000	0	20,000

10.2.4 Peri-reservoir & downstream action plan

⁷⁵⁶ Table 10.6 presents the budget set for the peri-reservoir and downstream action plan. It amounts to US\$1.54M, including US\$0.65M pre-COD and US\$0.89M post COD. This budget covers for the additional household income surveys and inventory of land and water uses, the proper identification & registration of the households impacted by flooding of community land, the support for the implementation of the grievance procedures and the fisheries management plan in the reservoir.

Table 10-6 Peri-reservoir & downstream action plan budget (in US\$)

		Pre COD (5 years)	Post COD (4 years)	Total
7	PERI-RESERVOIR & DOWNSTREAM ACTION PLAN	650,000	898,000	1,548,000
7.1	Participatory household income surveys and inventory of land and water uses (update of baseline)	40,000	0	40,000
7.2	Identification and registration of households impacted by flooding of community land	10,000	30,000	40,000
7.3	Monitoring Household Income and Household Income Sources	0	40,000	40,000
7.4	Support of the implementation of the grievance procedures	0	20,000	20,000
7.5	Compensation of households impacted by flooding of community land in peri-reservoir villages.	65,000	0	65,000
7.6	Provision of canoes for crossing (and maintenance).	10,000	0	10,000
7.7	Fisheries management plan			
	Update baseline Survey Household Fish Catch (peri-reservoir & downstream).	60,000	0	60,000
	Monitoring Household Fish Catch, Including Fish Species, Fishing Effort, Fishing Grounds, Fish Consumption, Fish Trade, and cash income from fisheries.	400,000	250,000	650,000
	Formulation of Fisheries and Fish Culture Management Plans for Upstream, Reservoir, and Downstream Areas, Including Ban Xiengdet.	50,000	0	50,000
	Implementation of the fisheries and fish culture management plans	0	350,000	350,000
	Potential Additional Cash Compensation of Fishing Households at Peri-Reservoir Villages	0	100,000	100,000
	Potential Additional Cash Compensation of Fishing Households at 7 Downstream Villages	0	50,000	50,000
	Potential Additional Compensation of Fishing Households at 17 Upstream Villages	0	45,000	45,000
	Household Fish Catch Grievance Procedures Ban Xiengdet, peri-reservoir villages, downstream villages, upstream villages.	15,000	13,000	28,000

10.2.5 Management of the social impacts of the transmission lines and public roads

757. The total budget for the preparation and the implementation of the resettlement action plans required for the transmission line and the public roads is US\$0.845M. All this budget should cover the period before COD. An amount of US\$0.52M was set for the transmission line RAP and US\$0.325 for the road RAPs. These amounts and their distribution will be updated once a better knowledge of the real impacts are known.

Table 10-7 Transmission Lines & Public Roads RAP budget (in US\$)

		Pre COD (5 years)	Post COD (4 years)	Total
8	MANAGEMENT OF THE SOCIAL IMPACTS OF THE TL & NEW/UPGRADED PUBLIC ROADS	845,000	0	845,000
8.1	Transmission Line			
8.1.1.	Undertaking of a detailed ESIA of the transmission line	80,000	0	
8.1.2	Independent monitoring of removal commercial timber from Transmission Line corridor and access roads to corridor (removal of remaining biomass shall be the responsibility of the contractors).	40,000	0	
8.1.3	Detailed inventory of landownership, houses, structures, assets, land use, land acquisition, updating of resettlement action plans (including data disaggregated by gender and ethnicity)	50,000	0	
8.1.4	Compensation to affected households (provision for replacement of house and agricultural support programmes) (including livelihood support program targeting women)	350,000	0	
8.2	Public Roads			
8.2.1	Undertaking of a detailed ESIA of the roads	50,000	0	
8.2.2	Detailed inventory of landownership, houses, structures, assets, land use, land acquisition, resettlement action plans required	25,000	0	
8.2.3	Compensation to affected households (provision for replacement of house and agricultural support programmes) (including issuance of titles to husband and wife and design and implementation of livelihood support program targeting women)	250,000	0	

10.2.6 Reallocation of funds, updates of budgets and disbursement of funds

758. As indicated above, a number of costs have been estimated on the basis of the information available at the time of writing of this REMDP. As additional baseline data is going to be collected and updated, it is expected that the cost associated with the various measures will change. Although a provision was always made when the budget was prepared, it is possible that budgets allocated prove to be either under-estimated or over-estimated. The Company will propose twice per year an update of the overall environmental and social budget with suggestions on the way to reallocate funds. These suggestions will have to be approved by GoL and the IFIs.

759. If some of these updates will be part of the regular updates of the REMDP, some other will remain confidential to the GoL and IFIs, so as not to influence the various expressions of interests expected for a number of activities that will be contracted. The real costs of these activities will however be made public once the contracts are awarded and the activities completed.

760. For activities that will be implemented by GoL agencies, the Company shall disburse the funds in annual instalments in the first month of each fiscal year (i.e. after October 1) in accordance with a budget plan prepared and submitted by the GoL agency to the Company and in accordance with a mechanism to be advised. Payment shall be made by cheque or bank transfer in accordance with the written request for disbursement. No payments shall be made in cash or to the personal accounts of GoL agencies employees or on their behalf. The Company shall receive an official GoL receipt for the funds provided.

761. The GoL agencies having received the funds shall undertake internal audits of the implementation of the Annual Work Plan and management and use of the funds every 6 months. The non-personnel costs of these audits shall be included in the annual budget request to the Company. A copy of the internal audit report shall be made promptly available to the Company.

762. The GoL agencies shall also arrange for annual external auditing of the management and use of the funds in accordance with international auditing standards. The external audit shall be undertaken by the State Audit Agency at no additional cost to the project. Should the State Audit Agency be unable to

undertake the audit, the GoL agencies shall arrange with the State Audit Agency for a local firm of auditors to undertake the audit, the cost of which shall be included in the annual budget request. A copy of the draft audit report shall be forwarded to the Company for comment prior to the final version being issued.

11 Monitoring and reporting

11.1 Adaptive Management

11.1.1 Adaptive management approach

763. Adaptive management is a structured, iterative process of optimal decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring.

764. In this way of system monitoring, decision making simultaneously maximizes one or more resource objectives and, either passively or actively, accrues information needed to improve future management. Adaptive management is a tool which should be used not only to change a system, but also to learn about the system. Because adaptive management is based on a learning process, it improves long - run management outcomes. The challenge in using adaptive management approach lies in finding the correct balance between gaining knowledge to improve management in the future and achieving the best short - term outcome based on current knowledge.

765. Adaptive management requires an open management process which seeks to include past, present and future stakeholders. Adaptive management needs to at least maintain political openness, but usually aims to create it. Adaptive management must therefore be a scientific and social process. It must focus on the development of new institutions and institutional strategies in balance with scientific hypothesis and experimental frameworks.

766. Key features of adaptive management are:

- Iterative decision-making (evaluating results and adjusting actions on the basis of what has been learned).
- Feedback between monitoring and decisions (learning).
- Explicit characterization of system uncertainty through multi-model inference.
- Embracing risk and uncertainty as a way of building understanding.

767. Adaptive management initially applied in fishery management received more broad application in the 1990s and 2000s. Adaptive management functions as a systematic process for improving environmental management policies and practices. The adaptive management framework is also applied to other sectors seeking sustainability solutions such as community development. Adaptive management as a strategy emphasizes the need to change with the environment and to learn from doing. Adaptive management applied to natural resources, and the use of the natural resource base makes overt sense when considering ever changing environmental conditions caused by population growth, climate change, and development activities.

11.1.2 Adaptive management for the NN3 project

768. The flexibility and constant learning of an adaptive management approach is also a logical application for organizations seeking sustainability methodologies. Projects such as NN3, pursuing sustainability strategies employ an adaptive management framework to ensure that the organization is prepared for the unexpected and geared for change. During the development phase, consultants have set up the general environmental and social framework for the developer and later the Company, which will be put in place, based on the requirements and agreements by GoL and the IFIs. By applying an adaptive management approach the projects begin to function as an integrated system adjusting and learning from a multi-faceted network of influences not just environmental but also economic and social. The goal of the Project guided by adaptive management principals is to engage in active learning to direct change towards sustainability.

769. Sustainable community development requires recognition of the relationship between environment, economics and social instruments within the community. An adaptive management approach to creating sustainable community policy and practice also emphasizes the connection and confluence of those elements. Looking into the cultural mechanisms which contribute to a community value system often highlights the parallel to adaptive management practices with an emphasis on feedback learning, and its treatment of uncertainty and unpredictability. There are no such things as environmental or social baselines at communities that are relying much on use of natural resources due to population growth, climate change, and development activities.

770. By applying an adaptive management approach to community development the resulting systems can develop built-in sustainable practice. Active adaptive management views policy as a set of experiments designed to reveal processes that build or sustain resilience. It requires a social context with flexible and open institutions and multi-level governance systems that allow for learning and increase adaptive capacity without foreclosing future development options.

771. Changes in environmental and social policies are required to increase the opportunities for sustainable use of natural resources and to avoid the marginalization of project affected households, women, ethnic minorities, and vulnerable groups. Best environmental and social practices do change with the learning curve. Policies, standards, regulations, and compensation unit rates need regular updates.

11.1.3 Adaptive management for the integrated management of the Nam Ngum river basin

772. Environmental changes due to climate change, population growth, and cumulative impacts of different development projects within one watershed put pressure on the natural resource base generally utilized by the poor. Many uncoordinated development activities within one river basin may have significant impacts on the natural resource base utilized by many people in the Nam Ngum River Basin. Integrated watershed planning and river basin management planning do form an important part of sustainable management of water resources.

773. Adaptive management by the project recognizes and deals with risks and uncertainty through long term monitoring and regular analysis not only of the resettlement process itself, but also of the changes in environmental and social background resulting from overlap of environmental and social impacts by the Project and by neighboring hydropower and mining projects.

774. The Project's intention is to work closely with the Nam Ngum River Basin Committee (NNRBC), its Secretariat and its Hydropower and Mining Forum which are currently being established under the auspices of MoNRE. Where impacts can unambiguously and directly be attributed to NN3, the developer will be fully responsible for compensation and mitigation measures. There are 5 areas where it is important for NN3 to work with other concessions holders (Hydropower and Mining Forum) and with the NNRBC and its Secretariat in the Nam Ngum River Basin:

- Agreeing a common grievance framework to address multiple and overlapping impacts, or opportunistic claims to obtain compensation from several different quarters;
- Agreeing common indicators and process for monitoring water quality and fisheries;
- Nam Ngum River Basin Dam Safety Risk Assessment and Emergency Preparedness and Response;
- Cooperating on integrated watershed management for the long-term protection of the reservoirs against rapid sedimentation and potential pollution of reservoir inflows, and agreeing budget contributions for this purpose.
- Agreeing budget allocations to pay for these activities.

775. Without adaptive management and coordination by multi-level governance systems that allow for learning and increase adaptive capacity, the environmental, resettlement, compensation, and social development activities by the many hydropower and mining projects within the Nam Ngum River Basin will be difficult to implement. Approaches to activities and allocation of budgets for the environmental and social measures to be implemented by each different development project in a watershed, sub-basin, and/or a river basin do need guidance and coordination, but may also need instructions and enforcement in many cases.

776. NN3 has allocated annual budgets to MoNRE to increase its efforts in coordinating the multi-level governance systems within Nam Ngum River Basin by the Nam Ngum River Basin Committee, its Secretariat, and its Hydropower and Mining Forum. NN3 is embracing risk and uncertainty as a way of building understanding. However, through NNRBC's and NN3's adaptive management and system monitoring, risks and uncertainties will be reduced in time.

777. During monitoring and subsequent analysis it may turn out that the environmental and social impacts assessments of the project will require updating. It is therefore necessary that the environmental management plans and the social action plans contain confirmation surveys as well as different monitoring activities to better assess the actual adverse, but also the positive project impacts. Instead of marginalizing project affected persons, the project aims to fully compensate project affected

people, but also to implement development measures. Resulting from the updates of environmental and social impact assessments, the actual mitigation, off setting, and compensation measures may need to be adjusted, which may need to be reflected in the presently allocated budgets and financing for these measures.

11.2 Monitoring and Reporting by NN3PC & other parties

778. Monitoring arrangements proposed for the NN3 projects have been discussed at several occasions in consultation with the various parties involved: the persons affected by the project, the Company, the GoL, IFIs and the lenders. The objective was to find the most efficient way to monitor and report progress and compliance with obligations, without burdening unnecessarily any of the parties, disrupting project activities and creating a counterproductive monitoring and reporting fatigue.
779. The monitoring process will adopt an ethnically sensitive approach that takes into account differences in social locations (power/status), culture, and livelihood systems. A key aspect of the monitoring process is the conduct of meaningful consultations with ethnic minorities during NN3PC internal monitoring and independent monitoring by the Independent Monitoring Agency. During site visits, focus groups discussions with affected ethnic minorities will be led by locally trained facilitators. These will be conducted in local language in order to facilitate comprehensive and inclusive communications among villagers. Major dialogues and feedback from local group discussions will be in the Lao language. In the case of Xiengdet, where not all people are fluent in the Lao language, translations of questions, discussions or more abstract concepts aspects will be provided during consultations. During the subsequent updating of the REMDP for Ban Xiengdet, meaningful consultations will be conducted with affected ethnic minorities in Lao and Khmu language. The revalidation of assets for Ban Xiengdet will be undertaken jointly with individual ethnic minority households.
780. NN3PC will respect the existing village leadership and the NN3PC field staff will assist in forming a Village Development Coordination Committee (VDCC). The VDCC will manage the relocation, transition and their village's long-term social and economic development, as well as assist affected persons in the grievance process.
781. Monitoring of resolution of grievances from all affected persons and specifically ethnic minorities will be ensured through the grievance committee at the village and district levels. A record of complaints and grievances will be kept and the semi-annual monitoring reports will provide information on key issues raised by ethnic minorities among other affected peoples.
782. The Village Focus Group (VFG) in Xiengdet and NN3PC will work together to implement resettlement and livelihood activities for affected households in Ban Xiengdet, including: infrastructure, socio-cultural activities, water supply, sanitation, micro credit, livelihoods, public health, education. Composition of the VFG is described in para 737.

11.2.1 Monitoring by ADB and other Lenders

783. Representatives of ADB and lenders will be involved in regular field visits to monitor the project's progress in implementing environmental and social measures. Prior notice will be provided to the project before field visits. ESD's field staff will provide further information of specific local environmental and social activities and help to coordinate interviews with contractors' representatives, village authorities, and project affected households, if required.

11.2.2 Monitoring & inspections by MoNRE

784. MoNRE will have the possibility to carry out inspections at any time, by giving ESD at least one day notice prior to field visits and will be accompanied in the field by at least one representative of ESD.
785. MoNRE and ESD will have meetings after the monitoring and inspections in the field to discuss the recommended improvements to be made in the implementation of environmental and social measures. The outcome of the discussions during these meetings will be reported by ESD in its monthly reports.

11.2.3 Other Monitoring and Visitors

786. Organizations and or officials who want to monitor the project and/or project construction, rather than the environmental and social issues related to the project will be guided by the public relations division of NN3 Power Company, which might involve discussions from ESD staff.
787. These monitors and/or other visitors can make use of the public information centers to be set up by ESD at Vientiane and the Districts offices of Phou Kout and Xaysomboune, where environmental and social documents regarding NN3 can be reviewed. Annual monitoring and progress reports will be made available, as will be additional project information.

11.2.4 Coordination of all environmental and social site visits by the ESD

788. All field visits by any monitor, inspector and visitor shall be coordinated by ESD to minimise disturbance to households as well as disruption to project activities.

11.2.5 Internal monitoring and reporting by NN3PC

789. Starting from the beginning of construction phase in the dry season of 2011 – 2012, the Environmental and Social Division (ESD) of NN3PC will report to GOL, MoNRE, ADB and other Lenders and to the Lender Technical Adviser on a monthly basis. This reporting will cover the various environmental and social activities undertaken during this period and related to the implementation of the active environmental and social programmes. It will present progress against the schedules and milestones set, identify potential difficulties and corrective measures taken, and present the results of its own monitoring against the obligations set in the Concession Agreement.

NN3PC monitoring of construction activities

790. NN3 ESD will undertake, on a daily basis, a compliance monitoring of the contractors' environmental and social activities *as per* the IFC Environmental, Health, and Safety guidelines, the approved Environmental Management and Monitoring Plan, subplans and Site Specific Environmental Plans to be prepared by the Contractors. The contractors are also required to report to the Company about their progress, their monitoring system, and their monitored data on a monthly basis.

NN3PC monitoring of operation activities

791. The environmental and social impacts that will occur during the operation phase starting in January, 2017 have been assessed in the NN3 environmental and social documents. These will be regularly updated, in particular before the start of the operations through confirmation surveys. An Environmental Management and Monitoring Plan specific to the operations phase shall also be prepared before January 2017. It shall cover the issues that will require particular attention and monitoring.

NN3PC monitoring of water quality

792. The project's water quality monitoring program linked to the monitoring of reservoir water levels and water discharges by NN3 power station is described in the environmental safeguard document. This water quality monitoring program takes into consideration the water quality of inflows into NN3 reservoir, the potential for fisheries in NN3 reservoir, and opportunities for uses of water and aquatic resources at downstream locations. The water quality monitoring program starts during the dry season of 2011 – 2012 sampling water quality on a monthly basis. The program will continue till the rainy season of 2016, after which extra water quality sampling points in the reservoir and downstream locations will be added and the sampling frequency for crucial water quality parameters will be increased. The monthly reports by ESD will include the measured water quality parameters and sampling points. Analysis of the water quality data will be on a bi-annual basis (dry and rainy seasons).

NN3PC monitoring of resettlement activities and measures for women and ethnic minorities

793. To avoid negative social impacts by the project, the resettlement activities, including compensation of affected households need to be implemented before the actual project impacts occur. It is for this reason that the Project and ESD will follow an adaptive management approach (see section above). Many things will change between the preparation of this REMDP (April 2011) and the time of occurrence of impacts (rainy season of 2016). The most important change is resettlement. Changes in

land ownership and changes in the value of land and water uses will occur, especially during improvement of access during this period of 6 years.

794. The resettlement process for affected people in Ban Xiengdet will need to be completed before the rainy season of 2016 to avoid that people are negatively affected and/or marginalized. In such situation of risk and uncertainty, there are always people who will be looking for all sorts of opportunities. The Project aims to have all resettlement and livelihood restoration activities well in place before impacts occur during project operation phase providing affected households with opportunities for double cropping. ESD will monitor not only its own progress in resettlement and compensation activities for affected households against an agreed schedule, but also the changes in household income (cash and imputed) from affected land uses, as well as from livelihood restoration and development activities. Periodic surveys will be conducted to monitor the status of restoration/improvement of affected persons housing and livelihoods with all data disaggregated by gender and ethnicity. Specific issues to be monitored in relation to ethnicity are: ethnic composition of households; satisfaction of affected ethnic minorities with the resettlement process; implementation of ethnically sensitive social development and livelihood activities; health indicators by ethnic groups, among others. The monitoring indicators are in Annex E.
795. A confirmation survey at Ban Xiengdet will be carried out, establishing reliable topographical bench marks, verifying areas to be flooded in the rainy season of 2016, and verifying the impacts on land uses at elevations below reservoir flood levels. The survey will also verify the identification of affected households that own or use land at an elevation lower than flood levels. This confirmation survey is planned to be carried out during the dry season of 2011 – 2012. Additional basic resettlement planning activities at Ban Xiengdet in 2011 are the design of houses, the lay out of the new residential area, and the design of the planned irrigation system and command area, indicating the irrigated land plots of each eligible household. These surveys will also provide baseline data for the monitoring that will be undertaken regularly.

Fish catch monitoring programme

796. A participatory household fish catch monitoring program will be established in Ban Xiengdet, Long Cheng, and Xam Thong not only to be able to measure the project impacts on household fish catch, but also to identify the interest of project affected households in reservoir fisheries. This program is proposed to involve the 5 best fishers in each village administering their daily fish catch by filling in forms. During bi-annual group interviews in each of the 3 villages the obtained data will be discussed to confirm fishing grounds, fishing methodologies (including destructive fisheries), fishing efforts, and any changes that may occur in household fish catch. Additional household income surveys will be carried out, separating the project affected village areas and non-affected village areas where households do obtain cash and imputed income from fisheries, collection of NTFP's, and hunting. These monitoring activities and surveys will be carried out at least twice before the wet season of 2016, enabling appropriate cash compensation to affected households, if such appears to be required from information obtained during surveys and monitoring activities. The monthly ESD reports will include the outcome of household fish catch monitoring, bi-annual group meetings, and household income surveys starting at the beginning of the rainy season of 2011.
797. At the downstream villages and the upstream villages surveys are required to confirm if any project impacts can be expected on household fish catch after the rainy season of 2016. If during the village surveys that will be held at all upstream and downstream villages starting in the dry season of 2012 – 2013 it can be concluded that households may be impacted in their household income (trade and consumption of fish) a household fish catch monitoring program will be set up at the villages that will be similar to that monitoring program proposed for Ban Xiengdet, Xam Thong, and Long Cheng. If, during monitoring activities it may turn out that the proposed monitoring schedule and/or targeted fishing households will need adjustments then this will be reported. These household fish catch monitoring activities and surveys will be carried out twice before the wet season of 2016, enabling appropriate cash compensation to affected fishing households, if such appears to be required from information obtained during surveys and monitoring activities.

Monitoring and reporting of water levels in the NN3 reservoir

798. By making available the water levels of NN3 reservoir as well as the Nam Ngum River water discharges downstream of the NN3 power station on a daily basis, the downstream hydropower projects of NN2 and NN1 will have the opportunity to anticipate inflows to their reservoirs and therefore optimize their reservoir management reducing spills over the dams and reducing adverse impacts by flooding at the Vientiane plains. This will be enhanced if other hydropower projects in Nam Ngum River Basin make available their downstream discharges allowing for strengthening the basin wide hydrological model to better anticipate and predict possible changes in reservoir inflows due to rainfall, potential natural disasters (especially caused by typhoons), and climate change. Reliable weather forecasts that include rainfall prediction on longer term than 1 or 2 days will also contribute much to reservoir management optimization, reducing spills over dams. Such reporting will be required after January 2017 when NN3 starts operation and the Nam Ngum River Basin Committee has established their policy, including an early flood warning system at Vientiane plains and emergency evacuation planning related to dam safety of the cascade of hydropower projects in Nam Ngum River Basin.

Monitoring indicators

799. Annex E present the various monitoring indicators that are being considered at this stage. They will be refined at the time of the update of the baseline data and of its analysis.
800. For Ban Xiengdet, the following monitoring main indicators will be used: food security, consumption and expenditure, land tenure security, physical infrastructure (type and availability), education (gender disaggregated), etc.

11.3 External Monitoring

801. The external monitoring team will include well qualified experts in environmental and social monitoring and will have the objective to ensure compliance of the Company activities with its environmental and social contractual obligations. This monitoring will be undertaken mainly for GOL agencies, IFIs, lenders, and the general public. Project affected people, however, do not need to fully rely on external monitoring as they have opportunities to use the grievances redress mechanism presented in section 8 of this REMDP.
802. External monitors will not start their own field surveys or their own monitoring system in the field, but will focus on (i) improvement of the project monitoring activities, (ii) improvement of environmental and social measures to be implemented by ESD including special measures to address impacts on ethnic minorities, (iii) improvement to be made in the grievances redress procedures to be implemented through the Project, and (iv) compliance with agreed entitlements and other obligations.
803. The external monitors will receive the NN3PC monthly progress reports. The team will visit the different project sites during the construction and operation phase of the project on a bi-annual basis. ESD's field staff will provide further information of specific local environmental and social activities. The field visits should not interfere with ongoing construction activities or ongoing resettlement activities, and ESD will help to coordinate interviews with contractors' representatives, village authorities, and project affected households, as required. During site visits, the IMA will hold focus groups discussions with women and affected ethnic minorities which will be led by locally trained facilitators, preferably, in ethnic minority language (e.g. in Khmu in ban Xiengdet).
804. After the field visits, joint meetings will be held with representatives of ESD, GoL agencies, including MoNRE, ADB, and the Lenders, during which the external monitors will make presentations on their findings, including recommending meaningful improvements in the implementation process of environmental and social measures to be followed up by discussion between the parties involved in monitoring and implementation of activities. Minutes of the meetings will be made by ESD and included in the relevant monthly reports to the parties.
805. The external monitoring team will advise on safeguard compliance issues, and if any significant involuntary resettlement or indigenous peoples issues are identified, a corrective action plan or an update to the REMDP will be prepared to address such issues. The corrective action plan or an update to the REMDP will be submitted to ADB for review and disclosed on ADB website. In accordance with

the SPS SR2 (para 31) and SR3 (para 24), NN3PC will not proceed with implementing the specific project components for which involuntary resettlement and/or indigenous peoples impacts are identified until such planning documents are formulated, disclosed and approved. NN3PC will implement the corrective actions and follow up on these actions to ensure their effectiveness.

11.4 Disclosure of Monitoring Reports

⁸⁰⁶ Six-monthly external monitoring reports of the external monitoring team will be made available for public disclosure, either on the project's website, or that of MoNRE, and on ADB website as indicated on Table 11.1. Other reports for public disclosure include Annual Project Implementation Reports, corrective action plans and updated REMDP section for each project component/impact area.

Table 11.1 - Disclosure of Monitoring Reports

Report & documents	Source	Frequency (times/year)	Disclosure
E&S Project Progress reports	NN3 PC	2 during construction, 1 during operation	Yes
Annual Implementation Plan	NN3 PC	1	Yes
Updated safeguard documents (i.e. REMDP for each project component)	NN3 PC	As required	Yes
External Monitoring	External Monitoring Team	2	Yes

Annex A

FIXED ASSETS AND LAND USES AT BAN XIENGDET

Table 1: Houses, Structures and Fixed Assets at Ban Xiengdet, October, 2008.

No.	HH Code	Name of HH Head	Sex of Head of HH	Name of spouse	Sex of Head of HH	Total no. of people in HH	No. of females	No. of children ≤ 15 yrs.	No. of people ≥ 60 yrs.	House	Rice Bin	Rice Mill	Pig Hut	Chicken Coup	Duck Hut	Bird Roost	Shop	Satellite Dish	Garage	Small Garage	Metal Processing Hut	Spirit Hut	Corn Hut	Petrol Shop	Attached Rice Mill
1	2	Phaeng	M	Lae	M	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	3	Phouvang	M	Sisamai	M	2	1	0	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
3	4	Choum	M		M	3	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	5	Minoi	F	Phai	F	4	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	6	Oun	M	Phonesai	M	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	7	Phethouang	M	Souane	M	8	4	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	8	Maimong	M	Maimong	M	3	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
8	9	Thi	M	Boua	M	3	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	13	Santi	M	Thoum	M	6	2	4	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
10	14	Vone	M	Pok	M	5	3	3	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
11	16	Vanphone	M	Mali	M	7	4	2	1	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	1
12	18	Somboon	M	Ouang	M	3	2	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
13	19	Kham Say	M	One	M	9	4	6	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
14	19	Sai	M	Souk	M	2	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	20	Chanphone	M	Sida	M	4	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	22	Khamphou	M		M	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	23	Khamsao	M	Phone	M	5	3	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	24	Khamleu	M	Vane	M	6	3	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	25	Man ae	M	Phone	M	3	2	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
20	26	Sinakhone	M	Gnod	M	3	2	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
21	28	Kham Savath	M	Song	M	5	2	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	29	Vieng Keo	M	Tha	M	9	4	6	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0
23	30	Maihai	M	Bounnam	M	5	2	3	0	1	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0
24	31	Boua Pha	M	La	M	11	7	3	0	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0
25	32	Siengsimma	M	Onesavan	M	7	3	5	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
26	33	Saeng keo	M	Noy	M	9	5	5	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	34	Bounsou	M		M	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	35	Douangchan	M	Phone	M	6	3	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	36	BounKeud	M	Som	M	5	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	37	Leud	M	Keo	M	8	2	6	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	38	Van	M	Khai	M	8	3	4	1	1	1	1	1	0	0	0	0	1	0	0	1	0	0	0	0
32	39	Moui	M	Douangphone	M	12	7	9	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
33	40	Air Noy	M	Douang	M	3	2	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
34	41	Kham	F		F	3	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
35	42	Boun Leuy	M	Vane	M	7	2	4	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
36	43	Boua Phane	M	Ly	M	6	2	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	44	Boun Phet	M	Keo	M	8	3	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	45	Boun Kham	M	Vone	M	7	5	5	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
39	47	My	F		F	3	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	48	Some	F		F	3	3	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
41	50	Douang Ta	M	Boua Vone	M	9	2	5	0	1	1	1	1	0	0	0	0	1	0	0	0	0	1	0	0
42	51	Khamthy	M	Kong	M	9	4	5	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	52	Kham Meuang	M	Saeng Chanh	M	6	2	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	53	Thone	M	Souy	M	6	2	2	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
45	54	Bounmy	M	Say	M	3	1	0	2	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0
46	55	Kham Chanh	M	Da	M	7	5	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	56	Kham Kone	M	Noune	M	6	3	4	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
48	57	Some		Keo		9	5	6	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0

Table 1: Continued

No.	HH Code	Name of HH Head	Sex of Head of HH	Name of spouse	Sex of Head of HH	Total no. of people in HH	No. of females	No. of children ≤ 15 yrs.	No. of people ≥ 60 yrs.	House	Rice Bin	Rice Mill	Pig Hut	Chicken Coup	Duck Hut	Bird Roost	Shop	Satellite Dish	Garage	Small Garage	Metal Processing Hut	Spirit Hut	Corn Hut	Petrol Shop	Attached Rice Mill
49	58	Some Vang	M	Vieng	M	7	3	4	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
50	59	Boualay sonphavor	M	Tha	M	4	1	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	1	0
51	60	Phet Samone	M	Boua	M	7	2	5	0	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	1
52	61	Kham Meung	M	Vane Pheng	M	8	4	6	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
53	62	Kham Sone	M	An	M	8	1	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	64	Boua Heuang	M	Boua Home	M	10	4	6	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	65	Boun Chanh	M	Feuang	M	7	2	3	0	1	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0
56	66	Ked	M	Pom	M	6	3	4	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
57	67	Sing Thong	M	Vane	M	3	2	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
58	68	My	F		F	3	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	69	Seun	M	Keo	M	5	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	70	Boun Yong	M	Thong	M	4	2	2	0	1	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0
61	71	Sy Vone	M	Ngieng	M	10	6	5	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
62	72	Mot	M	In	M	8	4	6	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
63	73	Boun Ta	M	Boua Chanh	M	10	6	7	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
64	74	Som Sanouk	M	Thoum	M	4	2	1	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
65	76	Pheng	M	Bane	M	6	4	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	77	Khem Phone	M	En	M	9	4	5	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
67	78	Boun Sy	M	Boun Nam	M	7	3	5	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	79	My Mai	M	Kham	M	6	4	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	80	Souk	M	En	M	5	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	81	Boua Keo	M	Chan Sy	M	10	4	6	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
71	82	Kham	M	Kham	M	5	3	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
72	83	Thoumma	F		F	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	84	Seng	M	Douang	M	5	3	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	85	Keo	M	Nom	M	4	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	86	Ounbresch	M	Phone	M	6	4	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
76	89	Vieng	M	Seng	M	4	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	90	Lieng	M		M	2	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	91	Ngiem	M	Ta	M	5	2	3	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
79	93	Mai Khot	M	Boua	M	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	95	Thongla	M	Choum	M	4	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81	96	Vieng Phout	M	La	M	3	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82	99	Leud	M	Manh	M	7	2	5	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
83		Boun	M	Bai	M	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84		Boun Thane	M	One	M	3	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85		Dy	F		F	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86		Kham Daeng	M	Siev	M	5	2	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87		Kham Phi	M	Sod	M	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88		Khamsai	M	Soi	M	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89		Mai	M	Sengthian	M	6	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90		Noy	M	Boua	M	6	2	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91		Phetsavan	M	Cheng	M	3	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92		Sai	F		F	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93		Some		One		6	1	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94		Sun	F		F	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95		Thong Phonsavan	M	Saeng Phonsavan	M	3	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
96		Tip	M	Phone	M	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL					509	239	262	24	96	89	16	19	25	1	1	5	9	1	1	2	1	2	2	8

Table 2: Inventory of Agricultural Land Use at Ban Xiengdet, 2007

No.	HH Code	Name of Household head	Sex of Household head	Spouse	Paddy field		Swidden field	Garden		Orchard		Plantation		Fish pond	
					Area (m2)	Certified ownership	Area (m2)	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership
1	2	Pheng	M	Kham	5,000		8,000	1,530	-						
2	3	Phouvong	M	Sisamai	12,000	1	6,000								
3	4	Tanh	M				12,000								
4	5	Bounmee	M	Phai	5,000	1	1,300	5,000	1						
5	6	Oun	M	Sim			5,000								
6	7	Phet	M	Soam	15,000	1	18,000	2,000							
7	8	Moung	M	Moung	2,000	1	1,000	120	1	300	1				
8	9	Thi	M	Bau	12,000		20,000	4		1,000					
9	13	Santi	M	Toum	150,000	1	15,000	500	1						
10	14	Vone	M	Pock	10,000		400								
11	16	Vanhphone	F		20,000	1	15,000	8,000		5,000					
12	18	Somboun	M	Oung	10,000		10,000	25,000							
13	19	Sy	M	Souk			22,000								
14	20	Chanphone	M	Sida			25,000	10,000	1	5,000					
15	22	Khampoon	M	Vanh	10,500		20,000	40	1	80				72	
16	23	Khamsao	M	Phone	9,000	1	8,000	400	1						
17	24	Khamlue	M	Van	10,000		15,000								
18	25	Aea	M	Phone	20,000		500								
19	26	Sinnakhone	M	Yot			16,000								
20	28	Khamsavath	M	Som			18,000	500							
21	29	Viengkeo	M	Silai	15,000		7,000	9,500						60	
22	30	Maihy	M	Bounnum				100							
23	31	Bouapha	M	La	25,000	1		10,000	1	5,000	1	15,000	1		
24	32	Simma	M	Onsavanh	20,000	1	20,000	10,000	1					8,000	
25	33	Siengkeo	M	Noy			20,000	5,000	1	5,000				540	1
26	34	Bounsou	M				10,000	5,000	1	3,000	-				
27	35	Dongchanh	M	Phone			15,000	5,000							
28	36	Bounkherd	M	Som			10,000	8,000	1						
29	37	Bounleard	M	Baukeo	5,000		15,000	117						96	
30	38	Khamphone	M	Phim	10,000		8,000			120					
31	39	Khammouy	M	Doungtone	17,000		30,000	400	1						
32	40	Onnoy	M	Doungsavanh	20,000	1	30,000	1,600						220	
33	42	Lery	M	Vanh			12,000								
34	43	Bauphanh	M	Vee	10,000	-	15,000	120	1					540	
35	44	Bounphet	M	Keo			15,000	300							
36	45	Bounkham	M	Eone	7,000	1	18,000	5,000	1						
37	47	Pho	M		12,000	1	16,000	2,000	1	8,000					
38	48	Som	F		22,000	1	25,000	30,000	1						
39	49	Khampan	F		13,000		15,000	24							
40	50	Douangta	M	Bouavone	16,000	1	12,000	15,000	1					96	
41	51	Khamty	M	Kong	13,562		20,000	20,000		300		2,000			
42	52	Khammung	M	Sengjanh	8,760		8,000	200							
43	53	Thon	M	Som	15,000	1	15,000	5,000	1						
44	54	Bounme	M	Sy	5,000		4,000	2,000							

Table 2: Continued

No.	HH Code	Name of Household head	Sex of Household head	Spouse	Paddy field		Swidden field	Garden		Orchard		Plantation		Fish pond	
					Area (m2)	Certified ownership	Area (m2)	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership	Area (m2)	Certified ownership
45	55	Khamchanh	M	Da	10,000		10,000	3,000							
46	56	Khamkone	M	Noun	16,000	1	5,000	10,000	1						
47	57	Sommueng	M	Keosom	5,000		15,000	15,000							
48	58	Somvang	M	Vieng	10,000	1	20,000	15,000	1	10,000				2,500	
49	59	Boualai	M	Tha	38,000		20,000	2,600							
50	60	Phetsamone	M	Boua	35,000	1		15,000	1	5,000	1			144	
51	61	Merng	M	Vanhpeng	6,000	1	10,000							20	
52	62	Khamsone	M	Arn	9,000		10,000								
53	64	Bounhueng	M	Thone	23,000	1	20,000								
54	65	Boun chanh	M	Fearg	20,000	1	10,000	5,000	1		1				
55	66	Thidsida	M	Pome	16,000	1	18,000								
56	67	Singthong	M	Vanh	7,500		8,000	15,000							
57	69	Sarn	M	Keo			15,000								
58	70	Thong	F		6,500		10,000	165							
59	71	Veevone	M	Ngieng	12,000	1	15,000	500	1	800	1				
60	72	Mod	M	Ain	8,000	1	10,000								
61	73	Bounta	M	Bouachan	22,000	1	20,000	5,000	1		1	5,000		225	
62	74	Somsanok	M	Toum	16,000		15,000			400				3,530	
63	76	Pheng	M	Ban			20,000	600	1						
64	77	Khemphone	M	En			20,000	36							
65	78	Bounsy	M	Bounnam			1,000								
66	79	Mee	M	Kham	8,000	1	10,000	42	1						
67	80	Souk	M	En			6,000								
68	81	Bouakeo	M	Chanhsi	20,000			1,000						4,835	
69	82	Kham	M	Kham	3,000	1	10,000	7,000	1		1				
70	83	Thoumma	M	Seang			15,000	5,000	1						
71	84	Seng	M	Doung			12,000	450	1						
72	85	Keo	M	Nome			10,000								
73	86	Oun	M	Phone			10,000	252							
74	89	Vieng	M	Sieng			10,000								
75	90	La	F				5,000								
76	91	Ngame	M	Ta			23,000	5,000							
77	93	Maikod	M	Boesavanh			10,000								
78	95	Thongla	M	Chum			15,000								
79	96	Vieng B	M	La	800		14,000							60	
80	99	Lerd	M	Manh	8,000		15,000								
81		Khamon	M	Aonh	10,000	1		10,000	1	10,000	1				
82		Aiengthong	M	Sengfong	6,500		20,000	100							
83		Somevang	M		10,000		9,200	120							
84		Vankham	M		15,000		15,000								
85		Phetsavanh	M	Cheng	6,000		8,000	28		6,000					
86		Chen	F				15,000								
87		Dee	F				8,000								
88		Phi	F				15,000								

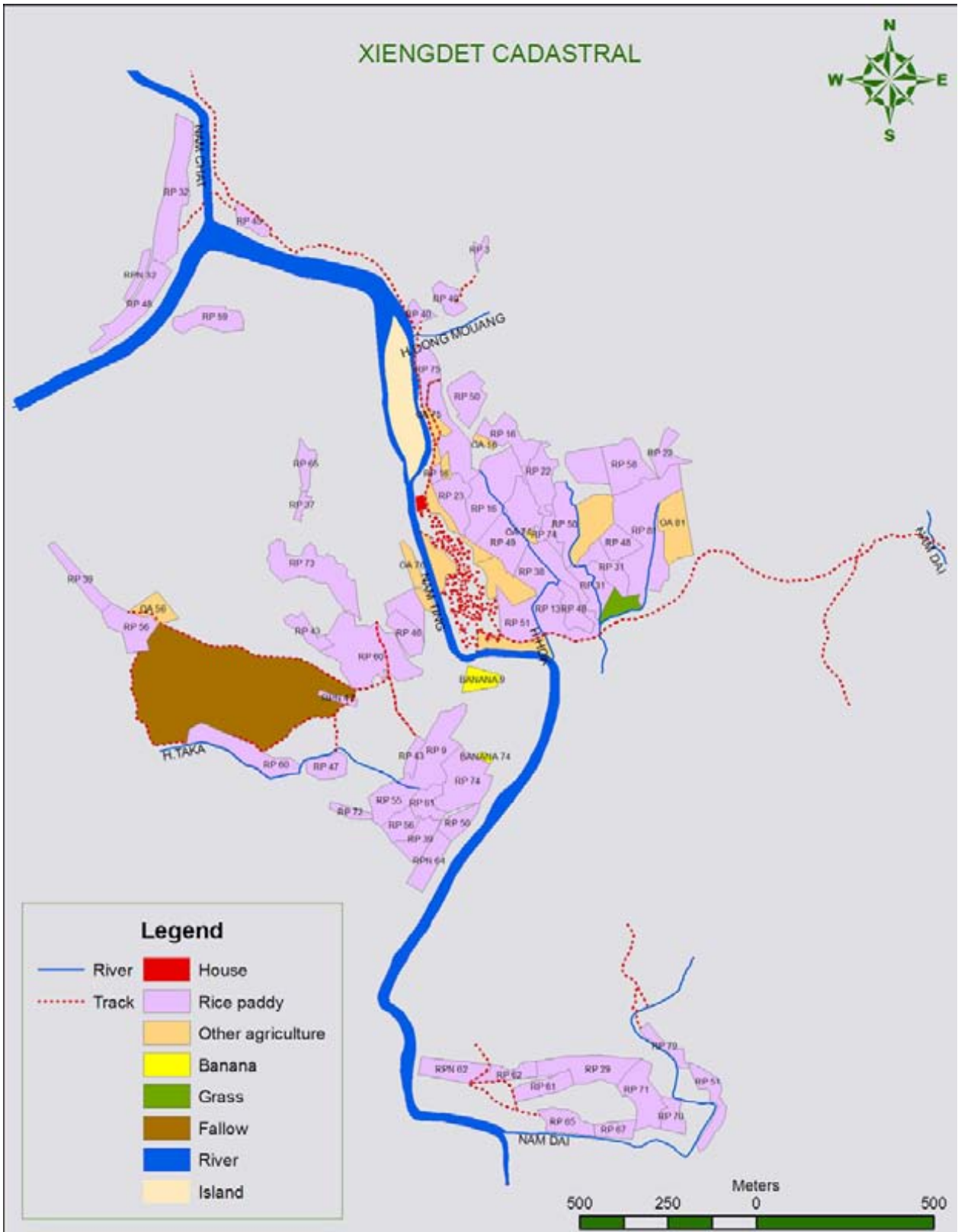


Figure 1: Agricultural Land Uses at Ban Xiengdet, 2007

Annex B

PUBLIC CONSULTATION AND DISCLOSURE

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LIST OF ABBREVIATIONS / ACRONYMS

ADB	Asian Development Bank
COD	Commercial Operation Date
CPSMP	Construction Phase Social Management Plan
DAFO	District Agriculture and Forestry Office
DEO	District Education Office
DHO	District Health Office
DPWT	District Public Works and Transport Office
DWG	District Working Group
EIA	Environment Impact Assessment
GAP	Gender Action Plan
GMS	GMS Power Company
GoL	Government of Lao PDR
HC	Head Contractor
Lao PDR	Lao People's Democratic Republic
LFNC	Lao Front for National Construction
LHSE	Lao Holding State Enterprise
LWU	Lao Women's Union
MEM	Ministry of Energy and Mines
MIC	Ministry of Information and Culture
MoH	Ministry of Health
NTFP	Non-Timber Forest Product
PAH	Project Affected Household
PAP	Project Affected People
PCPD	Public Consultation, Participation and Disclosure
PHAP	Public Health Action Plan
PIC	Public Information Centre
RC	Resettlement Committee
REMDP	Resettlement and Ethnic Minority Development Plan
RMR	Resource Management Research Co.
RMU	Resettlement Management Unit
STEA	Science, Technology and Environment Agency
SIA	Social Impact Assessment
TL	Transmission Line
VDCC	Village Development Coordination Committee
WASH	Water Supply, Sanitation and Hygiene
WREA	Water Resources and Environment Administration (formerly STEA)

1 INTRODUCTION & LEGAL FRAMEWORK

In accordance with the policy of the Government of the Lao PDR (GoL) and the Asian Development Bank (ADB), the developer has engaged villagers, Kum Ban, Districts, and Provinces in public consultation and information disclosure during surveys, interviews, discussions, and meetings.

Background information collected by Norplan during participatory surveys held at villages within the project area in 2007 and 2008 is summarized in the section 3 - Socio-Economic Profile of the REMDP.

Information disclosure and consultations is an ongoing process designed to raise awareness and to ensure that potentially affected people as well as GoL agencies and officials at village, Kum Ban, District, and Provincial levels understand the impacts of the project and reach ultimately an informed consent on how to avoid, minimize, mitigate, off set, and compensate project impacts. In Ban Xiengdet, in particular, consent¹ from ethnic minorities who will be physically displaced was obtained in accordance with ADB's Safeguards Policy Statement (SPS) Safeguards Requirements (SR) 3 on Indigenous Peoples.

By obtaining the concerns, comments, questions and recommendations regarding the project, the developer was then in a better position to design and formulate more detailed environmental and social management and monitoring plans, including approaches and procedures for participation of project affected households in avoiding, minimizing, mitigating, off setting, and compensating project impacts.

In addition to information disclosure and consultations held at the local level presentations, workshop, and a public meeting have been held at the central level with the active involvement of WREA.

These consultations have subsequently been followed up by additional consultations at village and Kum Ban levels to reach a formal consent with the development of NN3 Hydropower Project.

Presently, the general public can obtain the Environment and Social Impacts Assessment (ESIA) of the Project on the ADB website for review and comments.

Table 1-1 contains a summary of NN3's previous stakeholder engagement activities regarding environmental and social issues, including information disclosures and/or consultations held so far.

Table 1-1: Consultations, Disclosures, and Public Meetings regarding Environmental and Social Issues.

Stakeholder Group	Public Consultations and Disclosure, key information, timing and approaches taken
<p><u>Central Level:</u></p> <p>Stakeholders including International Finance Institutes, WREA, other GoL Organizations and Agencies, General Public, and NGOs.</p>	<ul style="list-style-type: none"> • <u>16th January, 2008:</u> National Consultation Workshop. • <u>8th February, 2008:</u> Public Consultation Workshop. • NN3 Presentations to WREA of Environmental and Social Project Impacts, 2010. • <u>From November 2010:</u> Collection by WREA of comments by line Ministries and relevant GoL agencies on the October, 2010 versions of EIA Report and REMDP. • <u>8th December, 2010:</u> Joint Consultation of Department of Environmental and Social Impact Assessment of WREA and NN3PC. • <u>December 2010:</u> Joint Mission of representatives from International Finance Institutions (IFIs): Agence Française du Développement (AFD), Asian Development Bank (ADB), FMO, International Finance Corporation

¹ Consent refers to a collective expression by the affected Indigenous Peoples communities, through individuals and/or their recognized representatives, of broad community support for such project activities (i.e. physical displacement). The SPS also states that broad community support may exist even if some individuals or groups object to the project activities.

	<p>(IFC), and Proparco to discuss with representatives of GoL and NN3PC.</p> <ul style="list-style-type: none"> • <u>January 2011</u>: Publication of NN3 EIA Report on ADB website. • <u>25 January, 2011</u>: Technical Consultation Workshop by WREA and NN3PC to present the revised Environmental and Social Impact Assessment Report in the presence of the Provincial Authorities of Xieng Khouang and Vientiane Provinces.
<p><u>Provincial Level:</u></p> <p>Xieng Khouang & Vientiane Provinces and Vientiane Municipality. GoL Officials</p>	<ul style="list-style-type: none"> • <u>Oct – Nov 2007</u>: Combined provincial and district workshops held in Phou Kout on the 30th October, in Hom on the 2nd of November and in Xaysomboun on the 20th November. • <u>May 2009</u>: Consultation at Xieng Khouang Province. • <u>May 2009</u>: Consultation at Vientiane Province. • <u>May 2010</u>: Consultation and Disclosure at Xieng Khouang Province. • <u>July 2010</u>: Consultation and Disclosure at Vientiane Province. • <u>December 2010</u>: Consultation at Xieng Khouang Province, with IFIs. • <u>January, 2011</u>: Technical Consultation Workshop with WREA and Xieng Khouang and Vientiane Provinces.
<p><u>District and Kum Ban Level:</u></p> <p>Phou Kout, Xaysomboun and Hom. GoL Officials</p>	<ul style="list-style-type: none"> • <u>2007-2009</u>: District and Kum Ban officials have been included in the survey team during fieldwork and village consultations. • <u>May 2009</u>: Consultation at Phou Kout District. • <u>May 2010</u>: Consultation and Disclosure Kum Ban and Phou Kout District. • <u>June 2010</u>: Consultation and Disclosure Kum Ban, Xaysomboun District. • <u>December 2010</u>: Consultation at Kum Ban Xaysomboun District (with the IFIs). • <u>December 2010</u>: Consultation at Kum Ban Phou Kout District (with the IFIs). • <u>January, 2011</u>: Consultation at Kum Ban Phou Kout District (with the Lenders).
<p><u>Ban Xiengdet:</u></p> <p>Villagers, Village Authorities, Kum Ban Officials, District Officials</p>	<ul style="list-style-type: none"> • <u>March 2007</u>: Household and village survey. • <u>July 2007</u>: Inventory of fixed assets carried out. • <u>July 2007</u>: Household Consultations carried out. • <u>October 2007</u>: Gender assessment study carried out. • Several field visits to Xiengdet for resettlement land identification, approval, and planning. • Village leadership participated in District Workshop. • <u>December 2007</u>: Village consultation on resettlement site. • Disclosures, Consultations, and Informed Consent; Asset Registration; and <u>October 2008, January 2009, May 2009</u>: planning resettlement, livelihood and social development activities. • <u>2010</u>: Additional planning meetings UXO clearance and resettlement site preparation, with Kum Ban. • <u>December 2010</u>: Consultation with IFIs. • <u>January 2011</u>: Start of (i) resettlement site preparation by villagers, (ii) UXO screening and clearance by UXO-LAO, and (iii) upgrading access road Nong Tang-Ban Xiengdet by GoL. • <u>January 2011</u>: Consultation, with Lenders. • <u>June-July 2011</u>: <u>Confirmation of consent to resettlement, Reaffirmation of Entitlement Policy for Eligible and Ineligible Households at Xiengdet Village</u>
<p><u>Peri-Reservoir Villages</u></p> <p>Xieng Nga, Nam Sam, Long Cheng (including Nam Ngua), and Xam Thong Villagers, Village Authorities, Kum Ban Officials, District Officials</p>	<ul style="list-style-type: none"> • <u>July and November 2007</u>: Villages surveys and consultations. • <u>May 2009</u>: Consultation, disclosure, and informed consent at Xieng Nga and Nam Sam. • <u>June 2010</u>: Consultation, disclosure, and informed consent at Long Cheng (including Nam Ngua) and Xam Thong. • <u>December 2010</u>: Consultation at Long Cheng (including Nam Ngua), with IFIs • <u>January 2011</u>: Consultation at Long Cheng (including Nam Ngua), with Lenders
<p><u>Downstream Villages (7)</u></p> <p>Villagers, Village Authorities</p>	<ul style="list-style-type: none"> • <u>November 2007</u>: Village and fisheries surveys and village consultations, seven villages.
<p><u>Upstream Villages (17)</u></p> <p>Villagers, Village Authorities</p>	<ul style="list-style-type: none"> • <u>December 2007</u>: Fisheries and livelihood survey, two villages. • <u>December 2007</u>: Village consultations, six villages.
<p><u>Project Construction Land Villages (roads & transmission line)</u></p> <p>Villagers, Village Authorities</p>	<ul style="list-style-type: none"> • <u>September – November 2007</u>: Village and sampled household surveys, and consultations, 12 villages.

1.1 GOL Requirements

The GoL Requirements with regard to public consultation and disclosure are set in the Decree PM/192 on compensation and resettlement of people affected by development projects issued on the 7th of July 2005 and Regulation 99/PM with updated Resettlement Guidelines of March 2010. The requirement and the way they have been addressed are presented in Table 1.2 below.

Table 1-2: GoL Requirements regarding public Consultation and Disclosure in Relation to Resettlement and Compensation by NN3PC.

No.	GoL Requirement	NN3PC status
25.	The Project Owner shall properly and strictly undertake public consultation, participation and disclosure in accordance with the provisions determined in article 12 ² of Decree on Compensation and Resettlement and the Technical Guidelines on Compensation and Resettlement.	<p>Public consultation and disclosure have been carried out in a participatory manner.</p> <p><u>Xiengdet</u>: Consultations with 88 individual HHs and Phou Koot LWU (July '07); disclosure of project impacts and policy; feedback on villagers' concern.</p> <p><u>Xiengdet</u>: Village consultation with 84% of HHs; Phou Koot Governor, LWU and Police; Xieng Khouang Health Office (Dec. '07); resettlement site selection.</p> <p><u>Xiengdet</u>: Village consultation with 100% of HHs; Phou Koot Governors Office, LWU, Defence; MEM (Oct '08); resettlement planning and feedback from villagers.</p> <p><u>Peri-reservoir</u> – 5 villages³ with 38% of HHs; Governors Office and LWU (Phou Koot), Police Office (Xaysomboun) (Nov. '07); disclosure of project impacts and policy; feedback from villagers.</p> <p><u>Upstream</u> – 6 villages with 11% of HHs; Governors Office and LWU (Phou Koot); Planning Office (Phou Koun) (Dec. '07); disclosure of project impacts and policy; feedback from villagers.</p> <p><u>Downstream</u> – 7 villages with 86% of HHs; Police Office, Information and Culture Office (Xaysomboun) (Nov.-Dec. '07); disclosure of project impacts and policy; feedback from villagers.</p> <p><u>Project Construction Lands (TL and roads)</u> – 12 villages with 12% of HHs (Sep.-Dec. '07); disclosure of project impacts and policy; feedback from villagers.</p> <p><u>Phou Koot District</u> – 30th Oct. '07; 30 representatives from village, district, province and central level (see Consultation Report, Appendix 7).</p> <p><u>Hom District</u> – 2nd Nov. '07; 24 representatives from district and central level (see Consultation Report, Appendix 8).</p> <p><u>Xaysomboun District</u> – 20th Nov. '07; 38 representatives from district, province and central level (see Consultation Report, Appendix 9).</p> <p><u>National Consultation Workshop</u> – 16th Jan. '08; 78 representatives from village, district, province and central level (see Consultation Report, Appendix 10).</p> <p><u>Public Consultation Workshop</u> – 8th Feb. '08; 64 representatives from district, province and central level and international organizations (see Consultation Report, Appendix 11).</p>
26.	The Project Owner shall inform all key stakeholders, including women and identified vulnerable groups, of the project objectives, scope, likely impacts, schedules, and compensation, resettlement and rehabilitation options. Information about the project shall also be provided through public meetings held at commune, village or hamlet level and focus group discussions. The Project Owner shall encourage the	<p>Three rounds of meetings held in Xiengdet; one round in other villages (see above).</p> <p>Consultation workshops held at district/province level (see above).</p> <p>Mass organizations (especially LWU) and NGOs active in the area were invited to these workshops.</p>

² § 12 of the Decree PM/192 reads:

1. The project owners shall implement the resettlement program in a participatory manner ensuring that APs, local authorities and other stakeholder are fully informed and consulted and their concerns are taken into account at all stages of the project cycle, particularly during the planning and implementation phases of the land acquisition, valuation and resettlement process.

2. Project owners shall make concerted efforts for an effective public dissemination of information about the objectives of the project, the compensatory package that is part of the resettlement process, through the mass media such as newspapers, radio, TV or public meeting and other means to inform local authorities at provincial, district and village levels and mass organizations, APs and other concerned people as necessary.

³ 2 villages have been amalgamated since. This is why in the REMDP and below in the text of this annex it is made reference to 4 peri-reservoir villages.

No.	GoL Requirement	NN3PC status
	participation of mass organizations, non-benefit organizations and other relevant agencies during the public meetings and focus group discussions.	
27.	The Project Owner shall document details of all public meetings held with all stakeholders with dates, location and the information provided and the major emerging issues. Where public announcements are made, the details, together with a copy of the text of the announcements, shall be included in the documents.	Details of all meetings held together with minutes and summary are documented in the various Consultation Reports (see appendices).
28.	APs should be kept informed of progress of resettlement activities and targets for completion of key activities through using mass media and where possible, through establishment of Public Information Centres at convenient locations.	Public Information Centres will be established in (i) Xiengdet, (ii) Phou Koot, (iii) Xaysomboun and (iv) Vientiane.
29.	The draft Resettlement Plan or Land Acquisition and Compensation Report shall be disclosed to Project Affected Persons in a form and manner they can understand and in an easily accessible place. Project Affected Persons shall be given an opportunity to comment on the draft Resettlement Plan or Land Acquisition and Compensation Report before it is finalized. The final detailed Resettlement Plan or Land Acquisition and Compensation Report will also be disclosed to Project Affected Persons and in provincial and district offices.	Key features of the REMDP have been presented at consultation covering all households in Xiengdet, and will continue to be so (updated version of the REMDP).
30.	For projects that will involve any ethnic minority groups, the Project Owner shall ensure that the strategy for addressing the issues is formulated through participatory process and that ethnic minority groups participate in decision-making throughout project planning, implementation, monitoring and evaluation. Further, the Project Owner shall ensure meaningful consultation and participation following the steps that will include: a) information dissemination will be in the local language; b) a tribal representative/leader and relevant agency representative or a social scientist knowledgeable in the ethnic minority group's history and tradition will always be present in all discussions with clusters of ethnic groups; and c) all meetings will be properly documented and shared with the concerned ethnic minority groups.	Ethnic minority groups in Xiengdet and throughout the project area have been involved in the consultations listed above. a) Disclosure has been in written Lao with verbal translation in local language (Khmu and Hmong). For English version, see Consultation Report, Appendices 1, 2, 3, 4; b) Ethnic minority group were represented at all meetings; c) All meetings have been documented and have been shared with all villagers including ethnic minority groups in subsequent meetings.

[†] Numbers refer to relevant Articles in the Regulations (2432/STEA) for Implementing Decree PM/192.

1.2 ADB's Consultation and Participation Requirements

ADB's requires borrowers/clients to “engage with communities, groups, or people affected by proposed projects, and with civil society through information disclosure, consultation, and informed participation in a manner commensurate with the risks to and impacts on affected communities.”⁴

In particular, it requires that borrowers/clients put meaningful consultation processes into practice.

The SPS defines meaningful consultation as a process that

- (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle;
- (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people;
- (iii) is undertaken in an atmosphere free of intimidation or coercion;
- (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and

⁴ ADB. 2009. *Safeguards Policy Statement*. Manila

- (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

With respect to projects that include the following activities: (i) commercial development of the cultural resources and knowledge of Indigenous Peoples; (ii) physical relocation from traditional or customary lands; and (iii) commercial development of natural resources within customary lands under use that would impact the livelihoods or cultural, ceremonial, or spiritual uses that define the identity and community of Indigenous Peoples; the SPS requires that the borrower ascertain whether the affected Indigenous Peoples communities provide their broad support to the project activities, and where such broad community support exists, the Indigenous Peoples Plan (IPP) will clearly document the consultation process.

NN3PC has engaged communities affected by the NN3 HPP (villages in the reservoir, peri-reservoir, downstream, upstream and project construction land areas) in a dialogue to understand their concerns, and ensure their choices are documented in the design of the development processes affecting their lives.

Table 1-3: ADB SPS Requirements regarding public Consultation and Disclosure in relation to Involuntary Resettlement and Indigenous Peoples and Compliance by NN3PC.

No.	ADB SPS Requirement	NN3PC Status
SPS 54	ADB's requires borrowers/clients to "engage with communities, groups, or people affected by proposed projects, and with civil society through information disclosure, consultation, and informed participation in a manner commensurate with the risks to and impacts on affected communities." In particular, it requires that borrowers/clients put meaningful consultation processes into practice.	Meaningful consultations were undertaken with affected people, including affected ethnic minorities, in the various project impact areas. These consultations shaped the entitlements package in the REMDP and the public health action plan, gender action plan, construction social management plan.
SPS 55	With respect to projects that include the following activities: (i) commercial development of the cultural resources and knowledge of Indigenous Peoples; (ii) physical relocation from traditional or customary lands; and (iii) commercial development of natural resources within customary lands under use that would impact the livelihoods or cultural, ceremonial, or spiritual uses that define the identity and community of Indigenous Peoples; the SPS requires that the borrower ascertain whether the affected Indigenous Peoples communities provide their broad support to the project activities, and where such broad community support exists, the Indigenous Peoples Plan (IPP) will clearly document the consultation process. ADB will review the borrower's/client's documentation of the engagement process, and in addition, through its own investigation, will assure itself that broad community support for the project activities has been demonstrated by the affected Indigenous Peoples communities.	The NN3 HPP require the physical relocation of ethnic minorities in one village - Ban Xiengdet. NN3PC has obtained the consent of the affected ethnic minority communities and has documented the consultation process as shown in this Annex. For other project components for which the alignment or final design has not been prepared, the REMDP include arrangements to obtain the consent of affected ethnic minorities who will be physically displaced. The documentation of the consent process will be included in the REMDP for that component/impact area. The documentation of the consent process includes the minutes of meetings, signed agreement and asset registration forms signed by households. ADB and other lenders also fielded a mission in Ban Xiengdet in December 2010 to validate this consent. The mission concluded that NN3PC has obtained the consent of affected peoples in Ban Xiengdet to the resettlement site and the replacement land.
SPS SR2 26	The borrower/client will submit the following documents to ADB for disclosure on ADB's website: (i) a draft resettlement plan and/or resettlement framework endorsed by the borrower/client before project appraisal; (ii) the final resettlement plan endorsed by the borrower/client after the census of affected persons has been completed; (iii) a new resettlement plan or an updated resettlement plan, and a corrective action plan prepared during project implementation, if any; and (iv) the resettlement monitoring reports.	The draft REMDP will be posted on ADB website prior to the ADB Management Review Meeting for the NN3 HPP project. The REMDP and its updates will be posted on ADB website. Semi-annual monitoring reports will be submitted to ADB for posting on ADB website.
SPS SR2 27	The borrower/client will provide relevant resettlement information, including information from the documents in para. 26 in a timely manner, in an accessible place and in a form and language(s) understandable to affected persons and other stakeholders. For illiterate people, suitable other communication methods will be used.	The principles of resettlement and compensation as presented in the REMDP have been disclosed to PAPs. The draft REMDP was presented to the PAPs and the final version of REMDP will be disclosed to PAPs. Information was disclosed in hand-outs, oral presentations and through discussions using local languages (for English version of hand-out, see Annexes).

SPS SR2 28	<p>The borrower/client will conduct meaningful consultation with affected persons, their host communities, and civil society for every project and subproject identified as having involuntary resettlement impacts. Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The borrower/client will pay particular attention to the need of disadvantaged or vulnerable groups, especially those below the poverty line, the landless, the elderly, female headed households, women and children, Indigenous Peoples, and those without legal title to land.</p>	<p>Meaningful consultations have been initiated as early as July 2007 and project and resettlement information disclosed in a timely manner. All consultations were conducted free of intimidation or coercion. Intensive consultations were conducted with villagers in Ban Xiengdet and during those consultations, women and youth and vulnerable groups were present and have actively participated. The views and concerns of affected people have influenced the project design, the entitlements and benefits package in the REMDP and shaped the future consultation activities to be conducted during the REMDP update process and its subsequent implementation.</p>
SPS SR3 10	<p>The borrower/client will undertake meaningful consultation with affected Indigenous Peoples to ensure their informed participation in (i) designing, implementing, and monitoring measures to avoid adverse impacts on them or, when avoidance is not possible, to minimize, mitigate, and compensate for such effects; and (ii) tailoring project benefits that accrue to them in a culturally appropriate manner. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The consultation process and its results will be documented and reflected in the Indigenous Peoples plan (IPP).</p>	<p>Meaningful consultations were undertaken with affected ethnic minorities in the various project impact areas. These consultations shaped the entitlements package in the REMDP and the public health action plan, gender action plan, construction social management plan.</p>
SPS SR3 12	<p>When the borrower/client and the affected Indigenous Peoples have serious differences and disagreements in relation to the project, its components, or the IPP, the borrower/client will undertake good faith negotiations to resolve such differences and disagreements.</p>	<p>No major differences have been identified so far. However, further consultations during implementation aim at bridging potential differences.</p>
SPS SR3 20	<p>The borrower/client will submit to ADB the following documents to disclose on ADB's website: (i) a draft IPP and/or Indigenous Peoples planning framework, including the social impact assessment, endorsed by the borrower/client, before appraisal; (ii) the final IPP upon completion; (iii) a new or updated IPP and a corrective action plan prepared during implementation, if any; and (iv) the monitoring reports.</p>	<p>The draft REMDP will be posted on ADB website prior to the ADB Management Review Meeting for the NN3 HPP project. The REMDP and its updates will be posted on ADB website. Semi-annual monitoring reports will be submitted to ADB for posting on ADB website.</p>
SPS SR3 21	<p>The borrower/client will provide relevant information, including information from the above documents in a timely manner, in an accessible place and in a form and language(s) understandable to the affected Indigenous Peoples and other stakeholders. If the Indigenous Peoples are illiterate, other appropriate communication methods will be used.</p>	<p>Information was disclosed in hand-outs, oral presentations and through discussions using local languages (for English version of hand-out, see Annexes). Consultations were conducted with assistance from field staff belonging to Khmu ethnic minority group.</p>

2 CONSULTATIONS FROM 1998 TO 2007

During field work carried out by RMR from 1998 to 2002, discussions were held with villagers regarding possible resettlement activities and locations. However, proper consultations were not held⁵ and were not documented, nor a formal endorsement from the affected persons sought. Nonetheless, it is clear from the consultants reports that some time was spent explaining to villagers the impacts of the NN3 Hydropower Project. Excerpts from the RMR report reveal that:

The Consultants have not attempted to secure this level and type of endorsement, because of the following complications;

- 1. Until the Project secures approvals and finance it is seen as too uncertain to start surveying potentially affected stakeholders about events which may not take place.*
- 2. There is no operational reason to have a lengthy period of consultation with the 220-270 villagers who will be significantly affected, as the measures required to fully mitigate for the consequences of the Project can easily be carried out in a few years, well before these consequences take effect, if started when construction works commence.*
- 3. It is spurious to suppose that public participation exercises carried out many years ahead of the planned construction events can, in most developing countries, produce credible endorsements of hydropower projects.*

RMR Consultants adopted therefore the following approach:

- 1. In all contacts and discussions with householders and village officials, the Consultants have taken pains to explain that the Project is still at an early planning stage. Villagers were advised that there is still no certainty that the Project will be developed.*
- 2. Householders and village officials were informed that if the NN3HP receives final approval and financial support, NN3D would immediately form Village Mitigation Committees in all affected villages, to work directly with householders to give them the best possible information on the Project's likely impacts on villages and their affected production systems.*
- 3. Householders and village officials were advised that the final form of any mitigation and compensation measures would be worked out in full and equal consultation with them, and would not be imposed. Any such measures would, as far as possible, be carried out by the villagers themselves.*

The development of the project was then suspended until 2006, when an update of the ESIA was found necessary. Field work, and the associated public consultation and disclosure, did not restart before March 2007. The public consultation and disclosure activities presented below are from the period starting in 2007.

⁵ There is no documentation for any consultation held with affected villages, or government officials at district, province or national level in the period 1998-2001.

3 PCD AT VILLAGE LEVEL

Village level consultations have been carried out in all project affected areas with the assistance of respective district staff. Initially, the district staffs were the liaison between the consultation team and the villagers. However, the district staff also gain invaluable experience and insight into the project and work processes.

It has been attempted to have a mixed composition of the teams carrying out consultations in terms of gender and ethnic background. All consultations had male and female members except for one event in Xiengdet regarding resettlement site selection – only one male team member took part there (see Table 3-1). Khmu and Hmong team members took part in village consultations in most project areas except Xiengdet.

Table 3-1: Team Composition for Village Consultations.

No.	Time	Activity	Project area	Male	Female	Lao-Tai	Khmu	Hmong
1	July 07	Household consultation	Xiengdet	1	2	3	-	-
2	Sep. - Nov. 07	Village consultation	Project Construction Land	4	3	7	-	-
3	Nov. 07	Village consultation	Peri-reservoir	2	2	1	2	1
4	Nov. 07	Village consultation	Downstream	2	1	1	1	1
5	Dec. 07	Village consultation, re. resettlement	Xiengdet	1	-	1	-	-
6	Dec. 07	Village consultation	Upstream	1	2	2	1	-

3.1 Ban Xiengdet – Broad Community Support

3.1.1 General issues – Impact and Policy

The new SPS issued in 2009 requires that the Company ascertain the consent of affected Indigenous Peoples communities to the following project activities where Indigenous Peoples groups are deemed to be particularly vulnerable: (i) commercial development of the cultural resources and knowledge of Indigenous Peoples; (ii) physical relocation of Indigenous Peoples from traditional or customary lands; and (iii) commercial development of natural resources within customary lands under use that would impact the livelihoods or on cultural, ceremonial, or spiritual uses of the lands that define the identity and community of Indigenous Peoples. The process of obtaining consent from affected ethnic minorities in Ban Xiengdet started in July 2007. At that time, ADB's 1998 *Indigenous Peoples (IP) Policy* was applicable and therefore used as the guiding document. The 1998 IP Policy requires that "*Initiatives should be conceived, planned, and implemented, to the maximum extent possible, with the informed consent of affected communities, and include respect for indigenous peoples, dignity, human rights, and cultural uniqueness.*" This key policy principle has been applied by the Company in the strictest sense and consent was obtained from ethnic minorities getting displaced in Ban Xiengdet.

Even though villagers of Ban Xiengdet in general know that the NN3 HPP will affect their village, many villagers did not have detailed knowledge about impacts or the compensation that they will be offered in terms of resettlement and livelihood support. Therefore, household consultations with all households in Xiengdet were carried out in July 2007. The objectives were to:

- Explain to the households all potential impacts resulting from the NN3 HPP.
- Present the NN3 draft resettlement policy, i.e. what the project intends to do in terms of resettlement, livelihood and social development.
- Obtain the opinions, concerns and suggestions from each household.

Although the objective of the consultations did not include getting the consent of the population getting displaced as the main objective, the extensive and inclusive consultations that followed facilitated the consent at a later stage. This was further facilitated by the fact that the consultations were undertaken by a female local specialist from the Khmu ethnic group.

A briefing paper was provided to all households presenting the expected impacts of the NN3 HPP and the principles of the draft resettlement policy (see Appendix 1).



Figure 3-1: Household Consultation on NN3 HPP in Ban Xiengdet, July 2007.

The opinions, concerns and suggestions collected from each of the 88 households consulted have been collated and are summarised in Table 3-2, below. Two thirds of the households are concerned whether they will receive full compensation for any loss or damage incurred. It is crucial for the entire resettlement process that the villagers feel assured that they will receive such full compensation. Another major concern raised by almost three quarters of households is that compensation should be paid in kind and not as a cash payment. As a general rule, significantly affected people (which include all villagers in Xiengdet) will receive compensation in kind, i.e. through resettlement, livelihood restoration and improvement and social development.

Table 3-2: Opinions, Concerns and Suggestions connected to the NN3HPP and related Resettlement raised during Household Consultation, July 2007.

	Issues raised by Households	No. of HH	% of Total
A	Policy		
1	Full compensation for loss/damage	59	67%
B	Principles		
1	Compensation in kind not cash	64	73%
2	Relocate within Xiengdet territory	12	14%
3	If a family relocates to another village will a new house be provided there?	2	2%
4	If some families wish to purchase paddy fields elsewhere can they receive cash compensation for flooded farmlands?	2	2%
5	Will currently uncultivated paddy fields be eligible for compensation?	2	2%
C	Infrastructure		
1	Construct shorter access road from Ban Somboun	74	84%
2	Professional design and supervision of new village layout including provision for sanitary animal pens	64	73%
3	Convenient potable water	63	72%
4	Lighting/domestic electricity	59	67%
5	Proper supervision of house construction & relocation	16	18%

	Issues raised by Households	No. of HH	% of Total
6	Desire permanent sanitary toilets for each house	5	6%
7	Install appropriate irrigation system to enable dry-season cash crop cultivation	5	6%
8	Some farmlands may not be flooded but it is requested to replace access tracts which become impassable	3	3%
9	Construct in-village marketplace	2	2%
D	Livelihood		
1	Support agro-forest activities alternative to hill rice	39	44%
2	Provide support for developing new farmlands	34	39%
3	Willing to support the GoL policy on dam construction but anxious that livelihoods will be improved	26	30%
4	Ensure local supply of genetic materials for plants /animals alternative to hill rice	13	15%
5	Install fish cages	3	3%
E	Social Issues		
1	Clinic in village, permanently staffed and equipped with functional Village Medicine Chest	63	72%
2	Improved schooling, at least to P5 level, with adequate teachers, books and teaching materials	61	69%
3	Provide assistance in transporting materials and possessions to new village site	4	5%
4	Perform appropriate ceremonials for relocating objects of spiritual significance	3	3%
F	Management		
1	Request continuity of follow-up by developer for several years following relocation	26	30%

Table 3-3 presents these issues raised during the consultation and the response from NN3PC.

Table 3-3: Issues raised during Xiengdet Household Consultations, and NN3PC Response.

Issue	NN3PC response
A. Policy	
Full compensation for loss/damage	All impacts from the NN3 HPP will be compensated.
B. Principles	
Compensation in kind not cash	Compensation in kind will be through resettlement, livelihood activities and social development, not cash.
Will currently uncultivated paddy fields be eligible for compensation?	Yes, if they are affected by the Project.
Relocate within Xiengdet territory	This is the wish of Xiengdet villagers and district officials. NN3PC support this.
If a family relocates to another village will a new house be provided there?	If alternative resettlement site is preferred by some villagers, these will be given a one-time cash compensation.
If some families wish to purchase paddy fields elsewhere can they receive cash compensation for flooded farmlands?	Yes.
C. Infrastructure	
Professional design and supervision of new village layout including provision for sanitary animal pens	The Company will prepare a resettlement site layout with houses, barns, livestock pens and community buildings. Villagers will be consulted on layout and house design.
Convenient potable water	A water supply system will be installed with a tap for each 15 households.
Proper supervision of house construction & relocation	House construction and relocation process will be supervised by the Company.
Some farmlands may not be flooded but it is requested to replace access tracks which become impassable	If fields become inaccessible due to the Project, owners of these fields will be compensated.
Construct shorter access road from Ban Somboun	Based on villager preference NN3PC will support an access road from the new resettlement site to Ban Nam Chat and make some repair of the road from Xiengdet to Nong Tang.
Lighting/domestic electricity	Electricity will be supplied to all households. User fees will be paid by each household and community buildings.
Desire permanent sanitary toilets for each house	Sanitary toilets will be provided to each new house.
Install appropriate irrigation system to enable dry-season cash crop cultivation	Dry season irrigation will be installed as one of several options for livelihood restoration.
Construct in-village marketplace	The road to Ban Nam Chat will provide access to the newly established market there.
D. Livelihood	
Support agro-forest activities alternative to hill rice	Various agro-forestry activities will be supported.
Provide support for developing new farmlands	Three options are considered: dry season irrigation, terracing and flood protection of paddy field area.

Issue	NN3PC response
Willing to support the GoL policy on dam construction but anxious that livelihoods will be improved	The Company will support livelihoods in many different ways.
Ensure local supply of genetic materials for plants / animals alternative to hill rice	Yes, some varieties will even be flood resistant.
Install fish cages	Focus will be on land-based aquaculture.
E. Social Issues	
Provide assistance in transporting materials and possessions to new village site	The Company will provide transport of all movable assets to the resettlement site.
Perform appropriate ceremonies for relocating objects of spiritual significance	Adequate ceremonies will be supported based on consultations with the community.
Clinic in village, permanently staffed and equipped with functional Village Medicine Chest	Expansion of the Health Centre in Nam Sam will be supported in addition to local facilities in Xiengdet.
Improved schooling, at least to P5 level, with adequate teachers, books and teaching materials	A new primary school will be constructed at the resettlement site and support will be given to equipment.
F. Management	
Request continuity of follow-up by developer for several years following relocation	The Company will follow closely for 5-6 years after relocation to ensure obligations are met.

3.1.2 Resettlement Site Selection

A consultation meeting was held 16th December 2007 to inspect and confirm the resettlement site proposed by the villagers of Xiengdet. The site is located approximately 1.5 km east of the current village settlement in a location called Nam Dai. The site is well within the village boundary (see Figure 3-2).

The meeting was attended by the District Governor and other officials from Phou Koot District and 99 villagers, representing 76 households (or 84%).

The conclusions of the meeting were:

- 1 The meeting unanimously confirmed the proposed resettlement site on the Nam Dai⁶ (see report from the meeting, Appendix 5).
- 2 A reliable source of domestic water has to be found, either through pipes or from a spring at Nam Dai stream.

The NN3PC is looking into these technical options together with GoL officials through a feasibility study and will provide technical recommendations once they become available.

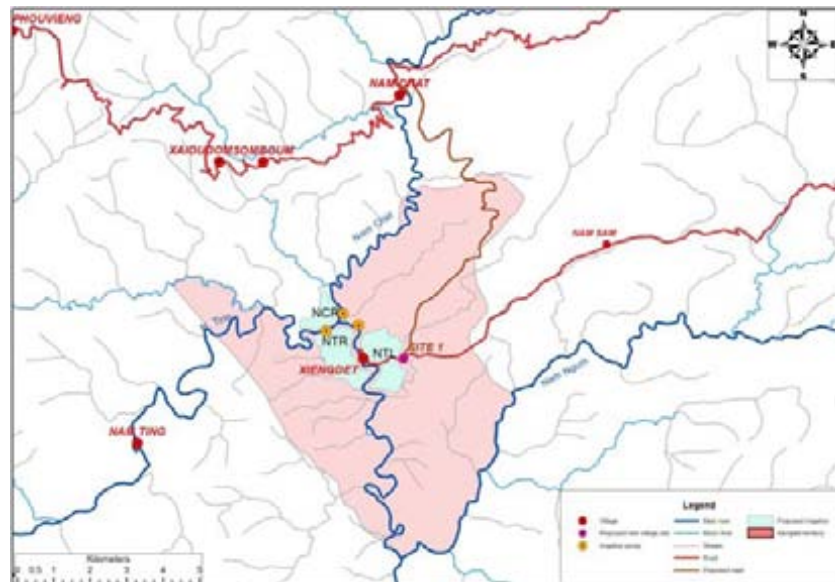


Figure 3-2: Location of agreed Resettlement Site, Xiengdet.

⁶ This is referred to Phou Din Daeng in the minutes as it is known to district staff. However, Xiengdet villagers refer to it as Nam Dai after the nearby stream.

3.1.3 Feedback and detailed Discussion

Another round of consultation was held in Xiengdet on 8-9 October 2008 with the participation of villagers and district authorities.

Objectives

The objectives of this round of consultation were:

- To provide feedback to the villagers regarding their concerns raised at the household consultations in July 2007⁷;
- To present further details on the resettlement policy, including entitlements, grievance procedure;
- To present details on resettlement, livelihood development and social development activities and a schedule for these; and
- To obtain feedback from villagers on these issues.

Participants

At the time of the consultation, there was 96 registered households in Xiengdet as well as eight households which have arrived within the past year and have not been accepted by the village authority as residents. All these 104 households were represented by 344 participants at the two days consultation. Of these, 103 were women and as many men, while the remaining were children.

Outcome

All villagers confirmed their willingness to move and to move to the resettlement site suggested at Nam Dai, provided that their concerns regarding water supply, livelihood activities and all domestic, agriculture and commercial structures to be constructed are being addressed. Much of the discussion focused on the timing of various activities (e.g. construction of new houses) and how this would tie in with villagers' carrying out their normal livelihood activities. See Appendix 6 for the entire workshop report.

All participants took part in a group discussion, which led to the identification and prioritization of concerns and recommendation for the development activities (see Table 3-4).

Table 3-4: Village Resettlement and Development Plan Proposals.

No	Development proposal	Group request								Total
		1	2	3	4	5	6	7	8	
1	Road from Ban Somboun to Xiengdet to Nong Tang	/	/	/	/	/	/	/	/	8
2	School: primary, secondary schools and teachers	/	/	/	/	/	/	/	/	8
3	Permanent houses, latrines, kitchens	/	/	/	/	/	/	/	/	8
4	Health center	/	/	/	/	/	/	/	/	8
5	Water Supply	/	/	/	/	/	/	/	/	8
6	Rice barns, house for rice mills and for tractors	/	/	/	/		/	/	/	7
7	Electricity with mobile phone antenna	/	/	/	/	/	/	/	/	8
8	Fishponds	/	/	/	/	/		/	/	7
9	Market	/	/	/	/	/	/	/	/	8
10	Land for rice fields, gardening, and houses	/	/	/	/	/	/	/	/	8
11	Irrigation channel for wet and dry season				/		/	/	/	4
12	Animal raising			/			/	/		3
13	Village Meeting Center, village office	/	/	/	/		/	/	/	7
14	Handicrafts, silk weaving			/	/					2
15	Land titling	/	/	/				/		4
16	Higher education, adult education			/						1
17	Temple for Buddhists			/	/			/	/	4
18	Sports fields			/	/			/	/	4
19	Village fencing						/	/	/	3
20	Revolving fund for villagers with low interest		/		/		/	/		4

⁷ This issue was downplayed as participants preferred to focus on current concerns.

No	Development proposal	Group request								Total
		1	2	3	4	5	6	7	8	
21	Training and employment opportunities for young people		/				/			2
22	Training on new fishing techniques and other business activities							/		1
23	Establish 1 big/medium rice mill in the village				/	/	/	/		4
24	Fishing boat	/			/		/			3
25	Community ferry for crossing rivers, and community car for transport				/		/			2
26	Seedlings for cash crops						/			1
27	Teaching materials for students and teachers						/			1

Group 1: The village authority; Group 2: The LWU; Group 3: The youth; Group 4: The village security;
 Group 5: The elderly; Group 6: The village unit leaders; Group 7 and 8: Villagers.

The main concerns centered on infrastructure issues such as houses, road, schools, a health center, water supply, electricity, and a market as well as land and land access.

The responses from NN3PC are listed in Table 3-5.

Table 3-5: NN3PC Response to Development Proposals from Xiengdet Consultation, October 2008.

No	Development proposal	NN3PC Response
1	Road from Ban Somboun to Xiengdet to Nong Tang	i. Xiengdet - Nong Tang access road: partial upgrading of existing access road at certain locations to enable passage during rainy season. ii. Xiengdet - Nam Chat access road: existing foot track, upgrading for use by bike, motorbike, hand tractor after feasibility study.
2	School: primary, secondary schools and teachers	Construction of a new primary school. Support to secondary school construction, pending allocation of teacher from GoL.
3	Permanent houses, latrines, kitchens	i. Permanent houses with kitchen, latrines and other facilities will be provided to each eligible household. ii. Relocation of structures (e.g. shops, mills, storage huts, barns, antennas, fences) will be supported by the project.
4	Health center	Upgrading of existing health centre in Nam Sam. Additional health services will be supported in Xiengdet.
5	Water Supply	Domestic water supply will be provided at resettlement site for houses (15 houses per tap) and community buildings, including spare parts and tools, capacity building in operation and maintenance.
6	Rice barns, house for rice mills and for tractors	The project will support relocation of existing structures.
7	Electricity with mobile phone antenna	Electricity will be provided (transformer and connections) but each household will have to pay their own electricity consumption. The Project will not support mobile phone antenna.
8	Fishponds	Fish culture will be intensified in existing fish ponds by training, however the production time will be reduced due to flooding. New fish ponds will be provided to replace losses in fish catch. This shall depend on household impact and livelihood priorities by individual households.
9	Market	By providing an access road to Ban Nam Chat, Ban Xiengdet villagers can make use of the recently constructed market facility in Nam Chat for marketing their products.
10	Land for rice fields, gardening, and houses	At the resettlement site, land is available for houses, community buildings, shops, rice mills, and other structures, water supply, and village road for all households in the village. Each house plot will be large enough to include home gardens and fruit trees. The Project will support various options for paddy rice land: i. New paddy rice land at village areas that will not be inundated to be identified and developed, ii. To be inundated paddy land during dry season turned into dry season irrigated paddy, iii. To be inundated paddy land protected from flooding, or iv. A combination of (i), (ii), and (iii).
11	Irrigation channel for wet and dry season	Dry season irrigation will be provided as an option (see above - 10).
12	Animal raising	Support will be provided on training in livestock rearing and veterinary services, depending on household impacts and household priorities.
13	Village Meeting Center, village office	The existing village meeting center provided by NN 3 will be relocated and upgraded. If the village establishes and construct a temple, NN 3 will contribute to its

No	Development proposal	NN3PC Response
		construction. A site for the temple should be allocated at the new resettlement site.
14	Handicrafts, silk weaving	Handicrafts, silk weaving will be supported depending on household priorities, in cooperation with the Xieng Khouang Sericulture Centre.
15	Land titling	The Project will support district authorities with the land title process, with expertise from other provinces, if needed.
16	Higher education, adult education	Adult education will be supported (literacy, numeracy) pending on interest among villagers.
17	Temple for Buddhists	The Project will provide a public meeting facility or temple. The village will have to make a choice.
18	Sports fields	A sport field will be established next to the new primary school. Area to be maintained by villagers.
19	Village fencing	The Project will support fencing, to keep livestock in designated areas.
20	Revolving fund for villagers with low interest	The Project will support such funds within certain sectors, if households can agree on sustainable management of such funds,
21	Training and employment opportunities for young people	Young people will be offered training opportunities alongside with adults. Employment will be offered in terms of Food for Work.
22	Training on new fishing techniques and other business activities	Training on fishing techniques will be offered by the Project.
23	Establish 1 big/medium rice mill in the village	The project will support relocation of existing rice mills.
24	Fishing boat	Provision of fishing boats will be considered based on further consultations.
25	Community ferry for crossing rivers, and community car for transport	i. Nam Ting will not be significantly more difficult to cross ii. A community vehicle for transport during village relocation will be considered.
26	Seedlings for cash crops	To be considered based on local preferences. In collaboration with the nursery in Nong Tang (supported by ADB).
27	Teaching materials for students and teachers	Teaching equipment will be provided initially.

Although villagers have heard about the Project since 1993 and much data has been collected from them since then, they were keen to participate in the household asset registration survey which followed immediately after the consultation meeting of 8th October 2008. During the consultation meeting on 8th October 2008 (see pages 20-21 Appendix 6), it was explained and ascertained that each household represented understood the issues discussed (i.e. cut-off date, grievance procedures, setting up of committees), supported the land titling and their resolution to resettle, and that by having their names registered in the list of participants, and which includes the consultants involved and the authorities, they consented to what was discussed. Furthermore, when each household was individually consulted for the purpose of registering their assets, they had the opportunity to express their opinion and understood the purpose of registering their assets. They have all taken part in the asset registration and no opposition was reported. A summary of this survey is presented in Annex A.

Conclusion

Villagers are keen to participate in further data collection and the coming planning and implementation activities. The keen interest was shown by the attendance and active discussion. The villagers expressed their willingness to move to the resettlement site at Nam Dai. They further conveyed the hope that NN3PC together with GoL agencies and village structures will support the socio-economic development of the village following the GoL poverty reduction strategy.

3.1.4 Current situation at Ban Xiengdet

Additional joint resettlement planning meetings held at Ban Xiengdet and Phou Kout District during 2009 and 2010 were related to (i) UXO screening and removal at the resettlement site, (ii) construction of a new primary school with additional class rooms to be built at the selected resettlement site, (iii) upgrading of existing access road to Ban Xiengdet that was in poor condition, (iv) the timing and selection of possible livelihood activities to be supported by NN3PC, after the

required additional topographical surveys and feasibility study of a planned rainy season supplementary irrigation system at agricultural replacement land are completed, and (v) the issue of settlement of opportunistic households and trade in assets, including land. The issue of entitlements of opportunistic households was addressed through good faith negotiations⁸ with the affected ethnic minorities through the Village Grievance Committee established in Ban Xiengdet and with the cooperation of the district government.

A concern was raised in Ban Xiengdet about a mining company which undertook explorations at Ban Xiengdet and informed farmers and village authorities that they would turn the former airstrip into a commercial mining operation. In response to this concern, NN3PC submitted a request to the Ministry of Energy and Mines (MEM) to give priority to land concession for irrigation rather than mining. NN3PC was informed that MEM is not aware of any mining concession to be awarded on this area of land. In December 2010, NN3PC facilitated a meeting between Lenders, representatives of Xieng Khouang Provincial Government and Phou Kout district government as well as from the MEM provincial office. The issue of the mining concession was discussed and the provincial and district officials confirmed that the local airstrip is not being considered to be used by any mining company and that there are no mining concessions in the Ban Xiengdet village area. NN3PC will further pursue this issue, ensure that all replacement lands will be specifically mentioned in the NN3 concession agreement and work towards obtaining a commitment letter in writing from the district government with endorsement from provincial government that the airstrip is allocated to eligible affected people in Ban Xiengdet and that there will be no mining concessions on any Ban Xiengdet land including the riverbed of Nam Ting river.

Presently, at Ban Xiengdet a village-level grievance process is in place, community consultation in Khmu and Lao languages has taken place, entitlements and eligibility for these entitlements has been discussed and agreed. It can be considered that at Ban Xiengdet, the affected ethnic minorities, and the district authorities, have reached consent or broad community support with the NN3 Hydroelectric Project (see Appendices 5 & 6), both in terms of the location of the resettlement site, replacement agricultural land, livelihood restoration activities and other entitlements. Household fixed assets have been registered and the cut-off date (completion of the household fixed assets survey) was approved by the village and district authorities (October, 2008) setting the eligibility of the households in resettlement and livelihood restoration activities to be implemented and funded by NN3PC. The consent of affected ethnic minority households was validated during the Lenders consultation with Xiengdet villagers, where villagers present reiterated that they have accepted the resettlement site. They also expressed frustration about the delays and the fact that they missed out on a lot of development opportunities while waiting for the project to come.

Between 22 June and the first week of July 2011, NN3PC obtained the signatures (thumbprints) of all eligible households, on the original 2008 forms, signifying their concurrence with the information collected in October 2008 and their acceptance of their relocation to the proposed and agreed resettlement site. EcoLao also conducted consultations with the non-eligible households reiterating their ineligibility to physical relocation benefits and installed a notification board informing the local population of the prohibition of new installations in Ban Xiengdet. The results of the EcoLao fieldwork are presented in Appendix 13. No objections were raised by both eligible and ineligible households during these consultations. Consultations with affected households were conducted in Khmu and proceedings were photographed and videotaped as there is no written form of Khmu.

⁸ Good faith negotiation involves (i) willingness to engage in a process and availability to meet at reasonable times and frequency; (ii) provision of information necessary for informed negotiation; (iii) exploration of key issues of importance; (iv) mutually acceptable procedures for the negotiation; (v) willingness to change initial position and modify others where possible; and (vi) provision of sufficient time to both parties for decision making.

3.2 Peri-reservoir Villages

Village consultations were held in November 2007 in the four peri-reservoir villages⁹, the villages that will be partly affected by the reservoir inundation: Nam Sam, Xieng Nga, Xam Thong and Long Cheng (including Nam Ngua).

The objectives of the consultations were to:

- Conduct a village level survey;
- Provide information about the NN3 HPP; and
- Identify problems and recommendations as ascertained by the village leaders.

All villagers were invited to the meeting with special reference to women, as they often let their husband represent the household. The consultation meetings were attended by, on average, 38% of the households, ranging from 21% in Nam Ngua to 87% in Xam Thong, (see Table 3-6). The attendance of women ranged from 10 to 41 participants per village. In average 32% of the participants at the five meetings were women.

During consultations in these villages, the impacts from the NN3 HPP were outlined together with the policy addressing these impacts. A briefing note was handed out to all participants (see Appendix 2). This was followed by a session where comments and recommendations were raised by the participants (see Table 3-7).

Table 3-6: Attendance at Village Level Workshops in Peri-Reservoir Villages, November 2007.

	Nam Sam	Xieng Nga	Xam Thong	Nam Ngua	Long Cheng	Total
No. of Households	75	98	46	48	153	420
Total no. of participants	29	41	40	10	38	158
No. of male participants	22	27	33	6	20	108
No. of female participants	7	14	7	4	18	50
Relative attendance	39%	42%	87%	21%	25%	38%

Even though the potential impacts of the NN3 HPP were presented to the village leaders, it appears that the concerns listed refer to livelihood problems in general. This will tend to indicate that the impacts caused by the Project are perceived as generally minor compared with the daily problems related to rice production and livestock raising.

Table 3-7: Suggestions and recommendations raised during consultations in Peri-Reservoir Villages, November 2007.

No.	Village	Suggestions and Recommendations ¹⁰
1	Nam Sam	<ol style="list-style-type: none"> 1. Improve the roadway (M). 2. Improve the Village Health Centre (M). 3. Reorganize the market in Nam Sam village (M). 4. Build pipe water system (M). 5. Improve and support the cattle husbandry (F). 6. Build irrigation system (M). 7. Villagers should be employed by the project (M).
2	Xieng Nga	<ol style="list-style-type: none"> 1. Build 2 new pipe water lines. The first point is from Nam Tern which is about 5 km far from the village and the second point is from Houy Pho Tao about 4 km (M). 2. Improve the method of vegetables cultivation (M). 3. Improve the method of animal husbandry (F). 4. Need support in Lao weaving for women (F). 5. Need help in connecting electricity to each household (M). 6. Improve the conditions of roadway (M). 7. Build Village office (M). 8. Need basic supply of medicines (M).
3	Xam Thong	<ol style="list-style-type: none"> 1. To assist construction Village Office (M).

⁹ These were originally 5 villages, 2 have been amalgamated since.

¹⁰ F or M indicates whether the recommendation was made by the women or the men, respectively.

No.	Village	Suggestions and Recommendations ¹⁰
		2. To assist people to analyze soils contents, water quality and planting technique (M). 3. To assist construction of health centre and equipment and medical kits (M). 4. To assist preparation school and need two more teachers (M). 5. To assist villagers to dig community fish pond and raising techniques (M). 6. To train villagers on road safety (M). 7. To assist villagers on animals raising fund (Cattle, Buffalo) (M). 8. To train women on handicraft (F).
4	Nam Ngua	1. To assist construction Nam Ngua irrigation canal and prepare Nam Sae irrigation canal (M). 2. To assist construction assist Village Office (M). 3. To assist construction new pipe water and preparation existing pipe water (M). 4. To assist villagers to dig community fish pond and feeding method (M). 5. To assist villagers on animals raising fund (Cattle, Buffalo) (F). 6. To train women on handicraft (F).
5	Long Cheng	1. To assist construction village health centre, equipment and medical kits, need more one practitioner (M). 2. To assist construction new school, because the existing school is very old (M). 3. To assist construction new pipe water and preparation existing pipe water (M). 4. To assist villagers on animals raising fund (Cattle, Buffalo) (F).

As the impacts of the project in this area relate to fish and forest resources, compensation will primarily focus on activities that will compensate for the potential reduction of these resources. The project will focus on livelihood activities within the three sectors of fish farming, livestock and forestry (see the REMDP for more details).

In addition, the NN3PC will support strengthening of the Health Centres in Nam Sam and Long Cheng (see REMDP for details). In and around Long Cheng there will be various activities in relation to the camp followers program. It is less likely that the Company will support construction of schools and village offices in these villages.

Detailed implementation planning of activities will take place at a later stage – with the participation of villagers in each village.

On 14 and 15 May, 2009 additional consultation and disclosure took place at the peri-reservoir villages of Xieng Nga and Nam Sam. These meetings included representatives of NN3 Hydro Electric Project, the village chief and village authorities and village elders as well as the representative of the Kum Ban. A general presentation was made showing the project's main features and their location as presented in the REMDP and ESIA Report. The opinions of the village authorities and elders as well as the Kum Ban representative were asked about the possible project impacts by the Project at both villages. The questions, answers, and discussions are summarized in Table 3.8. Both meetings took approximately 3 hours and a half in each village.

Table 3.8: Questions and answers during PCD at Xieng Nga and Nam Sam, 14-15 May 2009.

Questions	Xieng Nga, unanimous answer, unless indicated	Nam Sam, unanimous answer, unless indicated
Are there any existing houses, buildings, structures, and/or field huts in your village area close to Nam Ngum River at the indicated areas that will be flooded by NN3 reservoir each year during the rainy season, starting from 2016?	No	No
Have any persons and/or households living in your village any land ownership or agricultural land uses (rice, maize fields, etc) at the village area to be seasonally inundated by NN3 reservoir?	No	No
Do villagers presently fish at Nam Ngum River along your village area boundary?	No	No

Do villagers presently collect NTFPs in the area of the future NN3 Reservoir that will be seasonally inundated areas after the dry season of 2016, as indicated?	No	No
Do villagers presently hunt in the area of the future NN3 Reservoir?	No	No
Do villagers presently cut timber in the area of the future NN3 Reservoir?	No	No
Do villagers presently let their cattle graze in the area of the future NN3 Reservoir to be inundated areas after the dry season of 2016, as indicated?	No	*1.
Do you expect any other potential impacts on livelihoods of villagers due to flooding by NN3 Reservoir?	No	No
Are you sure, that there will be no any other impacts on livelihoods due to seasonal rise of water levels in Nam Ngum River after the dry season of 2016?	Yes	Yes
What kind of impacts due you expect, if NN4 A and B will come on stream?	No clue	No clue
What kind of impacts are you expecting on the present household fish catch from local rivers, streams, ponds, or wetlands when NN3 comes on stream?	No clue	No clue
Can you agree with establishing regular communications, additional monitoring surveys procedures, and establishment of grievances procedures that will be established as soon as the NN3 Concession Agreement has been signed and the necessary budgets become available for NN3 to start such actions?	Yes	Yes

As indicated in table 1, there were 4 questions, which did not collect an unanimous yes or no answer: In Nam Sam, some villagers do let their cattle graze in the area of the future reservoir.

3.3 Upstream Villages

Consultations were held in December 2007 in six of the 17 upstream villages located on the tributaries of the Nam Ting and the Nam Chat: Nam Chat, Somboun, Xay Oudom, Phou Vieng Gnai, Phou Vieng Noy, Nam Ting.

In each village, all villagers were invited to these consultations but only an average of 11% of households was represented, varying between 3 and 32%. Women comprised on average 20% of the participants.

Table 3-9: Attendance at Village Level Workshops in Upstream Villages, December 2007.

	Nam Chat	Som-boun	Xay Oudom	Phou Vieng Gnai	Phou Vieng Noy	Nam Ting	Total
No. of Households	118	45	47	93	160	74	537
Total no. of participants	7	6	15	6	5	20	59
No. of male participants	6	5	12	5	5	14	47
No. of female participants	1	1	3	1	0	6	12
Relative attendance	6%	13%	32%	6%	3%	27%	11%

During consultations in these villages, the impacts from the NN3 HPP were outlined together with the policy addressing these impacts. A briefing note was handed out to all participants (see Appendix 3). This was followed by a session where comments and recommendation were raised by the participants (see Table 3-10).

Table 3-10: Recommendations made during Village Consultations in Upstream Villages, December 2007.

No.	Village	Suggestions and Recommendations ¹¹
1	Nam Chat	1. Need support in fish farming and raising fish in the reservoir when there is enough water (M). 2. Need support in cattle husbandry (F).
2	Somboun	1. Need funds in cattle husbandry (F).
3	Xay Oudom	1. Need help in land allocation to reduce the cut and burn activities (M). 2. Need fund in cattle husbandry (F). 3. Need fund in connecting electricity to each household (M).
4	Phou Vieng Gnai	1. Need fund in cattle husbandry (F). 2. Need specialist in corn and tea cultivation training (M).
5	Phou Vieng Noi	1. Need fund and the specialist in tea cultivation (M). 2. Need fund in bamboo shoots cultivation (M). 3. Need fund in cattle husbandry (F).
6	Nam Ting	1. Improve the roadway to the village (M). 2. Build pipe water system (M). 3. Build irrigation system (M). 4. Build primary school (M). 5. Need fund in setting up the household medicine cabinet (M). 6. Need fund in animal husbandry (F).

3.4 Downstream Villages

Consultations were held in November-December 2007 in the seven downstream villages located on the tributaries of the Nam Pha / Nam Yen and the Nam Phay: Louang Phan Xay, Phan Xay, Nam Pha, Nam Xan, Hom Xay, Nong Pou, Mouang Phoun.

All villagers were invited to these consultations and on average 86% of households were represented, varying between 63 and 115% (some households had several representatives, see Table 3-11). Women constituted an average of 24% of participants.

Table 3-11: Attendance at Village Level Workshops in Downstream Villages, November-December 2007.

	Louang Phan Xay	Phan Xay	Nam Pha	Nam San	Hom Xay	Nong Pou	Mouang Phoun	Total
No. of Households	67	45	40	103	44	61	37	397
Total no. of participants	42	46	46	77	44	51	37	343
No. of male participants	28	38	30	71	25	32	36	260
No. of female participants	14	8	16	6	19	19	1	83
Relative attendance	63%	102%	115%	75%	100%	84%	100%	86%

During consultations in these villages, the impacts from the NN3 HPP were outlined together with the policy addressing these impacts. A briefing note was handed out to all participants (see Appendix 4). This was followed by a session where comments and recommendations were raised by the participants (see Table 3-12).

Table 3-12: Suggestions and Recommendations made during Village Consultations in Downstream Villages, November-December 2007.

No.	Village	Suggestions and Recommendations ¹²
1	Louang Phan Xay	1. Assist villagers in repairing village health centre, equipment and medicine (M) 2. Assist the construction of new school as the existing school is very old and damaged (M) 3. Assist construction of village office (M) 4. Assist villagers in repairing old irrigation canal as well as construct new irrigation canal, as there is potential for rice paddy (M) 5. Assist villagers in repairing access road from Nam Pha (M) 6. Assist villagers in construction of new water supply pipe and repair the old one (M)

¹¹ F or M indicates whether the recommendation was made by the women or the men, respectively.

¹² F or M indicates whether the recommendation was made by the women or the men, respectively.

No.	Village	Suggestions and Recommendations ¹²
		7. Assist villagers in animal raising fund (cattle, buffalo) (F)
2	Phan Xay	<ol style="list-style-type: none"> 1. Build Village office (M) 2. Build new school in the village because the existing school is quite far and difficult for young students (grade 1 and 2) to travel (M) 3. Build irrigation system and canal in the area where potential productive land never been used (M) 4. Request for long-term loan to be used in animal husbandry such as cows and buffalos (loan for each family) (F) 5. Need community's tractor to reduce human and animal labor (M) 6. Repair pipe water system and maintain the water supply in dry season because water pump is not reliable (M)
3	Nam Pha	<ol style="list-style-type: none"> 1. Assist construction of village health centre, equipment and medical kits (M) 2. Assist construction of village office (M) 3. Assist villagers with training on fish farming (M) 4. Assist with agricultural development, i.e. maize and fruit tree plantation (F) 5. Assist villagers with animal raising fund (cattle, buffalo) (F) 6. Assist village residential land allocation (M)
4	Nam Xan	<ol style="list-style-type: none"> 1. Build Village Health Centre with necessary equipments and medicines (M) 2. Improve the existing school and also build new a one (M) 3. Build Village office. 4. Long-term loan for animal husbandry such as cows and buffalos (F) 5. Build fish ponds for fish farming (M) 6. Assist construction of small bridge to farm land (M)
5	Hom Xay	<ol style="list-style-type: none"> 1. Improve conditions in existing schools especially in roofing (F) 2. Loans for cattle farming in particularly cows and buffalos (F) 3. Improve transport conditions for the convenient usage throughout the whole year (M) 4. Request for at least one doctor to stay in Nong Pa Village Health Centre (M) 5. Need help with irrigation system (M) 6. Need help with electricity supply (F) 7. Provide funds for animal husbandry such as cows and buffalos (F) 8. Build fish pond (F) 9. Need Village Health Centre and medicines (F)
6	Nong Pou	<ol style="list-style-type: none"> 1. Improve transportation conditions (M) 2. Irrigation to supply enough water for rice fields (M) 3. Need new permanent secondary school because the old school in Xone Village will be flooded by the time Nam Ngum 2 is launched (F) 4. Need new electricity supply or improve the existing one as it is not working now (M) 5. Build Village Health Centre and supply enough medicine (F) 6. Build more pipe water systems because it is necessary right now (M) 7. Long-term loan for animal husbandry such as cows and buffalos (F) 8. Need fund for animal husbandry and fish farming such as cows, buffalos and fish (F) 9. Need help in Village Health Centre (F)
7	Mouang Phoun	<ol style="list-style-type: none"> 1. Build new hospital and improve the conditions of existing schools (M) 2. Build new roadway (M) 3. Long-term loan for animal husbandry such as cows and buffalos in community style (F) 4. Provide funds for constructing fish pond in the village (F) 5. Improve the irrigation system from Mouang Phoun Khao to Nong Pou Village because the area of rice field between these two villages is more than 60 hectares (M) 6. Supply fruit seeds such as mandarins, prunes and sweet apricots (M) 7. Resolve the electricity supply issue (F) 8. Assistance in cattle farming such as cows and buffalos (F) 9. Supply fish and build fish pond for village (F)

3.5 Project Construction Land Villages (roads and transmission line)

Village consultations were held in connection with the impact surveys. This was carried out in two rounds. Firstly, consultations were held with the nine villages along the proposed transmission line in September – October 2007: Nam Gnone, Nam Cha / Nam Ard, Meuang Long, Houay Xiet, Hin Sor, Tham Din, Nonh, Tha Kok Hai, Nabong.

Secondly, consultations were held with villagers in the four villages along the Long Cheng - Nam Gnone road¹³. These consultations were held in November 2007: Long Cheng, Nam Pha, Nam Xan, Nam Gnone.

Hence, consultations were held twice in Nam Gnone¹⁴. Officials at the two army barracks at Pha Khea and Pha Noy were also informed about the project.

The village consultations had two parts: Part one was a presentation of the NN3 HPP:

- Project description and objectives.
- Potential impacts negative or otherwise to villagers' assets and properties in the project area.
- General compensation concept and entitlement.

Part two aimed at obtaining feedback from the villagers in terms of questions and concerns.

The meetings in the 12 villages were attended on average by 15 persons, often those expected to be affected by the NN3 Project (see Table 3.13). On average 20% of the participants were women.

Table 3-13: Number of participants at consultation meetings in villages affected by Project Construction Activities.

No.	Village	District	Date of meeting	No. of participants	No. of female participants
1	Nam Gnone	Xaysomboun	26 th Sep 2007	16	5
2	Nam Cha / Nam Ard	Xaysomboun	29 th Sep 2007	5	0
3	Houay Xiet	Hom	29 th Sep 2007	6	0
4	Meuang Long	Hom	30 th Sep 2007	8	0
5	Hin Sor	Hom	1 st Oct 2007	14	0
6	Tham Din	Hom	1 st Oct 2007	17	0
7	Nonh	Pak Ngum	3 rd Oct 2007	9	0
8	Nabong	Pak Ngum	3 rd Oct 2007	13	3
9	Thakokhai	Pak Ngum	4 th Oct 2007	21	3
10	Long Cheng	Xaysomboun	23 rd Nov 2007	21	5
11	Nam Pha	Xaysomboun	23 rd Nov 2007	23	12
12	Nam Xan	Xaysomboun	24 th Nov 2007	15	8
13	Nam Gnone	Xaysomboun	25 th Nov 2007	14	1
Total				182	37

Table 3-14 presents the issues raised during the consultation meetings and the response from NN3PC. Many issues relate to infrastructure (school improvement, road, water supply and a village office) which in most cases will be outside the obligations of the Company. Coordination with the other project with significant impacts in the area, such as Phu Bia Mining, and the local government in Xaysomboun District seems necessary.

¹³ One of the minor access roads is linking Long Cheng with the Dam Site, whereas the other connects the Power House to the Long Cheng - Nam Gnone road. Whereas the Dam Site is located within the Long Cheng village territory the Power House is located in land not allocated to any particular village. Of the two quarries, one is in the outskirts of Long Cheng while another is along the road to the Power House.

¹⁴ Consultations were also held twice in Nam Pha and Nam Xan, which are also potentially affected by downstream impacts.

Table 3-14: Requests arising from Consultations in Project Construction Land Villages, September - November 2007 and NN3PC Response.

Village	Issue	NN3PC Response
Policy		
Nam Cha / Nam Ard, Nam Pha, Nam Gnone	Impact should be compensated appropriately for losses on property	Impacts will be registered and compensated.
Principles		
Nam Gnone	Use of local work force for construction activities	Construction companies will use local labour as much as possible.
Nonh, Nabong	Suggested that compensation for impacted assets be at market values.	Compensation will follow existing rates that may need to be reassessed by the Province.
Nam Pha, Nam Gnone	Prior notice at least 3 month before any construction takes place.	Notice will be given 3 months before construction.
Nam Xan	If we have to be relocated, it must be close by and we wish to be compensated for appropriately or be given replacement land suitable for rice cultivation.	Such impacts are not expected, but the Company supports this approach if relocation might be required.
Infrastructure		
Hin Sor (Pha Nam Noy)	If access road to cattle grazing area is affected, it is requested that rehabilitation work be carried out.	Yes, if needed.
Long Cheng	Request assistance on the improvement of health centre. They are willing to meet all labour requirements.	Upgrading of Health Centre will be supported in Long Cheng in accordance with PHAP.
Nam Pha, Nam Gnone	Levelling new land areas for house location in case of relocation of house or other structure is required.	Such impacts are not expected, but action will be taken as suggested if needed.
Nam Xan	Request project to assist with water supply in addition to the existing ones and to assist village with the improvement of school, health centre and village office. Villagers are willing to meet all labour requirements.	Nam Xan will potentially be affected by NN3 HPP during construction. Households will potentially catch less fish during operation of NN3 HPP. Depending on the potential impacts, the Company will compensate. The compensation package will reflect the value of potential impacts and be based on consultations with villagers.
Nam Gnone	More school capacity	Depending on the potential impacts, the Company will compensate. It appears that these requests are beyond Company's obligations.
Hin Sor (Pha Nam Noy)	Request for a loan of one million kip per household to finance the construction of water supply in the village.	Depending on the potential impacts, the Company will compensate. It appears that these requests are beyond Company's obligations.
Tham Din	Request that the road be improved.	Depending on the potential impacts, the Company will compensate. It appears that these requests are beyond Company's obligations.
Thakokhai	Request for assistance in road and school improvement for the village.	Depending on the potential impacts, the Company will compensate. It appears that these requests are beyond Company's obligations.
Long Cheng	Request assistance on the improvement of school and village office. They are willing to meet all labour requirements.	Long Cheng will potentially be affected by NN3 HPP during construction. Households will potentially catch less fish during operation of NN3 HPP. Depending on the potential impacts, the Company will compensate. The compensation package will reflect the value of potential impacts and be based on consultations with villagers.
Nam Pha	Provide water supply in additional to the existing ones.	Nam Pha will potentially be affected by NN3 HPP during construction. Households will potentially catch less fish during operation of NN3 HPP. Depending on the potential impacts, the Company will compensate. The compensation package will reflect the value of potential impacts and be based on consultations with villagers.
Nam Xan	Bridge construction and road rehabilitation during and after use by project.	This will be considered pending impact from construction vehicles.
Livelihood		
Hin Sor (Pha Nam Noy)	It is requested that if commercial agricultural products are affected,	Compensation will follow existing rates that may need to be reassessed by the Province.

Village	Issue	NN3PC Response
	calculation of compensation values should be in line with the district guideline.	
Long Cheng, Nam Xan	Small credit / fund setup for extending their livestock.	Households in Long Cheng and Nam Xan will be potentially impacted by NN3 HPP during construction, but households also potentially catch less fish during operation of the Project. Therefore, livelihood activities will be supported through credit and/or capacity building in veterinary services.

3.6 Consultation and Participation during REMDP Implementation

The following sections outline how the consultation process will continue during implementation and what institutional arrangements will be in place to ensure that ethnic and gender issues are considered during implementation and monitoring.

During implementation the following aspects a particular attention will be given to the following:

- Existing village organisations and structures and what roles these have in consultations and implementation arrangements for resettlement and monitoring.
- Ethnic representation in leadership and the strengths and weaknesses of leadership in general.
- Institutional arrangement for carrying out consultations and monitoring.

3.6.1 Ethnic Issues

Numerous measures will be introduced to ensure that ethnic issues are always properly incorporated into the consultation process. The following measures will be carried out:

- Training of project workers and GOL-representatives in ethnic awareness as part of the ongoing consultation process. The objective will be to 'mainstream' ethnic issues.
- Workshops to encourage and the involvement and empowerment of ethnic minorities.
- Supervision of the consultations process by the Community Development and Ethnic Minority Manager.
- The independent monitoring body will need to pay a special attention to the performance of local GoL organisations in relation to ethnic issues.

3.6.2 Gender Issues

Separate male and female consultations will be conducted in the face of difficulties in obtaining women's active participation in groups, where both genders are present. All consultations will be conducted at a level and in a language that is understandable for less educated women and men.

3.6.3 PCD activities in the various villages before the end of 2011.

Table 3.15 presents the main PCD activities planned at the village level before the end of 2011. Similar activities will be undertaken during the years of the construction period and then during the first years of operation. These will be associated with the regular health surveys, socio-economic surveys, but also through the grievance mechanisms that will be put in place in the various villages.

Table 3.15: Schedule for PCD at the villages level in 2011.

Activities	Timeline
Operationalisation of the Public Health Action Plan & Baseline surveys	Q3 - Q4 2011
Consultations will be undertaken at all villages under this programme and an operational PHAP will be submitted for approval to the authorities concerned.	
Transmission Line	Q2 - Q4 2011
Surveys, consultation, disclosures and consents	
Roads upgrade and construction	Q2 - Q3 2011

Surveys, consultation and compensation	
Ban Xiengdet	
Presentation of the new version of the REMDP, including entitlement matrix	Q2 2011
Feasibility study for the irrigation of the agricultural replacement land	Q2 - Q3 2011
Confirmation survey of affected land uses	Q2 2011
Confirmation survey of affected households on the road from Nong Tang to Ban Xiengdet	Q2 2011
House design, general layout of the residential area at Ban Nam Dai, water supply system & EIA of the new village	Q2 - Q3 2011
Design of irrigation system	Q3 - Q4 2011
Removal of UXO	Q2 - Q3 2011
Plot allocation of agricultural land	Q3 - Q4 2011
Peri-reservoir villages	
Participatory socio-economic baseline survey, and inventory of land and water uses	Q3 2011
Update of livelihood development options and programme	Q4 2011
Downstream & upstream villages	
Participatory socio-economic baseline survey, and inventory of land and water uses (including fisheries)	Q3 2011
Update of livelihood development options and programme	Q4 2011

4 PCD AT DISTRICT AND PROVINCE LEVEL

Consultation workshops were held at the three districts of Phou Koot (Xieng Khouang Province), Hom and Xaysomboun (Vientiane Province). Consultations were also undertaken at several occasions at the provinces of Xieng Khouang and Vientiane and the municipality of Vientiane, and whenever new staff was appointed.

Participants at these workshops were district officials from all line agencies related to the NN3 HPP activities, key provincial officers, villagers (in the case of Phou Koot District Workshop) and representatives from NGOs and other agencies involved in the project area.

4.1 Phou Koot District

A district workshop was held in the Phou Koot District Governor's Office, on the 30th October 2007, with the following objectives:

- Explain to the district authorities the possible impacts resulting from the NN3 HPP.
- Present the NN3 draft resettlement policy and show the project's plans for livelihood and community development, and physical resettlement.
- Answer questions from the participants of the workshop.
- Obtain opinions, concerns and suggestions from each of the district government authorities, and villagers present at the workshop.

The agenda of the workshop is found in the Workshop Report (see Appendix 7) together with the list of participants, workshop minutes and an English version of the presentation given at the workshop.

4.1.1 Issues Raised

The opinions, concerns, suggestions and questions raised at the workshop have been summarized in Table 4-1.

Table 4-1: Issues raised at the Consultation Workshop in Phou Koot District.

Village Issues	District Issues	Provincial Issues
1. Compensation for cultural spaces	1. Increase capacity of district counterparts	1. Ensure counterparts are included
2. Road access	2. Road access	2. Ethnic minority villages properly understood
3. Fair compensation for lost land	3. Logging in the reservoir area - who gets the timber?	3. Follow the rules of the GoL
4. Clear resettlement policy	4. Information sharing between the project and the government	4. Land division for the resettled households
5. Details on the flooding - when and how much	5. Rules for movement of people in and out of affected villages	5. Involve people at both district and village level in planning process
	6. Clean water and disease prevention	6. Sustainability
	7. Composition of the conflict resolution committee?	7. How are the values decided on for a tree / species?
	8. Support move away from shifting cultivation	8. Schools and hospitals
	9. Division of agricultural land between rice fields and upland rice fields	9. Resettlement committee - how does it work?
	10. Suitability of the new site for irrigation	10. Clear resettlement policy
	11. Poor families should be enabled to improve their situation through resettlement	11. Poverty may be a barrier to complete understanding

4.1.2 Project Responses

The relevant responses from the Project provided to the issues raised during the meeting are presented in Table 4-2.

Table 4-2: Project Responses, Phou Koot Consultation Workshop.

No.	Issue raised	Project response
Management		
1	Ensure counterparts are included	All district and provincial government authorities will be invited to participate in project activities, and will be partners in the implementation of activities
2	Information sharing	All project documents will be made available to villages, districts and the provinces after the final national level workshop, scheduled for January 2008
3	Increasing capacity of district counterparts	The project aims to work with as many district and <i>Kum Ban</i> counterparts as feasible to increase capacity of counterparts. Plans will be initiated to second <i>Kum Ban</i> counterparts to work solely on project activities for the duration of the project. They will be provided on-the-job training and budget for transport, office upgrading and activities.
Compensation Policy		
1	Clear resettlement policy	There is a clear resettlement policy in place which follows both GoL and ADB guidelines for resettlement.
2	Road access	Road access is a key activity for the project. An all-weather access road to Route 7 (at Nam Chat) will be constructed and the road from Nong Tang to Xiengdet will be improved in places.
3	Involve people at both district and village level in planning process	These consultations are only the latest in a series of meetings and workshops which involve both government and villagers in planning and implementation of project activities. Guidelines for the project state that active participation by these groups is essential for sustainable and equitable project implementation.
4	Sustainability	Because of the nature of the consultation process, government counterparts are increasingly able to initiate activities themselves. Sustainability of project activities is a key concern of the project, and a reason why field-based livelihood specialists will be brought into affected areas to encourage up-take of sustainable technologies and techniques. Villagers are encouraged to accept in-kind compensation, and will only be eligible for cash compensation if they can demonstrate clear sustainability plans to the resettlement committee who will have final say over whether they can receive cash or not.
5	Importance of following the rules of the GoL	The project initiates all activities and workshops in line with GoL policy, including the Decree on Compensation and Resettlement of People Affected by Development Projects (No. 192/PM); the Regulations for Implementing Decree 192/PM (No. 2432/STEA 2006) and the National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR (No. 561/CPI 2005).
6	The resettlement committee - how does it work?	The resettlement committee will be made up of both government and project staff. It will be the link between villagers and government counterparts and project staff.
7	Is there a conflict resolution committee?	In the resettlement action plan a grievance committee has been set up to address issues of contention at all levels of project work.
8	Will everyone be compensated? What about people moving in and out of the area?	Everyone living in the area at the time of the cut-off date will be compensated. Some of those who have moved out of the area since 1985 may also be eligible for compensation
9	How will new lands be divided among those eligible?	Every household will be compensated for lands lost. Lands will include forests, gardens, paddy, upland paddy, plantations, grazing lands and traditionally accessed land. Land titles are not essential for compensation. All households will receive sufficient compensation land to meet their basic needs. In this case households that were poor before and did not have access to such lands will be given extra lands to raise their income to an appropriate level.
Social and Cultural		
1	Ethnic minority villages adequately understood	It is essential that ethnic minority villages have proper representation and are able to understand the impacts of the project. To this end consultations in villages will be done in ethnic minority languages as needed, and time will be taken to ensure local realities are understood. This is reflected in the village consultation process.
2	Compensation for cultural spaces	All cultural spaces will be compensated for in the resettlement site, and the project will support the moving or re-building of any structures, as well as supporting ceremonies or other rituals that may need to be conducted in either the old or the new location
3	Poverty may be a barrier to complete understanding	Spending sufficient time in local areas enables the project to actively contact all vulnerable people in the area, especially those who are unable to take time off from

No.	Issue raised	Project response
		subsistence activities to attend meetings and workshops, even at the village level. Explanations will be given as needed (and in ethnic minority languages) to ensure that all aspects of the compensation package and resettlement policy are understood by the villagers and district authorities.
4	Clean water and disease prevention	Clean water is essential to the good health of the villagers in their new location. The project will work with the department of Public Health (<i>Nam Saa</i>) to ensure suitable clean drinking water systems are in place before resettlement. The project will also collaborate with the Public Health Department to prepare necessary trainings on communicable diseases, clean living environment, and Village Health Workers, including Traditional Birthing Attendants.
5	Schools and hospitals	The project is committed to providing better health and education support to the resettlement village. A new school will be built, and stocked with supplies, for the new village to attend. The health centre in Nam Sam will be upgraded and staff given training and supplies.
6	Poor families should be enabled to improve their situation through resettlement	Poor families will be given options for livelihood improvement activities, such as training on new agricultural techniques and alternative income generating opportunities. All households will have their minimum land brought up to a project minimum which is based on intensity of culture.
Land and Environment		
1	Fair compensation for lands lost	All lands will be equally compensated for as outlined in the resettlement action plan, and in accordance with the laws of the GoL.
2	Irrigation appropriate at the new site?	Irrigation development in Xiengdet will involve sufficient arable lands suitable for irrigation for 90 households, including natural expansion. The results of the irrigation survey will be shared with villagers and districts as they become available.
3	Support move away from shifting cultivation	The Infrastructure Development Plan and the Livelihood Improvement Plan will provide sufficient land, technology, resources and support for all 90 households to be working on irrigated land, thereby diminishing the need to enter into patterns of shifting cultivation.
4	Details on the flooding - when and how much	The Developer will update the Backwater Study to determine extent, duration, depth and timing of flooding.
5	How are the values decided on for a tree / species?	Values will be negotiated with villagers based on standard unit prices. The general grievance procedure will allow complaints.
6	Logging reservoir area - who gets the timber?	According to the contract between the Developer and GoL, the timber belongs to the Developer.
7	How will paddy and upland rice space be divided?	Current owners of rice fields will be compensated for inundated areas. Each household will be given farming plots for various livelihood activities.

4.1.3 Summary of Workshop Proceedings

- Reports, including action plans, will be made available during the final workshop in January 2008.
- It is important to clarify the roles of all the government counterparts, and make a definitive list of who is involved and what they are going to do. This is presented in the REMDP.
- All activities, such as health, education and road building will be done in conjunction with district and provincial counterparts and will be in place before resettlement
- Resettlement is to be done in close partnership with villagers – land for land and new livelihood supporting activities: cash will only be given in case of compensation for lost land use and/or land at the access roads and Transmission Line, according to Lao laws and regulations.
- Spiritual and cultural considerations will be very important in the continuing work with villagers where there will be full involvement of the *Kum Ban* and VDCC. Ethnic issues will be sensitively dealt with.
- It is important that houses, new health systems, schools, food security activities, including rice provision during the transition period, and other infrastructures are in place before resettlement happens, this can help limit the stress felt by affected communities.

4.2 Hom District

The district workshop was held in the Hom District Meeting Hall. Carried out on 2nd November 2007, the workshop intended to:

- Explain to the district authorities the possible impacts resulting from the NN3 HPP.
- Present the NN3 HPP compensation policy and show the project's plans for livelihood development and compensation.
- Answer questions from the participants of the workshop.
- Obtain opinions, concerns and suggestions from each of the district government authorities, and villagers present at the workshop.

The agenda of the workshop is found in the Workshop Report (see Appendix 8) together with the list of participants, workshop minutes and an English version of the presentation given at the workshop.

4.2.1 Issues Raised

The opinions, concerns, suggestions and questions raised at the workshop have been summarized in Table 4-3.

Table 4-3: Issues raised at the Consultation Workshop in Hom District.

Village Issues	District Issues
1. Fair compensation	1. Clarification of Government participation and responsibilities
2. All-weather road access	2. Low level impact for project construction as much as possible
3. Electrification	3. Local labour used
4. Local labour used as much as possible	4. Fair compensation
5. Avoidance of existing plantations	5. Land use - will the company rent or buy villagers' land?
	6. NBCA land compensation policy

4.2.2 Project Responses

The issues raised at the workshop in Phou Koot and relevant responses from the Project provided are presented in Table 4-4, below.

Table 4-4: Issues raised and Project Responses, Hom Consultation Workshop.

No.	Issue Raised	Project Response
Management		
1	Clarification of Government participation and responsibilities	All district and provincial government authorities will be invited to participate in project activities, and will be partners in the implementation of activities. Work will be done with counterparts to ensure that all needed departments have been included. GoL staff will also be part of monitoring and will play a key role in the grievance procedure.
Compensation Policy		
1	Fair and equitable compensation strategy implemented	There is a clear resettlement policy in place which follows both ADB and GoL guidelines for resettlement. All villagers will be consulted to ensure that impacts of the project and associated construction are minimized. The project initiates all activities and workshops in line with GoL policy, including the Decree on Compensation and Resettlement of People Affected by Development Projects (No. 192/PM); the Regulations for Implementing Decree 192/PM (No. 2432/STEA 2006) and the National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR (No. 561/CPI 2005).
Social and Cultural		
1	Road access	The project is committed to improving the quality of life for people in rural areas. This includes ensuring access to basic social services through the provision of road access to the affected villages.
2	Electrification	<i>This issue was not directly responded to in the workshop</i>
3	Use of local labour	Local labour will be used as much as possible throughout the project, and consultation with the Lao Labour Union will be intensive to ensure that this happens in a suitable way in accordance with GoL law.
4	Minimize impact	Plans are made to minimize the impact of transmission lines through realignment. Traffic management will be in place to minimize impact on local population.

Land and Environmental		
1	Land use - rented or bought?	The land belonging to villagers that will be used for the project will be bought from villagers at a fair price. No land will be rented.
2	Avoid plantations in impacted areas as much as possible	Consultations are ongoing to ensure that impacts are as minimal as possible for both plantations and NBCA areas.
3	NBCA land compensation policy	The project's forestry consultant is currently working with government authorities to examine the issue of NBCA land compensation, where it will be located and how it will be determined. When the policy has been settled it will be disseminated to all stakeholders.

4.2.3 Summary of Workshop Proceedings

- Equal, fair compensation is essential.
- Clear practices must be developed for managing compensation.
- Local labour should be used as much as possible.
- Local economy must be supported by building roads and using local labour.
- Support for agriculture must be continued through livelihood strategies and markets.

4.3 Xaysomboun District

The Xaysomboun district workshop was held in the Xaysomboun District Meeting Hall on the 20th November 2007. The workshop intended to:

- Explain to the district authorities the possible impacts resulting from the NN3 HPP.
- Present the NN3 HPP compensation policy and show the project's plans for livelihood development and compensation.
- Answer questions from the participants of the workshop.
- Obtain opinions, concerns and suggestions from each of the district government authorities, and villagers present at the workshop.

The agenda of the workshop is found in the Workshop Report (see Appendix 9) together with the list of participants, workshop minutes and an English version of the presentation given at the workshop.

4.3.1 Issues Raised and Project Responses

The opinions, concerns, suggestions and questions raised at the workshop have been summarized in Table 4-5. The workshop did not give opportunity for the Company to reply to these suggestions. However, the project responses have been added in the table.

Table 4-5: Issues raised at the Consultation Workshop in Xaysomboun District and Project Response.

No.	Issue / Level	Project Response
Village Level		
1	Domestication of Non-Timber Forest Products (NTFPs) should be supported.	This will be supported in all peri-reservoir and downstream villages
2	NTFP use must be allowed to continue for subsistence purposes.	The Project has no problem with this.
3	Support prevention of water borne diseases.	Will be supported through the Public Health Action Plan that will be implemented through the district and provincial health offices.
4	Ensure adequate funding for agriculture.	The Project will support fish farming, livestock and forestry activities in affected villages.
5	Ensure adequate funding for animal husbandry.	Funding will focus on training.
District Level		
6	Support district education department to build more schools and upgrade teacher skills.	Not in the current plan.
7	Provide activities to help improve soil quality in affected areas.	Activities will focus on replacement of protein and income.

No.	Issue / Level	Project Response
8	Support new irrigation infrastructure systems.	Not in current plan.
9	Support for new foraging lands and systems.	Livestock support will focus on animal health and feeding.
10	Support new roads to enable villagers to access markets.	Not in current plan.
11	Enable villagers to access electrification programs.	Not in current plan.
12	Support activities that promote the rights of workers, adopt national labour policy, use local labour wherever possible, ensure foreign workers follow Lao law.	NN3PC will follow Lao laws and give preference to local workers where possible.
13	Participate in health campaigns that support women's health initiatives.	The Project will support DHO and PHO in general health activities.
14	Support increased enrolment at primary school level, especially for girls.	The Project does currently not have plans for school activities in Xaysomboun District.
15	Initiate activities that promote gender equality and the rights of women.	All activities will be gender sensitive and special attention will be given to women.
16	Support livelihood activities for women, and women's skill development.	Livestock activities are specifically suited for women.
Provincial Level		
17	Ensure all documentation is approved by WREA and follows Lao law.	This is part of approval procedure.
18	To ease security concerns, all activities should be done in collaboration with local authorities.	Local authorities at province, district, <i>kumban</i> and village levels will be involved in implementation.
19	Ensure fair and effective compensation strategies that follow Government policies to avoid inconsistencies.	Compensation will be fair and follow GoL policies.
20	Respect ethnic differences, and ensure traditional ways of life and practices are not disturbed.	Project implementation will respect ethnic differences and consult communities when introducing new activities.
21	Ensure proper consultation occurs with all affected peoples.	Consultations with affected people will continue throughout project implementation.
22	Public awareness campaigns must be conducted with government support and presence.	District authorities will take part in all such campaigns.
23	The project should support capacity building in the affected areas, perhaps financing a training centre in the area.	Capacity building will target GoL staff at district and provincial levels as well as villagers.
24	Ensure that all government levels and departments are included in the Project Management Committees.	All relevant sectors will be represented in the District Working Group that will guide project implementation.

4.3.2 Summary of Workshop Proceedings

The Chairman, Deputy District Governor, Mr. Bounesouk Sundara, summarized the workshop as follows:

- The NN3 Project appears to be going in a good direction, especially compared to other hydropower projects in the area.
- As long as the project will support essential services (agriculture, education and health) this area will continue to support the project.
- Soil improvement, grazing land and the domestication of NTFPs are the most important agricultural issues.
- Primary health care, maternal and child health care, access to hospitals and health clinics are the most important health issues.
- Improving and building school facilities, training teachers and recruiting people are the key education issues.
- The rights of women, workers, and ethnic minorities people must be protected and promoted during the construction period.

5 PCD AT NATIONAL LEVEL

5.1 National Consultation Workshop

A national level consultation workshop was held in Vientiane on 16th January 2008 with the participation of representatives from central, provincial, district and village levels.

The objectives of the workshop were:

- To present the NN3 safeguard documents issued on 21st December 2007.
- To provide a forum for exchange of comments and suggestions from the workshop participants.

The agenda of the workshop and list of participants are presented in the Workshop Report together with workshop minutes and the presentations given (see Appendix 10).

5.1.1 Issues Raised and Project Responses

The opinions and suggestions raised at the workshop are presented in Table 5-1 together with the response from the Project.

Table 5-1: Issues raised and Project Responses at the NN3 National Consultation Workshop (16th January 2008).

No.	Issue raised	Project response
Management		
1	Potential mineral reserves within the reservoir area should be surveyed. This matter was not raised by the environment consulting company at the meeting. This issue should be properly surveyed in detail.	No alluvial mining takes place in the reservoir area.
2	If feasible, a specific unit should be established to manage the watershed area. This unit would work in coordination with the district and province authorities and may also work jointly with other neighboring projects and namely with Nam Ngum 2 hydropower project.	NN3PC welcomes such effort by GoL.
3	Nam Ngum 3 hydropower project is proposed to seek remedies in conjunction with Nam Ngum 5 hydropower project on potential issues relating to water quality in the area of Ban Xiengdet during the construction phase of Nam Ngum 5.	Contact will be made to NN5 to coordinate efforts.
4	Based on the Heritage Law, before construction, a project is required to survey for potential artifacts that may exist in the project area. In the different reports presented by the project, there was no mention of this matter.	The project area does not contain significant sources of artifacts.
5	The following matters are suggested for further consideration by the company and the administrative authorities at all levels. Actual implementation of different activities should take proper consideration of the 3Ps in ethnic development, being 1. P for people (people-based joint work); 2. P for democracy (due account of views from all persons, all ethnic groups and all social strata); 3. P for coordination (coordination with stakeholders).	The project agrees with this approach.
6	The transmission line and access road construction have not yet been coordinated with the relevant authorities. The project is therefore requested to further act on this matter.	NN3 transmission line corridor selected to join the approved NN2 transmission line to reduce impacts. ESIA will be carried out for new alignment
7	The project is requested to re-arrange the environment and social management budget plan, especially with regard to the biodiversity monitoring and control plan, and the social action plan.	The content and budget for "Compensatory Forest and Biodiversity Protection Plan" ¹⁵ will be revised.
8	The budget for the water reservoir's sanitation should be re-examined as the project owner is required to ensure sufficient funding for actual implementation.	Sufficient funding will be allocated to domestic water supply, sanitation and hygiene (WASH).
9	Impacts should be accurately broken down by level and category, such as types of impacts under 10% and over 10% to facilitate the development of measures to alleviate such impacts.	This issue has only relevance in construction areas, where exact alignment is awaiting construction design.

¹⁵ This is now called the "Integrated Watershed Management Programme".

No.	Issue raised	Project response
Consultation		
1	An awareness raising program should be added for the upstream and downstream communities.	Consultations will be held in all affected villages with focus on impacts and design of compensation / livelihood restoration.
2	The company should continue to consult the affected communities on the dam's construction and provision of new occupations.	
3	Further attention should be given to coordination with stakeholders, namely with the local administrative authorities and communities living within the project area.	Project planning and implementation will be coordinated with local authorities and communities.
Environment and Forestry		
1	The project has allocated a budget of US\$385,500 for biodiversity conservation but has not mentioned any budget for monitoring and control. If such a budget has been planned by the project, it should be clearly shown.	The content and budget for "Compensatory Forest and Biodiversity Protection Plan ¹⁶ " will be revised.
2	Is it possible to arrange the 230 kV transmission line so as to circumvent the Phou Khao Khuay national forest (without cutting though) in order to reduce potential impacts on the local biodiversity?	Has been discussed at earlier planning stages and rejected. With the NN2 line routing decided the joint corridor will be the best solution.
3	In addition to the environmental impact assessment, the project should further examine the area for reforestation.	The content and budget for "Compensatory Forest and Biodiversity Protection Plan" will be revised.
4	The Nam Ngum 3 project's reservoir area from where timber extraction is planned still contains economic trees. The relevant parties are requested to properly plan such extraction prior to flooding.	GMS will coordinate with MoD on this issue and take action if necessary.
5	The project has endeavored to promote biodiversity conservation within the project area, but it has not yet given any clear indicators and outputs as reference for reforestation.	The content and budget for "Compensatory Forest and Biodiversity Protection Plan ¹⁷ " will be revised.
Compensation		
1	Compensation to affected people should be based on the actual impacts incurred from the project and not on averages.	Compensation will be based on actual impact. Livelihood development (e.g. for loss of fisheries) will be offered to the entire village.
2	Households with sub-standard houses should be given new houses with a certain standard according to criteria acceptable to the villagers.	Xiengdet households living in sub-standard houses will be given new houses of a standard acceptable to villagers.
Land use		
1	The project has not indicated any sedentary occupation promotion plan. Such a plan should be included in the reports, especially with regards to cultivation and animal husbandry activities.	Rice and vegetable farming, fruit orchards, fish farming and livestock raising are all sedentary activities within Xiengdet village area supported in the livelihood improvement plan for Xiengdet.
2	The production area at Ban Xiengdet may be further used during periods of lower water level. Thus, what would be planned by the project to prevent competition for land and land use in this area.	Land use planning and land allocation will be the next steps once the Project has been approved.
3	Nam Ngum 3 project covering 2 provinces, the project will directly affect 1 upstream village, 7 downstream villages in Xaysomboun District and another 5 villages in Hom District. These villages have difficult access and most of the communities rely on the nature for their livelihood. Therefore, if possible, the project is requested to assist in building small irrigation schemes for these communities.	Affected people and communities will be assisted according to the impact and to local preferences. The project will work closely with communities and authorities to identify relevant compensation.
Infrastructure		
1	Resettlement of affected population requires access roads. The project is therefore requested to work in coordination with the local administrative authorities on the alignment of access roads to resettlement areas.	Alignment of access road to Xiengdet will be based on consultation with villagers and district authorities.
2	According to plans, Vientiane Province will build a new access road to Nam Ngum 3 construction site over a distance of 27 km at a cost of 27.5 billion kips. Nam Ngum 3 project is requested to build an extension starting from km 27 to the project site based on such access road's environmental and social impact assessment as it may bring changes to the nature in that area.	The NN3PC is planning to establish / upgrade two access roads from Long Cheng to the dam site and from the public road (North of Nam Gnone) to the power house. Traffic management will focus on public roads utilized by vehicles from NN3 construction companies.
Health		

¹⁶ This is now called "Integrated Watershed Management Programme".

¹⁷ *Ibidem*.

No.	Issue raised	Project response
1	Compared to other projects, health activities have been quite well examined and planned by Nam Ngum 3 project. However, the project is suggested to further focus on: (1) separating health management plans between workers and communities, (2) no mention is made about occupational health and safety, (3) developing a detailed budget for workers camp management (waste water, solid waste disposal...). These issues should be clearly indicated in the reports.	(1) and (2) Health and Safety of construction workers is responsibility of HC. (3) A detailed budget is presented in the SMP report.
2	Water supply in Xiengdet will be affected by the Nam Ngum 5 Project. Nam Ngum 3 project and Nam Ngum 5 project should further coordinate and identify the best way to secure adequate water supply.	NN3PC will establish contact with NN5 to ensure the water supply.

5.1.2 Summary of Workshop Proceedings

The Workshop Chairman, Mr. Noulinh Sinbandith, summarized the workshop as follows:

- Major issues revolve around compensations to the affected communities. The project should therefore review in detail proposed compensations against actual levels of impact.
- The project owner should set up appropriate budget lines for environment and social management, e.g. for the preservation of forests in the watershed area, biodiversity.
- The project should increase coordination with authorities concerned of activities that still need to be included in the reports, namely mining areas, study of impacts on fishery, the Nam Ngum fish population likely to be affected, types of impacts by fish species and potential consequences of fish migration.
- The design of new houses should offer several types for selection. New houses should be more solid and better built. The population should be allowed to participate in this process and the project should consider using their labour.
- The company should establish an information unit to interact with the affected communities. Also, Phou Koot and Xaysomboun Districts are suggested to set up an information hall to allow the communities to receive information on the project as well as on other previously established projects as project information dissemination facility.

5.2 Public Consultation Workshop

A second national workshop was held 8th February 2008 with participation of key government official at central, provincial and district levels as well as of international financing institutions, non-government organisations and other relevant stakeholders.

The objectives of the workshop were:

- To present the NN3 safeguard documents issued on 21st December 2007 among a wider audience than in the first national workshop.
- To provide a public forum for exchange of comments and suggestions to the documents.

The agenda of the workshop and list of participants are presented in the Workshop Report together with workshop minutes (see Appendix 11). The presentations given were identical to the ones made at the National Consultation Workshop, presented in Appendix 10.

5.2.1 Issues Raised and Project Responses

The opinions and suggestions raised at the workshop are presented in Table 5-2 together with the response from the Project.

Table 5-2: Issues raised and Project Responses at the NN3 Public Consultation Workshop (8th February 2008).

No.	Issue Raised	Project Response
1	Has the Consulting Company studied the impact on fishery below the Nam Ngum 2 Dam after its completion? Can this result apply to Nam Ngum 3?	Decades of research of fishery development in NN1 reservoir and the EIA document for NN2 has been studied. The size, shape and hydrology of NN3 reservoir makes fisheries development less promising than in NN2 and NN1.
2	Will the reports be made public after the	ADB: The reports will be made public via the Internet once ADB

No.	Issue Raised	Project Response
	government have approved them?	have made their appraisal.
3	What will the project do to improve the level of oxygen in the river below the power station and who will be responsible for this matter?	Up to now the research team on environment impact has not yet been able to determine the future level of oxygen in the river. However, it is predicted negative impacts on fish and other living organisms in the river because of altered water quality and intermittent river flow. Technical mitigation measures to these problems will be investigated by the Developer.
4	What is the minimum riparian release to protect environment below the dam?	Due to (i) seepage from NN3 Dam, (ii) contribution from ground water to Nam Ngum discharges, (iii) contribution from main tributaries to Nam Ngum (Nam Pha and Nam Phay), and (iv) spills during August - October over NN3 Dam, no additional release from NN3 Dam to downstream locations will be meaningful to protect the environment.
5	Regarding the impact on properties of people living in Xiengdet, has the Team collected information on how many fruit trees and industrial trees are available in the village and informed the villagers.	The orchard and plantation areas, which will be affected by the project, have been assessed together with affected villagers.
6	Is there any wild life in the Project area?	Wildlife of occurrence is documented in the EIA report. The area is classified as relatively poor in wildlife biodiversity but 3 mammal species given IUCN status as "Vulnerable" and one "Endangered" (Tiger) have been reported.
7	How big an area has to be cleaned for biomass to ensure minimum impact on water quality?	Biomass clearance and logging is planned for the total area to be inundated (about 25 km ²).
8	How will the Company ensure that there will be sufficient staff to work with the Project?	This will be a challenge as an increasing number of companies and projects are recruiting professional staff. However, the Company will offer a competitive package and good working conditions.
9	This project should consider how to attract tourism to the area.	The Company will work together with GoL on this. However, it should be realised that the area currently is not very accessible in terms of road and security.
10	The Project should study other alternatives to build transmission line across Phou Kao Kuay NPA to reduce the environmental and social impact.	Various options have been considered and impact assessment has been carried out on one alignment. The Consultant has suggested aligning the line with the NN2 TL to reduce the environment and social impacts.
11	Will the Project be subject to independent monitoring?	Implementation of environmental and social management plan will be monitored by concerned government authorities, an independent agency and others.

5.2.2 Summary of Workshop Proceedings

In addition to the comments expressed by the other participants and listed above, the two following persons added the following:

Mr. Yong Chanthalangsy, Director General of the Press Department, Ministry of Foreign Affairs, informed the meeting that the policy of GoL on hydropower development is aiming at poverty eradication and protection of the environment in the catchment area. He presented the Nam Theun 2 project as a model for watershed protection, reduction of swidden agriculture, job creation and tourism development.

Dr. Somboune Manolom, General Manager of Lao Holdings State Enterprise, said that the NN3 HPP had been developed since 1994 and that the shareholding companies (i.e. GMS Power, Ratchaburi, Marubeni and LHSE) are all well-known companies. In addition, ADB, AFD and JBIC are involved as loan providers for the project and will supervise project implementation closely to ensure project sustainability.

The Chairman, Mr. Noulinh Sinbandith, then summarised the outcome of the workshop as follows:

- The NN3 HPP is an important project, which will contribute to the development of the country and the local area.
- The Project has conducted several impact studies, e.g. on the transmission line, from where several possible alignments have been presented.

- The participants have raised several issues and concerns that will be addressed by the company in the final version of the documents. This will ensure smooth implementation of the Project and reduce negative impact on environment.

5.3 Disclosure

Information centres will be established in Vientiane Capital, in Vientiane and Xiengkhouang provinces and at the project site offices. They will display the safeguard documents in their English and Lao language version, other public documents (progress report, entitlement matrices), communication posters, photos and maps. These centres will be established after the completion of the next round of village consultations, during which this final draft of the REMDP shall be presented.

A project website will be set up and it will serve as a way to disseminate information at the national and international level. In addition to the safeguards documents and other public document, the project website will be used to release updates on the progress of the project and provide a mean for interactions between the various parties interested and involved in the project.

Table 5-3: Schedule for Public consultations and Disclosure in 2011.

Activities	Timeline
Completion of final drafts of the ESIA & the REMDP	
Public disclosure of ESIA final draft to IFIs & general public	Jan 2011
Public disclosure of REMDP final draft to IFIs & general public	April 2011
Consultations at local level	
Production of consultation material, including Lao translation of documents (executive summary in Lao, key sections of the documents in Lao, in particular entitlement matrix)	May- June 2011
Public consultation with local people	June - July 2011
Consultations at national & international levels	
Reading period of documents	April - May 2011
Public meetings	May-June 2011
Finalisation of documents for implementation	
Receive comments	May - July 2011
Finalisation of documents, English version	May - July 2011
Translation in Lao language	June - July 2011
Update of consultation materials in all languages	June - July 2011

Other relevant project documents to be displayed at these centres include feedback from consultations held and the grievance procedure. The centres will assist villagers with formulation of and forwarding of grievances to the relevant Grievance Committee.

5.3.1 Public Information Centres

Central level

At central level a Public Information Centre (PIC) will be established at the GMS office in Vientiane. Once the NN3PC is established at its own office the PIC will be transferred to that office.

District level

The safeguard documents and other relevant project information will be available at the district office in Phou Koot and at the office of the Long Cheng (*kum ban*). Documents related to consultations held and feedback from these will be displayed here.

Village level

A part of the village office in Xiengdet will be dedicated to a PIC. All documents relating to consultations held and feedback from these will be displayed here.

Appendices

- Appendix 1: Briefing Paper for Household Consultations, Xiengdet, July 2007 (English Version).
- Appendix 2: Briefing Paper for Consultations in Peri-reservoir villages, November 2007 (English Version).
- Appendix 3: Briefing Paper for Consultations in Upstream villages, December 2007 (English Version).
- Appendix 4: Briefing Paper for Consultations in Downstream Villages, November 2007 (English Version).
- Appendix 5: Report from the consultation with the Xiengdet village on the selection of the resettlement site, 16th December 2007.
- Appendix 6: Xiengdet village consultations, 8-9 October 2008 (extracted from the consultation annex of the Ecolao - Norplan 2009 report).
- Appendix 7: Report from the consultation workshop in Phou Koot district, 30th October 2007 (extracted from the consultation annex of the Ecolao - Norplan 2009 report).
- Appendix 8: Report from the consultation workshop in Hom district, 2nd November 2007 (extracted from the consultation annex of the Ecolao - Norplan 2009 report).
- Appendix 9: Report from the consultation workshop in Xaysomboun district, 20th November 2007 (extracted from the consultation annex of the Ecolao - Norplan 2009 report).
- Appendix 10: Report from the national consultation workshop in Vientiane, 16th January 2008 (extracted from the consultation annex of the Ecolao - Norplan 2009 report).
- Appendix 11: Report from the public consultation workshop in Vientiane, 8th February 2008 (extracted from the consultation annex of the Ecolao - Norplan 2009 report).
- Appendix 12: Instruction from the Phou Kout District Governor prohibiting new installations in Ban Xiengdet, 14th July 2010.
- Appendix 13: Nam Ngum 3 Hydropower Project – Confirmation of consent to resettlement, Reaffirmation of Entitlement Policy for Eligible and Ineligible Households at Xiengdet Village, Phoukout District, Xiengkhouang Province, June – July 2011

APPENDIX 1

BRIEFING PAPER FOR HOUSEHOLD CONSULTATIONS

BAN XIENGDET, JULY 2007

English Version

Nam Ngum 3 Hydropower Project

The NN3 HPP is a hydropower scheme located on the Nam Ngum. The Dam and Power House will be in Vientiane Province and the reservoir will stretch 58 km up and reach Xiengdet in the rainy season.

The NN3 HPP is still in the planning stage and – if approved – is expected to start operating in 2013, whilst reservoir filling will take place in 2012.

Anticipated impacts from NN3 Hydropower Project:

- Flooding of houses;
- Flooding of paddy fields in the rainy season;
- Flooding of low lying gardens, orchards and fish ponds;
- Fishing – lower catch in dry season and possibly higher catch in rainy season;
- Increased traffic from salvage logging trucks;
- Water borne diseases and other health issues.

In addition, an impact from the Nam Ngum 5 Hydropower Project will be reduced amounts of water in the Nam Ting. Water from the NN5 will be let out through a tunnel south of the Nam Ngum / Nam Ting confluence.

NN3 HPP draft Resettlement Policy:

All eligible households will be assisted to have at least their current conditions restored and for most issues actually improved.

- Housing – the project will assist moving to and rebuilding at suitable locations;
- For loss of assets – the project will compensate all assets which cannot be relocated or will lose their value;
- Livelihood activities – the project will assist improvement of current and develop new activities to reach an income target that will ensure an adequate and sustainable life.
- Health – the project will improve the health facilities in the area;
- Schooling – the project will build a new school at the resettlement site and improve access to secondary school and non-formal education;
- Road access – the project will improve access from Xiengdet to Road 7;
- All affected persons can make use of the grievance procedure (yet to be established);
- There will be a complete resettlement package – suggestions from all stakeholders, including affected villagers, are welcome and will be incorporated in the planning.

APPENDIX 2

BRIEFING PAPER FOR HOUSEHOLD CONSULTATIONS

PERI-RESERVOIR VILLAGES, NOVEMBER 2007

English Version

Nam Ngum 3 Hydropower Project

The NN3 HPP is a hydropower scheme located on the Nam Ngum. The Dam and Power House will be in Vientiane Province and the reservoir will stretch 58 km up and reach Xiengdet in the rainy season.

The NN3 HPP is still in the planning stage and – if approved – is expected to start operating in 2013, whilst reservoir filling will take place in 2012.

Anticipated impacts from NN3 Hydropower Project:

- Flooding of forest areas near Nam Ngum;
- Fishing – lower catch in dry season and possibly higher catch in rainy season;
- Increased traffic from logging trucks;
- Water borne diseases and other health issues near reservoir.

NN3 HPP draft Resettlement Policy:

The NN3 Power Company will assist with livelihood activities in affected villages based on preference of villagers.

- Fish ponds;
- Small livestock veterinary support;
- NFTP domestication and processing;
- Health – the project will improve the health centres in Long Cheng and Nam Sam;
- All affected persons can make use of the grievance procedure (yet to be established).

APPENDIX 3

BRIEFING PAPER FOR HOUSEHOLD CONSULTATIONS

UPSTREAM VILLAGES, DECEMBER 2007 English Version

Nam Ngum 3 Hydropower Project

The NN3 HPP is a hydropower scheme located on the Nam Ngum. The Dam and Power House will be in Vientiane Province and the reservoir will stretch 58 km up and reach Xiengdet in the rainy season.

The NN3 HPP is still in the planning stage and – if approved – is expected to start operating in 2013, whilst reservoir filling will take place in 2012.

Anticipated impacts from NN3 Hydropower Project:

- Potential loss of fish catch related to long-distance migratory fish species.

NN3 HPP draft Resettlement Policy:

The NN3 Power Company will assist with livelihood activities in affected villages based on preference of villagers.

- Fish ponds;
- Small livestock veterinary support;
- All affected persons can make use of the grievance procedure (yet to be established);

Approach:

The developer (GMS) will together with district staff assess the importance of fish compared to other sources of livelihood.

Monitoring of fisheries in potentially affected villages will determine the villages affected and the scale of this impact. Compensation will be determined accordingly and designed in participation with affected villages and relevant district authorities.

APPENDIX 4

BRIEFING PAPER FOR HOUSEHOLD CONSULTATIONS

DOWNSTREAM VILLAGES, NOVEMBER 2007

English Version

Nam Ngum 3 Hydropower Project

The NN3 HPP is a hydropower scheme located on the Nam Ngum. The Dam and Power House will be in Vientiane Province and the reservoir will stretch 58 km up and reach Xiengdet in the rainy season.

The NN3 HPP is still in the planning stage and – if approved – is expected to start operating in 2013, whilst reservoir filling will take place in 2012.

Anticipated impacts from NN3 Hydropower Project:

- Potential loss of fish catch;
- Increased traffic from logging trucks;

NN3 HPP draft Resettlement Policy:

The NN3 Power Company will assist with livelihood activities in affected villages based on preference of villagers.

- Fish ponds;
- Small livestock veterinary support;
- NFTP domestication and processing;
- Health – the project will improve the health centres in Long Cheng and Nam Sam;
- All affected persons can make use of the grievance procedure (yet to be established).

APPENDIX 5

**REPORT FROM THE CONSULTATION WITH THE XIENGDET VILLAGE
SELECTION OF THE RESETTLEMENT SITE, 16TH DECEMBER 2007.**

**Report from the consultation with the Xiengdet village on the selection of the resettlement site,
Xiengdet village, Phou Koot District, Xieng Khouang Province
16th December 2007**

Objective:

To identify and reach agreement on site for resettlement of Xiengdet villagers to be resettled due to the Nam Ngum 3 Hydropower Project

Presentation:

The Governor of Phou Koot District, Mr. Vanthong Chanthavong, presented the objective of the meeting and urged all participants to give their comments on the issue.

Site visit:

All participants visited the actual site proposed for resettlement and ideas were shared as to where houses, gardens and community buildings could be located.

List of Participants:

1	Ms Me Kai	50	Mr Phi
2	Ms Dy	51	Mr Nhiem
3	Ms Soi	52	Mr Tik
4	Mr ChanPhone	53	Mr Meungle
5	Mr BounChanh	54	Mr Sytavanh
6	Ms Phone	55	Mr Thitsyda
7	Ms La	56	Ms MeSouk
8	Mr BouaVuan	57	Mr Phay
9	Ms ChanLo	58	Ms Me Phoumoth
10	Mr DouangTa	59	Ms Keo Xieng
11	Ms Ohn	60	Ms Me Kem
12	Ms DouangTa	61	Ms Me Chanh
13	Ms BounXu	62	Ms Me Pha
14	Ms Vone	63	Mr Xieng (A)
15	Ms MeXay	64	Mr KeutLurng
16	Ms Ngieng	65	Mr Singthong
17	Ms ThoungMa	66	Mr BounHeuang
18	Mr SanTy	67	Mr ChanBeg
19	Mr Thiem	68	Mr KhamMug
20	Mr Muy	69	Mr Xorn
21	Mr Sai	70	Mr KhamKone
22	Mr Mot	71	Mr Boualay
23	Mr KhamSavath	72	Mr Viengkeo
24	Mr Bounsy	73	Mr Xiengsimma
25	Mr KeoXieng	74	Mr Bouaphanh
26	Ms Cheng	75	Mr Moun
27	Ms Nom	76	Mr Phone
28	Ms Sytha	77	Mr BounKhamleuy
29	Ms Bounma	78	Mr Khamleuy
30	Ms Kham (Me Muet)	79	Mr Somboun
31	Ms Soakham	80	Mr BounXu
32	Ms Me Muy	81	Mr KhamSone
33	Ms Me Chansom	82	Mr KhamSao
34	Ms Me Phong	83	Mr BoumNoy
35	Ms Nang Sorm	84	Mr Miut
36	Ms Nang Maymong	85	Mr SomsouNuk
37	Mr Seng	88	Mr Vone (B)
38	Mr Oun (B)	89	Mr Bouapha
39	Mr Phetsamone	90	Mr Mueng
40	Mr BounTa	91	Mr BounPheth
41	Mr Keo	92	Mr Khamchanh
42	Mr Thon	93	Mr Khamthone
43	Mr Vieng	94	Mr Bounkham
44	Mr KhamBoun	95	Mr Pheng Ouan
45	Ms Sorm	96	Mr My (B)
46	Ms Phone	97	Mr OunPao
47	Ms Chansy	98	Mr Leut
48	Ms Leg	99	Mr Leut PhoSoan
49	Ms Sy		

Report on Village Consultation in Ban Xiengdet on the Agreement to the Xiengdet Resettlement Site (Lao Version).

ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນ ລາວ
 ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ສາທາລະນະ ວັດທະນະຊາຊົນ

ບົດບັນຍາຍ

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 3/ ວິທະຍາ ຈັນທະວິ ຈຳ ນັກ

**Report on Village Consultation in Ban Xiengdet
on the Agreement to the Xiengdet Resettlement Site (English Version).**

Lao People's Democratic Republic

Peace Independence Democracy Unity Prosperity

Nam Ngum 3 Hydropower Project
Report on Village Consultation at Ban Xiengdet, Phou Koot District, Xieng Khouang Province,
Sunday 16th December, 2007

Subject: Selection of Site for Relocation of Village Houses and Community Facilities

Participants:

Mr. Vanthong Chanthavong, Phou Koot District Governor, Chairman of the meeting
Phou Kood District officials 11 persons (see attached list), and one representative from Nam Ngum 3
Project Consultants (Norplan-EcoLao).

Xiengdet Village Administrative Committee members and villagers: 99 persons including 34 women
(see attached list).

Proceedings:

The meeting commenced at 10h 45minutes on 16th December 2007.

The District Governor opened the Consultation by emphasizing the significance of hydropower
development in supporting the national policy of poverty alleviation and as a mechanism for
channelling funds back into remote rural areas for financing at the local Level.

The Meeting agreed that:

1. The meeting unanimously confirmed the proposed relocation site on the Pom 22 (Phou Din
Daeng) ridge.
2. Alternative water sources comprise two locations: The first point is a spring near Ban Deun Bin,
and the second point is on Nam Same stream.

Additionally, Mr. Vanthong, Phou Koot District Governor stated that each family should engage in
agricultural development and not wait for relocation. He advised the Village Administration
Committee not to accept other families moving from other areas as the district Authorities would not
recognize their registration during this time.

Therefore, this note of meeting minutes is prepared for reference.

Signed:

- Mr. Vanthong Chanthavong, Phou Koot District Governor
- Mr. Doungta, Xiengdet Village Chief
- Mr. Pheng Phaengsintham, Consultant, EcoLao
- Mr. Bounelert, Provincial Water Supply Technician
- Mr. Sorsavan Intharat., Deputy Governor, Phou Koot District (Meeting Reporter)

APPENDIX 6

XIENGDET VILLAGE CONSULTATIONS, 8-9 OCTOBER 2008

- Report extracted from the consultation annex of the Ecolao - Norplan 2009 report (including presentation given, minutes of meeting & list of participants).

Please note that the presentations attached are the ones which were given at the time of consultation. Some features and analysis of the impact areas have changed since and the reader is referred to the ESIA and the REMDP for a more precise and accurate description.

- Photographies of some households taken at the time of asset registration.

Annex 3:

Xiengdet Village Consultation

8-9 October 2008



Chansouk Insouvanh
Emma Townsend-Gault

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1. Introduction

Since 1993, the community in Ban Xiengdet has been provided with information on the potential impacts of the NN3 Hydropower Project. Initial impact assessments and data collection for various sectors have been carried out, analyzed and complied in accordance with the Government of Lao (GoL) and the Asian Development Bank (ADB) requirements.

This consultation, which was carried out from the 8-9 October, 2008, was conceived to ensure that the community understands the nature of the project, potential changes and likely impacts, benefits and the long-term legacy of the project. Most importantly, the consultation allows the potential impacted population a voice to be heard by the GoL, a potential lender (ADB), and the executing company (GMS) while at the same time allowing the project to manage expectations.

As of the 9th October 2008, the total population in Ban Xiengdet is 583 people (280 female, 303 male). There are a total of 115 families living in 104 households. Of these 104 households, 96 are recognized as long-term residents by the village authorities. The remaining 8 households have moved to the region in the last year without correct paperwork. All of the original 96 households are Khmu, although some of the households have married into Lao families, and some of the households have Lao in-laws living with them. All of the 96 households understand the Khmu language.

A total of 344 people took part during the consultation process. 103 men, 103 women and 138 children, participated in the consultation and community dialogue. At least one person per household participated and majority of the household representatives were the household leader, their wife, and some of their children.

The consultation dialogue was mostly based on the GoL and ADB Policies for resettlement. These regulations include GoL's Decree on Compensation and Resettlement of People Affected by Development Project (2005) and ADB's Policy on Involuntary Resettlement (1995). A large part of the purpose of this consultation is to expose the community to policies and regulations that allow the community to have a better understanding on what the government and ADB policies are. It is essential for the community to have a good understanding of the obligations of the project owner, the developer – Nam Ngum 3 Power Company (NN3PC) – and to know how the company plans to address the adverse impacts. Additionally, the community must have a good understanding of what they are entitled to, their eligibility for compensation, resettlement and rehabilitation assistance.

This community dialogue also addresses ADB's Involuntary Resettlement Policy. The discussion covers the Resettlement Implementation Procedure Section B – Resettlement Plan – to ensure that the following 11 elements of satisfaction requirement are met to the ADB's standard:

1. Organizational responsibilities.

2. Community participation and integration with host populations.
3. Socio-economic survey.
4. Legal framework, including grievance procedures.
5. Identification of alternative sites and selection.
6. Valuation of, and compensation for, lost assets.
7. Land ownership, tenure, acquisition and transfer.
8. Access to training, employment and credit.
9. Shelter, infrastructure and social services.
10. Environmental protection and management.
11. Implementation schedule, monitoring and evaluation.

(ADB, 2008, 'Eleven Elements of a Satisfactory Resettlement Plan')

2. Objective

The objectives of the consultation meeting in Ban Xiengdet were:

1. To provide feedback to the villagers regarding their concerns which were raised at the household consultations held in July 2007
2. To present their entitlements, derived from the overall compensation policy (see REMDP, Chapters 4 and 12).
3. To give an overview of the current schedule of activities in Ban Xiengdet.
4. To present the grievance procedure (see REMDP, Chapter 7).
5. To provide some details of resettlement activities, livelihood development activities and social development activities.
6. To obtain feedback on the issues presented.

3. Methodology

Guided by the ADB Handbook on Resettlement, the consultation methodology was established in a constructive and transparent manner – a two way flow of information. Three of the community engagement strategies are applied to ensure the effectiveness of communication, i.e. informing, consulting, and involving.

Basic Principles of Community Engagement Strategies:

- **Inform** – provide the impacted villagers with balanced and objective information to ensure they understand the nature of hydropower, which include changes, potential impact, benefits, risks, and long-term legacy.
- **Consult** – consult with villagers by providing a mechanism for two-way information flows between company and community.
- **Involve** – work directly with the villagers throughout the process to ensure community concerns and issues are constantly understood and considered.
- **Collaborate** – promote partnership with villagers via community-based approach, community initiative, and partnership in formulating options and provide recommendation.
- **Empower** – promote mutual decision-making and to implement and manage change.

The final two strategies of collaboration and empowerment will be increasingly relevant as the planning process with Ban Xiengdet continues.

3.1 Methods

In order to achieve the outlined objectives, three methods were chosen: presentation, discussion and small-group work. In the first case, one representative of the company spoke to the assembled villagers and gave a presentation on the Resettlement Policies followed by entitlements. After each section was presented, the villagers engaged in active discussion and question and answer sessions to clarify outstanding points. Finally, the villagers were divided into eight groups to discuss the important issues related to their new village.

4. Overview of presentation

The presentation addressed the following topics:

1. Entitlements for project affected households
 - a. GoL Decree 192 and ADB resettlement guidelines.
 - b. Redefine entitlements and ensure correct expectations.
 - c. Land rights and land titling.
 - d. Confirm the scope and date of NN3 impacts.
2. Grievance Procedure
 - a. Grievance committee structure at all levels.
 - b. Methodology on how to address community concerns, complaints and compensation.
3. Poverty Reduction Strategies
 - a. GoL and GMS timeline and strategy.
 - b. GMS company plans (1 & 8-year plans).
 - c. Cut-off date for land compensation and household eligibility.
 - d. Village Development Coordination Committee set-up.
 - e. Focus Groups in the village.
 - f. Draft livelihood development plan.

4.1 Feedback from participants

The central part of the consultation is about contributing and sharing information as well as listening to community feedbacks, issues and concerns. The consultation aims at enhancing collaborative partnership and gaining mutual respects from both the company and local community.

During the community dialogue process, most of the concerns raised by the village participants centered on detailed questions as to the extent of entitlements, compensation for certain lands and structures, as well as clarification of time lines. Most of these direct concerns will be resolved through the focus groups at village level. See Appendix 1 for a detailed transcript of the community consultation.

All of villagers accepted that moving was essential, and have supported the move to the new village location provided that their concerns over water supply, livelihood activities and household

structures are dealt with. Thus far, none of the households have expressed any desire to relocate outside of the new village area, for example, Phonsavan.

Table 1: Village data – 9th October 2008

Total households	104
Households accepted by village authority	96
Households not accepted by village authorities	8
Households that would like to divide due to new marriages	11
Total Families	115
Total Population	583
Female	280
Male	303

4.2 Community Dialogue for Resettlement Plan

The community dialogue on the resettlement plan was carried in groups to ensure equal and equitable contributions to the planning process. The villagers divided themselves into eight groups and spent some time brainstorming their wants from the new resettlement site, and ideas on how to achieve their vision of development. The main concerns centered on infrastructure issues such as houses, road, schools, a health center, water supply, electricity, and a market as well as land and land access. The complete table is reproduced in Appendix 1, (page 17).

The ideas discussed focused on how the company (NN3PC) would try to do all construction activities during the dry season, both for ease of access and to enable the villagers to do their own agricultural production activities in the wet season. This preliminary discussion began to unpack the layers and integral relationship between all the activities. For example, building houses should be done before the inundation date, but villagers cannot move in to them unless potable water supply is present at that location. The school and other infrastructures cannot be built until a plan is developed, land is cleared, materials gathered and labour mobilized. The villagers are keen to participate in the planning process, as well as to work in collaboration with the district authorities and the company to implement these and other activities.

4.3 Household Asset Survey

A household asset survey was conducted to record the assets possessed by each household. During the survey, a team went to each household to fill in a questionnaire about their assets, which were then photographed. The *Nai Ban* (Village Headman) went with the team (1 EcoLao consultant and 1 district LWU representative) and accepted household survey forms were stamped by the village authority to recognize their authority as a final document to support the proposed cut-off date of October 10th.

Table 2: Household Asset Survey Summary

Houses	104
Rice barns	95
Corn barn	1
Rice mills	17
Blacksmiths	1
Pig pens	20
Chicken houses	30
Pigeon roosts	1
TV antenna	10
Shops	2
Petrol huts	2
Spiritual house	1
Community rice bank	1
Tractor garage	1
Boat house	1

Table 3: Village Education Summary

Primary Students	146
Female	64
Male	82
Secondary Students	19
Female	3
Male	16
College and Technical Students	5
Female	2
Male	3

4.4 Past collaboration

The village authority demonstrated their ability to collaborate and presented the following list of data collection carried out in the village since 1996, according to their understanding:

Table 4: Status of Assessments and Data Collection according to Xiengdet village authority.

No	Initial Assessments and Data Collection	Status
1	Socio-economic impact assessment	Completed
2	Household asset inventory	Completed
3	Land based asset	10 percent not yet complete, will need about three persons working in seven to ten days
4	RMR: Fisheries survey	Completed, Xiengdet and all adjacent upstream villages
5	Land capability classification/Land survey with aerial photography	Completed
6	Population survey/census	Completed with socio-economic survey 2007 and household registration 2008
7	Reconnaissance on potential alternative access road routes	
8	Forestry utilization survey	Completed
9	Water source survey	- Reconnaissance irrigation source - Consultation on potential potable water sources
10	New land relocation survey	- Observation and approve by villagers - Onsite consultation

5. Conclusion

Although the project has been collecting information in Xiengdet Village since 1993, the villagers are still keen to participate in both data collection and in the coming planning and implementation stages. The participants proved their interest by their participation in the meeting, in terms of attendance, discussion, enthusiasm, and questions. Every household in the village was represented, some many times over. The villagers expressed their willingness to move to the new location, and hope that the NN3 executing agency will work in collaboration with the GoL's poverty reduction strategy to support their socio-economic development in parallel with district authorities and existing community support structures.

Appendix 1: Minutes from Village Consultation, Xiengdet, 8-9 October, 2008.

The meeting was facilitated by Ms. Chansouk Insouvanh (Souky). She introduced the meeting and thanked everyone for coming. Thanks to the villagers and the people who have come from the province and the district for their support. These include the Governor's office, LWU, Department of Energy and Mines, GMS (Roel Schouten) and Norplan/EcoLao.

The following is a transcript of presentations and discussions held at the meeting.

Souky: There is a lot to cover today, we must explain about the realities of the NN3, the rules and regulations from GoL and ADB, as all of these must be followed and understood by the people. We must now create understanding to work together to make plans to move forward into the next phase.

NN3 has not begun yet, although the project has been collecting information from the village for a long time, but construction has not yet started so when there are negative impacts felt in the village it must be from another project. We will discuss this later in the meeting.

People/villagers who will be impacted by development projects have right for fair treatment from the executing agency and from the government. The GoL has to ensure that its people grow out of poverty, especially extreme poverty. Ethnic minorities have been recognized as some of the poorest of the population and the Khmu are classified in that poor category. Therefore, many Khmu are in need of special support as they are poor. The GoL and the ADB have regulations for supporting ethnic minorities, for example, the Khmu people and other vulnerable groups. Have you heard of these and how they will support you?

Regulations and Decree 192 [holds up copies] is designed for a development company to follow when they executing a development project. The Degree explains what companies should do when working in areas that involve resettlement. There are many rules and these rules protect the rights of people everywhere in the country against unfair practices by development companies.

Today we want to make sure that all villagers understand their rights and responsibilities under the law.

For example, if the company wants me to resettle, there must be a plan in place to protect me. There are many points that must be addressed, and it is quite complicated

Everyone in Ban Xiengdet must work together to understand these points, the NN3 project plans and its potential impacts.

Of course, all impacts – houses, agriculture land, drinking water and other resources that will impact by NN3 will be compensated– and remember, no adverse effects will be felt until August or September 2013, which I will explain later today.

Plans for the project have been here since 1993, and I would like to address the reasons why it has taken so long. There have been two kinds of problems:

1. 1997 Asian financial crisis, which has taken several years to recover from, and,
2. There was an internal change within the GoL Environmental Agency –The Science Technology and Environmental Agency – It now has new social and environment standards which takes a while to comply with

These are the reasons why we had to put the project on hold and then had to come back many times to collect information. We are sorry if this has caused many inconveniences and has taken longer without seeing any results or consequences.

Despite facing difficulties, NN3 has to follow the Social and Environment safeguard procedure. Each step must be taken in accordance with the donor guidelines on People Affected by Project and/or Resettlement Plan of the ADB. The project must also comply with the Degree 192 on Compensation and Resettlement of People Affected by Development Project.

During the last few years NN3 has been at the data collation stage. This stage is crucial for future planning. This stage is referred to as the initial social and economic assessment. I understand that some of us are tired of giving more information, but the project needs all information on people, households, lands, gardens, trees, etc. to be able to effectively plan for resettlement. We are now nearly at the end of surveys and data collection.

The ADB and the GoL will only approve the project if the villagers agree to resettlement and take steps accordance with the guidelines that will result in a good situation for both, the company and villagers.

This consultation, and perhaps one or two more, is to also inform the villagers that we will end the initial assessment and we must move on to the next phase, which is planning. Now I want to make sure that everyone understands what they are entitled to and how NN3 will provide such entitlement.

I was asked at the Village Authority meeting last night, "should we be planting trees here or in the new area. What about agricultural lands, and land spaces for households?"

According to the Degree 192 on Compensation and Resentment of People Affected by Development Projects, villagers should be compensated for all asset loss and the executing project must ensure that all villagers have been compensated at least equivalent to what they will lose. Since the government aims to help poor Khmu households out of poverty, I think the villagers will have access to better facilities with NN3 project.

The ADB and the GoL will ensure that each step, drafted in the Degree, is followed by the NN3 project.

Your entitlement includes the following:

- Houses will be rebuilt in a style better than the existing houses in selected location, Ban Nam Dai.
- Land loss will be compensated by land. Example, land x ha will be compensated by land x ha, and/or a cash settlement only in a special occasion because the GoL wants to minimize cash compensation for your own safety.
- Trees and other non-moveable assets will be given a cash value based on their productivity, and will probably be replaced in the form of saplings in the new area
- Together with the villagers, the company and the local government will assist in planning the new village, developing better livelihoods, and addressing other social and economic development.
- The company will assist in improving agriculture activities, forest and land planning, gardening and ensuring that every household is well taken care of during the implementation phase.

Everyone must listen carefully because this has big repercussions on your life. NN3 hasn't yet done anything, but wants to start working soon with you all to make sure your livelihoods are not adversely affected.

Villagers might say, I have a house like this, and if you want it to be re-built we can make a plan together to re-build or re-design a new place in the new area. If you want to take the old wood from your existing house with you to build an extension, or a rice barn or something else that is fine too.

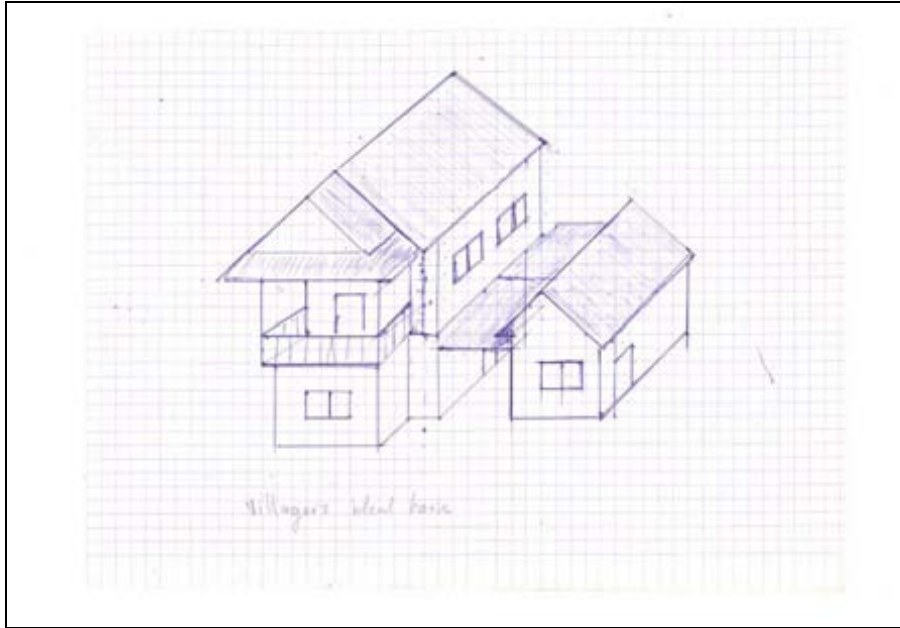


Figure 1: Villager drawing of an 'ideal house'.

If you have a small family, your house will be a bit smaller than if you have a house with 10 members, but again remember, we have to plan and work together.

The company wants to make sure that everyone is fine in the new place and has what they need

Chickens and other small animals will not be compensated, as people can bring them with them. Most of your belonging remain the same, the project only affects some houses, some lands, and some kinds of agricultural production. For the safety of the villagers, it is necessary that entire Ban Xiengdet is relocated to Ban Nam Dai.

When you are moving, if you are disagree with the plan, or have had some problems that has not been addressed, you can go to a committee in the village, and then in the district, and then in the province. If there is still a problem you can go all the way to the national level. I will explain this process clearly after our break. We hope that going up to the national level will not be necessary and that all problems can be dealt with at a more local level through local and village collaboration process. We should work collaboratively right from the beginning to make sure that there are no problems, no arguments, things are fair, that everyone understands each other, and issue have been addressed at the right time and response in appropriate way.

In dealing with problem, there should be representatives from the village and local authorities. There will be representatives of the LWU, the district authority, and the project.

We will have a grievance committee at the village level and this committee must be set up by you. A person who has a problem can present this to the committee. A representative of the NN3 company, and the household who has problem, will then go on to investigate the

problem, and see how they can help to sort it out. I will discuss the grievance committee structure after the break. Now, let's focus on the entitlements.

Does anyone have any questions at this point?

Male villager, elder: we want all the things that the company has told us about for years, but nothing has happened yet. I have a few specific questions.

1. Suppose my house is this big, but someone else's house is that big – will these differences be continued in the new village – it is not fair to build a family a smaller house than their existing one.
2. Rice fields – my rice is a permanent one and I have worked on this field for years, I have a permanent water channel, well maintained and good structure, I don't have time to invest the same energy, can the company provide the same structure?
3. I am already an old man, and in the past I had enough strength to develop rice paddy, but now I don't – if the company cannot provide the same structure what can I do, I don't know how to do anything else, nor do I really want to.
4. I have a good house; can the project support the same wooden house like I have or better? Do we get the wood and build our own? What about the smaller and poorer houses, will they have the same? I don't want to rebuild my house again. How does this work?

[Many villagers agree and nod with his questions!]

Souky: houses will be built according to the design the villagers and the company agree on. It should not be poorer than the existing houses because now many of you describe your existing houses as poor houses. We can talk about the details of houses later during the planning phase. The company will build houses that are suitable for household size. When the house design is decided, we will hire a contractor to build the house with village housing development committee. Or, the village can build houses themselves with support from the company, and a contractor, we have to check. These things must be negotiated between the villagers, the company and the district departments.

The company will make sure that no one suffers in the move, and that standards of living are maintained if not improved.

[Souky draws a traditional house and a new house with a cement bottom]

The exact size of the new house depends on the numbers of members in the household. The new house will be made of a better wood than the split bamboo that most of the houses are made of. The new house will have a better roof, and not one made of grass/straw.

The old houses can be used to make other things but the new house will be better and nicer to use. [appreciative murmurs around the crowd]

[Souky tries to draw a nicer house – apologizes for bad drawing skills – draws a two storey house]

Older man: if there are only two of us left, can we have a smaller house?

Roel: We can come to an agreement on three types of house depending on how many people there are in the family and their interests.

Villagers: agree that this is a fair process.

Village authority man: understanding the laws and regulations of the company, and the district, and the work of the project, if we have people who can build houses, schools, etc, can we work together to build them or selling wood to construction contractor or do we have to have outside labour.

Villagers: agree with village authority man!

Souky: villagers, local authority and the company will work together to have a satisfactory result. However, if villagers sell wood there might be a delay and a problem if the requirements or standards are not met. We also have to consider the fact that houses must be built before flooding. I will explain that fact later. But villagers have to consider that nothing is stopping you from doing your daily routine until the impact, the flooding occurs.

Villagers : agree that selling wood might cause delay and suggest that houses should be completed before flooding.

Souky : rice fields, remember, land is compensated by land, rice fields should also be compensated by rice fields. Villagers and company will work together on this matter. Those who have permanent paddy field should be received the same or equivalent to the same if not better. Again this should be discussed in detail during the planning phase. Remember the community and the company will work together on every matter. The rice field issue will be one of the most important, and the company is doing everything they can to ensure this will not be a problem.

You do not have to have anything you don't want! Are there any more questions on entitlement? The above issues can all be decided and made clearer during the planning phase. Now we just want to outline the main things and agreements that must be made. We can talk later in the afternoon about specifics.

Village Authority man : upland paddy, village fish ponds, gardens, swidden, and other communal lands – I am afraid that not everyone in the village understands how the compensation for these things will work.

Souky : this is an important point to raise. All of these lands must be compensated if they are adversely affected by operations. Everything that the villagers have which have negative impact by NN3 will be replaced. Villagers' livelihoods will be improved not decreased by the company.

The company is not just asking you to move without thinking carefully about how we can work together to improve quality of life for all those living here. We will work with you to ensure that things get better. However, the company will not be able to simply give you more land than you already have – for example, if you have 1 ha now, and would like 2 ha, the company will not be able to just provide that for you. However, the overall production output of your livelihood will be the same or better.

If you have 4 ha now, the company will find a new 4 ha for you as long as it is possible. We must make sure that the quality of the soil is similar than before, and that things are relatively similar. For example, the company won't give you 4 ha of forest and make you clear it all by yourself.

Village woman : what if we don't have paddy, and all our traditional garden land will be flooded?

Souky : the company should make sure you have new land suitable for agricultural things you have been doing up until now.

The company will talk about the village development plan and that will help these problems become clearer. It is important for every one in the village to understand how things will work.

About fish ponds that the villagers use together, natural ones, the project will ensure that fish come back in enough numbers to enable villagers to catch as much fish as before. Fish ponds should be compensated by fish ponds. The same procedure here will be followed as in other matters, the villager will work the company to ensure fair treatment for every household.

The same thing happens with gardens and other kinds of plantations or fruit trees, etc. and all other kinds of productive agriculture. About upland paddy, this is more difficult as many you do rotating swidden rice. However, providing new upland paddy is difficult – we must work together to look at the new area to find suitable places to make upland paddy, as creating new swidden goes against the agricultural policy of Lao to protect the environment, and/or look for new kinds of agriculture either animal raising, or fruit trees, or another activity. These activities can be developed in consultation with the district agricultural authority.

[Roel draws a diagram on the board showing the elevation of rice fields, and the houses, explaining that some, perhaps all, will be inundated each year, but others won't be. It is, Roel explains, difficult to be sure until the complete survey with benchmarks has been completed.]

Also tells about the project and districts plans of providing irrigation for dry season agriculture and that other livelihood plans will be developed.

Village development authority : once we have left this site and moved to the new one, I understand, but what about the sheds and etc for rice mills, animal pens, etc – in the new picture I didn't see the sheds.

Souky : all existing structures will be replaced – remember, this drawing is just a sketch of the one you did. If you have a rice barn, there will be one provided for you. If you have a shed in which you keep equipment for a business, or a shop, or another thing, the company will work with you to build a new one in the new location.

In the coming days we will come round to each household structure to get an understanding of what each household has in terms of structures. The company will then ask you and then the *Nai Ban* to sign this paper to agree that that is what you have and that is what you are eligible to in terms of compensation.

I know that the upland paddy has not been measured, but the company will be confirming soon the livelihood package that will be made available to all eligible households. The exact details will be worked out in a participatory process in the coming months.

Villagers : yes, only paddy rice fields have been measured, not the upland rice fields, this concerns us, and we want the company to work with us to make the livelihood package soon

Souky : please be informed that if you don't want to go to the new location, if you decide you'd rather go to Phonsavan or some other place we can negotiate with you to get a cash settlement based on the assets that you have HERE, Ban Xiengdet. We will NOT go and build you a new house in Phonsavan or anywhere else, but only in the new planned village.

Village authority man : what about if I have good house now, and I want to demolish it and re-build in the new place. And in the process the material is damaged. What happens for compensation then?

Roel : it will depend on the individual case – either replace the materials or provide the cash to the value of the materials damaged – if the tin is already splitting they will not get a new one!

Village man : what if I have all of the materials, but haven't yet been able to actually build the house. Will I get support to move the materials to the new location?

Souky : yes, but this will depend on the agreement. For example, if you have your own transportation, the company may provide some gas, or the company may arrange for transport to your new location, Ban Nam Dai.

Man : if I bring my wood and I don't have enough to actually build the house, will the company support some extra or can I sell the wood to company?

Souky : the new house should be prepared by the company with your assistance, and if you want to build an extra house or shed with your own wood, you can, but the company will not give you more wood for extra house. You can use your own materials, I don't think you'll get extra money for your existing wood. These are the kinds of issues that can be dealt with in the future and a construction procedure should be in place in the coming days.

Souky : there needs to be regular meetings, as suggested by Roel, to discuss these issues in detail. Therefore these don't need to be discussed in detail here.

Do any of the women have a question for Souky?

You can ask in Lao or Khmu. There is a lot of information being given, it is OK to ask more questions.

Village woman : where exactly will the land be flooded to? Which land can we continue to cultivate?

Roel : 723 m above sea level – we have to come back and do a topographical survey and then mark out the areas which will be flooded and the areas which will not be impacted. This will happen soon. The measurements have been made, but the benchmark points need to be placed on the land. Also with the road access to road #7.

Village man : when the paddy survey came last time, I'd not finished the retaining walls on my paddy. Then at that point the survey wouldn't count my paddy as complete. Now my paddy is completed, will there be another survey? Will I be compensated based on the current amount of paddy?

Souky : yes. There may have to be a process through the grievance committee, but the idea is that all cultivated lands will be compensated equivalent to existing cultivated land.

Roel : we will show villagers the information we already have. If a household has a problem with that, then we will go and re-do their area.

Souky : there are no land titles in the area, although this will be addressed with relevant authorities in the new area.

- to talk about land a bit – in the new area there are no land titles yet

it is important for all households to have a title both over agricultural lands of all kinds, and household lands.

Do you want them?

Everyone : we must have them, good, good, etc.

Souky : in the future it is very important to have them, as it enables confirmed ownership, and protects rights now and in the future

Think about what will happen in the future – what if your daughter studies in VTE, and then wants to come back – will she get land? What if your son wants to get married and then come back – what is he entitled to?

TEA BREAK

Grievance committee structure [Souky draws it on white board]

Explains the committee using the example of the man whose paddy was not completed before the survey came by. He can then go and approach the village to see if they can come to an agreement. If he is not happy then, he can go up a level.

At the village level there must be members of the village authority, elders, LWU etc who all understand the rules and regulations. There will also be a representative of the project to establish the extent of the grievance committee's responsibilities. Even at the village level there will be a representative of the district to ensure all points of view are represented. And the *Kum Ban* level too.

This system is endorsed by GoL, ADB and GMS.

Hopes that this will be able to solve all problems.

Seumphan : do the people understand this system? Are there still problems? In the future you may need to rely on this system to make sure your problems are addressed fairly.

Souky : This committee will be to specifically address the problems of NN3, not of NN4 or NN5. This is why the project will be involved.

NN3 will not have any impacts yet. The problems with your water, as we understand, are coming from NN5, because NN3 hasn't done anything yet. NN3 will support new water systems in the new village. We spoke to the Governor the other night in Phonsavan and he agrees that the water quality problems here have to be the responsibility of NN5 and not of NN3.

All companies must follow Decree 192. If NN5 is causing problems now you must know you have the right to get them to fix their mistakes through their grievance committee.

We are in the process of setting up this committee and others to work with the project; this is the first step in setting up the systems of communications, of problems, and of planning with the village for good development of the community.

Are there any questions on this topic?

The impact of NN3 will not occur for a few years. The construction of the NN3 dam is located in Long Cheng, Xaysomboun District, Vientiane Province. There are other hydropower projects and plans for such projects along the Nam Ngum River – NN1, NN2, NN3, NN4, NN5 – and each has different scope of impacts. For example, many villages in

Xaysomboun District will be flooded as a result of NN2, but Long Cheng, where the NN3 dam is located, will not be affected as land is at a higher elevation.

Ban Xiengdet is a little unlucky, as this is the only village which will have flooding as a result of NN3 dam construction. As mentioned, the construction of the dam is in Long Cheng, but the water level on Nam Ting River will be the impact on our village. Other areas will have some small impacts, but again, this village is the one with flooding problems and needing to be resettled.

[Souky draws a timeline demonstrating that there are only four complete dry seasons between now and the expected inundation date of wet season 2013]

2008		2009		2010		2011		2012		2013		2014		
d	wet	dry	wet	dry	wet	dry	wet	dry	wet	dry	wet	dry	wet	d

Figure 2: Time line showing wet and dry seasons against years till 2014

The first time flooding will happen, if the project is on time, will be August-September 2013. There is no guarantee that the whole village will be flooded each year, it is a possibility, and it will be impacted on other factors such as other projects, the weather and natural disasters and etc. The new village is good as it ensures all the households will be above the even highest flood levels.

The most important thing is we must have a good plan. All the houses, schools, medical clinic, etc as well as all the training for new agricultural techniques, fruit trees, new paddy and other agriculture, and sustainable livelihoods, are in place before this date – July-August 2013. This means that you will not have a decrease in your standard of living.

This will mean that you will be able to continue living and working here, but we need to make a plan for when the village will move to the new location – must be well in advance of first flooding date in 2013.

Remember NN3 has not yet impacted the village. Before this date (today) we were only getting information. Now from this point we are starting to plan together to make changes.

2009 – the year to make plans – when to go move house. Most of the basic household structures, and other infrastructure needed for village life – such as electricity, irrigation, sewage, drinking water and road and pathways should be completed before flooding occurred. Planning is important for future development and livelihoods of the villagers. All of us have to consider many factors in the planning phase. The villagers will need to plan for sustainable livelihoods in the new location together with local government authorities and the company. We need to think of these factors:

- how to develop our new village (village layout) and houses
- when to build school
- when to build medical clinic
- when to start new agricultural production
- water, toilets
- electricity
- road
- land titles
- other structures
- moving the animals

Because all households need to spend days collecting food or working in agriculture, the company will try and work with different households on different areas, and the company will try to avoid working with villagers in peak planting/harvesting times, and when possible staying overnight so we can talk together in the evenings.

So 2013 is the time of inundation, but with good planning it should not be a problem, because people will be able to move in good time. If we do not plan, then there will be many problems as people try hard to move in a short time.

By 2010 the plan should be in place, and from 2010 to 2012 it will be implementing the actual plan – for example, if we have to build 100 houses, this will take some time, especially if we are adding rice houses, toilets, schools, roads, etc. This will be a lot of work. We need to work closely together.

We now must make a plan covering each year's dry and wet season, co-coordinating suitable activities with the seasons. We should be prepared to move during the dry season 2011-12 and by early 2013 it is important that we already be living in the new houses.

Any questions, up to this point? Does everyone understand all the points I've just made?

This afternoon we will actually try and make some rough plans on when some of the big developments must be made. We will prioritize what must be done first, second, third, etc.

For example, what about water systems? House plans must be made so that toilets can be put in, construction made around the water pumps, etc.

What about growing new kinds of crops, animal raising...

From now until 2013 is preparation for resettlement. After that we will have several years for social/livelihood development, which I will explain in details this afternoon.

Now we have to focus on the planning phase, which will work to ensure that all households are able to move out of poverty – move above the poverty line. And the rich households must be at least at the same level if not better.

1 year planning – 2009

2010 – 2013 – implementation/prepare for resettlement

2013-2017 – livelihood development/monitoring and poverty reduction

We will have break, but think about these factors before you go:

Planning → what will we do in this phase?

Impacts to start in 2013

- Village committee for grievances

Construction

- What must be done for houses, schools, medical clinic, etc?

Development

- Training for animal raising or new fruit trees, or...

Socio-economic Development

- Training on handicrafts, marketing, gender issues

break for lunch

[The afternoon session begins with the villagers breaking into small groups to discuss the development activities they would like to see]

Souky: Things to think about while in the small groups are: household structures, infrastructure; electricity, water supply, irrigation, education, health clinic, rice barns and etc.

What about training and other activities.

This does not mean that just because it is written it will be delivered, but it gives us the opportunity to work together to think about the things that we can help to provide.

Who will give the construction support that is needed? How will the classes be taught in a new school – if there are more rooms, who will teach them? The village authority should work with the district to recruit more teachers from this area. If there are classrooms and teachers, how will they get materials? Do you want to move the school, or to make a new one? The school here is only Grades 1-3. What will you do when your children start to get older? Don't you want them to be able to have a longer better education?

How will you decide what kinds of agricultural products to grow? Fruit trees? Teak? Other things? What about animal raising? Will you need training for vets and injections? What kinds of structures will the animals need?

[The village then broke into 8 groups to discuss their requests for the new village.]

Group 1: The village authority

Group 2: The LWU

Group 3: The youth

Group 4: The village security

Group 5: The elderly

Group 6: The village unit leaders

Group 7 and 8: Villagers

Village resettlement and development plan proposal.

No	Development proposal	Group request								Total
		1	2	3	4	5	6	7	8	
1	Road from Ban Somboun to Xiengdet to Nong Tang	√	√	√	√	√	√	√	√	8
2	School: primary, secondary schools and teachers	√	√	√	√	√	√	√	√	8
3	Permanent houses, latrines, kitchens	√	√	√	√	√	√	√	√	8
4	Health center	√	√	√	√	√	√	√	√	8
5	Water Supply	√	√	√	√	√	√	√	√	8
6	Rice barns, house for rice mills and for tractors	√	√	√	√		√	√	√	7
7	Electricity with mobile phone antenna	√	√	√	√	√	√	√	√	8
8	Fishponds	√	√	√	√	√		√	√	7
9	Market	√	√	√	√	√	√	√	√	8
10	Land for rice fields, gardening, and houses	√	√	√	√	√	√	√	√	8
11	Irrigation channel for wet and dry season				√		√	√	√	4
12	Animal raising			√			√	√		3
13	Village Meeting Center, village office	√	√	√	√		√	√	√	7
14	Handicrafts, silk weaving			√	√					2
15	Land titling	√	√	√				√		4
16	Higher education, adult education			√						1

No	Development proposal	Group request								Total
		1	2	3	4	5	6	7	8	
17	Temple for Buddhists			√	√			√	√	4
18	Sports fields			√	√			√	√	4
19	Village fencing						√	√	√	3
20	Revolving fund for villagers with low interest		√		√		√	√		4
21	Training and employment opportunities for young people		√				√			2
22	Training on new fishing techniques and other business activities							√		1
23	Establish 1 big/medium rice mill in the village				√	√	√	√		4
24	Fishing boat	√			√		√			3
25	Community ferry for crossing rivers, and community car for transport				√		√			2
26	Seedlings for cash crops						√			1
27	Teaching materials for students and teachers						√			1

Souky: [presents lists from the groups] There are many things that are wanted by all the groups, but what is the most important to do first?

The next thing to do is to establish a village committee so that the list of requests can be prioritized.

Build houses – first people must decide how they want their house to be, how much land they will need to do that, where each household will be in relation to each other. These steps must be taken before the houses can actually be built. The land needs to be looked at and the people must come to agreement together.

House building:

- You can have houses along a road
- Or you can make a crossroad situation
- Or even in a circle
- You need to actually go to the area where the village will be built and see how it looks;
- Then you can make a plan on how the roads will look, the plots of land;
- Then you can figure out where the water will come from;
- Where will the electricity come from, how will it be arranged?
- Where will the animals go, where will the pens be?
- School inside or outside?
- Market in the middle?
- Where will the rice mills/barns go.

It is important to think about the many permutations that are possible. Then the company can hire someone who can do an artists impression of how it could look – and then the village can agree on the situation.

The roads then need to be planned, the temple, the health centre, the graveyard, and much more...

Having a household design is a good step, but then they need to think more holistically about the other issues that are affecting how houses are constructed.

- Houses
- Road

- Clean water
- Health clinic
- School

Roel: About the road, the ADB and the district have looked at the road, and have identified 6 places where the road needs real help, however we must think about this issue carefully.

Souky: We should think of many possibilities. Should children continue to go to Nam Sam for grade four and five and then to Nong Tang for secondary school? If so improving road will provide convenience for our children?

The priority should be where Xiengdet goes to Nam Sam – where there is a school and a health clinic. If the road is better, then children can go easily to continue school up to Grade 5. Although there is not yet a secondary school in Nam Sam, continuing to Grade 5 is better than stopping at Grade 3, and then there may be more opportunities for further study.

Villagers : we want primary, secondary school and health centre in the new village

Souky : Project cannot build a secondary school unless the district is able to provide teachers and equipment – this will depend on the actual circumstances. We have to understand that the Ministry of Education can only give the permission to establish a new secondary school if there is sufficient number of students, if the district education department can provide enough teacher for each subject like, history, geography, math, etc. It is unlikely that we will have secondary school in the new village. I recommend that village should talk to district education department directly. But perhaps we can manage to have grade one to five in the new village, instead of only up to grade three like now.

Villagers : what about road, can we have from both sides, to Nam Sam and to Ban Someboune ?

Roel: Roads to road #7 is a possibility, but there are some options that must be considered. The bridge across Nam Ting River is a big issue, as NN3 thinks about how much this is going to cost. The company will work with district engineer and topographical survey to design roads and see what the options are.

When the roads are better the villagers must limit the number of large logging trucks that come down the road or next year the road will be just as bad as before.

Village authority : if we get the plan finished earlier, can we start working on implementation sooner?

Roel : probably not, because we need financial closure which will happen end of 2009 – beginning of 2010. However, we can get the plan into such a good place that when the money comes in we can go full steam ahead.

It is now crucial for us to get the village committees into place so that special groups can work to make these decisions for the various sectors – sector group.

These committees need to be established by consensus among the villagers. We will support the organization of these groups, and aid in their development.

Souky :The sector groups will as a minimum be irrigation, agriculture, health, education and infrastructure. These groups will all have to include men and women. Even in things like the infrastructure groups must have women. Remember, women spend much of the time in the

household, and have responsibility for how the household is run. It is very important that they have a role in house design to make sure it is easy and suitable for the work needed to be done there.

Older Village Man: Yes, this is true, but men sit and drink Lao Lao in the house, so they should have a say too! [shouts of laughter]

Souky: The role of the VDCC (Village Development Coordinating Committee) must also be decided – will it be in control of everything, or will it just co-ordinate the other groups, or will members of the VDCC lead the various sector groups? These are all decisions the village authority must make in consultation with the rest of the village, and the project. Village groups must also work in close co-ordination with the appropriate government departments. Does this sound good?

All villagers murmur; yes, yes, we want a voice, we want to plan and start soon.

Souky: Now we will discuss the cut-off date.

A cut-off date is needed to protect both the company, and the villagers from other people moving into the village in order to falsely gain access to project entitlements. In order to make a date we have organized for Mr. Seumphane and Mrs. Someboune to go to each household to survey all household structural assets. This includes rice barns, rice mills, pens, sheds, houses, toilets, etc. All of these will be registered and stamped by the *Nai Ban*. Once your household has been signed off, then that is the cut-off date.

This does not mean that if your children want to set up a new household, due to marriage or other reason, that they cannot do that. It just means that the village committee will have to approve any new household after the cut-off date.

Seumphane and Someboune will work with village authorities in the next four or five days. They will have every household on registration paper. This paper is an initial record of impacted households, which the company will start keeping from now on. Besides the structures, the company will ask for every member of the family, their age, their relation/ status in the family (daughter, son, grandparent, niece etc.), what are they doing, whether they reside in the village or live elsewhere.

The *Nai Ban* must only stamp the village households, not unauthorized immigrant households, which recently establish without approval from the district or province. Village authorities should consult with district for accepting those houses.

Villagers : yes, yes, yes

Souky : We all must work together with the *Kum Ban*, with the district, with the province and with GMS.

Do you understand what cut-off date means?

Villagers : yes, yes, yes.

Souky: Now I will summarize the points we have discussed together today.

1. The cut-off date will be next week after the household asset registration.
2. It is clear that the project will not have any impacts before 2013.
3. The households agree to resettle.
4. Everyone understands the grievance committee procedures.

5. The village agree to support land titling.
6. The VDCC and sectoral committees will be set up with support from the project.

Any questions?

Village authority man: What if there is not enough paddy at the new location. Will there be other income generating activities supported, or other agricultural practices supported?

Souky: Perhaps irrigation will be in place that will enable paddy rice to be cultivated during the dry season. Animal raising and other agricultural activities can be supported, it will be up to you to come to some conclusions about what you want to happen. This is the importance of the sector groups.

Near year 2009, we should think of village development, paddy rice fields, dry season rice fields to ensure every household are well organized.

It is also important for the sector committees to think about the future. Now, if you have a plan for a school, are you thinking about what the population of school aged children will be in the coming years? This also has implications for the health sector groups too.

Just to confirm, you would like to have a GMS person on the ground to help set up these groups?

Villagers: [All murmur] yes, yes, it is too difficult to do by ourselves; we need support to set up groups and encourage participation.

Souky : the exact details of how these committees and the VDCC will be established in the coming months.

Participants:

	Men	Women	Children	Total
Villagers	85	100	138	323
Village Authority	18	3		21
TOTAL VILLAGE PARTICIPANTS	103	103	138	344
Counterparts	4	1		5
Team	4	2		6

Appendix 2: List of participating households, officials and facilitators.

Household Representations
ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ 8 / 10 / 2008 ທີ່ ບ້ານຊຽງແຕດ ເມືອງພູກຸດ ແຂວງຊຽງຂວາງ (109 HH)

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ອົງການຈັດຕັ້ງ (ຢູ່ແຂວງຫຼືເມືອງໃດ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍເຊັນ Signature
1	ທ. ບົວ ໄລ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
2	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
3	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
4	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
5	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
6	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
7	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
8	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
9	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
10	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
11	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
12	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
13	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
14	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
15	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
16	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
17	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
18	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
19	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		
20	ທ. ສິມສິມ (ລູກ 1 ຄົນ)	ນາຍເໝີ	ບໍ່ມີ		

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21	ສິມສິນ + ພູ ສິມສິນ (ລູກ 2 ຄົນ)	ຫົວໜ້າ ຄ/ຄ.	ຊຽງຂວາງ		ສິມສິນ
22	ສິມສິນ + ພູ ສິມສິນ (ລູກ 2 ຄົນ)	-//-	-//-		ສິມສິນ
23	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
24	ສິມສິນ + ພູ ສິມສິນ (ລູກ 5 ຄົນ)	-//-	-//-		ສິມສິນ
25	ສິມສິນ + ພູ ສິມສິນ (ລູກ 5 ຄົນ)	-//-	-//-		ສິມສິນ
26	ສິມສິນ + ພູ ສິມສິນ (ລູກ 5 ຄົນ)	-//-	-//-		ສິມສິນ
27	ສິມສິນ + ພູ ສິມສິນ (ລູກ 1 ຄົນ)	-//-	-//-		ສິມສິນ
28	ສິມສິນ + ພູ ສິມສິນ (ລູກ 1 ຄົນ)	ຫົວໜ້າ ຄ/ຄ.	-//-		ສິມສິນ
29	ສິມສິນ + ພູ ສິມສິນ (ລູກ 2 ຄົນ)	ຫົວໜ້າ ຄ/ຄ.	-//-		ສິມສິນ
30	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
31	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
32	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
33	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
34	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
35	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
36	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
37	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
38	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
39	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ
40	ສິມສິນ + ພູ ສິມສິນ (ລູກ 3 ຄົນ)	-//-	-//-		ສິມສິນ

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41	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	ບາດ 3/11/08		ສິ ສອນ
42	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
43	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	ສິ ສອນ		ສິ ສອນ
44	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	-//-	-//-		ສິ ສອນ
45	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
46	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
47	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	-//-	-//-		ສິ ສອນ
48	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	-//-	-//-		ສິ ສອນ
49	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
50	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
51	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
52	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
53	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
54	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
55	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
56	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	ຫວັງ ຫາ 1/1	-//-		ສິ ສອນ
57	ສິ ສອນ + ສາງ (ສາ 2 ຄ.)	-//-	-//-		ສິ ສອນ
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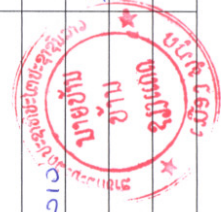
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61	ອຸນ + ສິງ ພອນ (ສາ 6 ຄ.)	ບໍລິຫານ ອ/ຄ.	ບ້ານ 59/101		ອຸນ
62	ອຸງ + ສິງ ພອນ (ສາ 2 ຄ.)	-//-	-//-		ອຸງ
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81	ເສັ້ນ + ພຸງອິນ (ສຸກ 1 ສ)	ຫົວໜ້າ ສ. / ສ.	ບັນຊີ / ມ. ມ.	໐໑໒໓໔-໕໖	ເສັ້ນ
82	ຊັບ ພອນ + ພຸງອິນ (ສຸກ 1 ສ)	- // -	- // -		ຊັບ ພອນ
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101	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ / ສ	ສູນ ກຳລັງ	2111111111111111	
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104	ທ້າວ ສິມ ສິມ	-/-	-/-	2111111111111111	
105	ທ້າວ ສິມ ສິມ	-/-	-/-	-/-	
106	ທ້າວ ສິມ ສິມ	-/-	-/-	-/-	
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110	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	2111111111111111	
111	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	2111111111111111	
112	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	2111111111111111	
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114	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	2111111111111111	
115	Emma Tamsud-Gullt	Consultant	Colao / Nepal	7693330	
116	Reel Soboten	E2S Manager	SMS	-/-	
117	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	5728458	
118	ທ້າວ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	ທ່ານ ສິມ ສິມ	2111111111111111	
119	Chen-sim Inyuvanh	Freelance	ທ່ານ ສິມ ສິມ	2111111111111111	



APPENDIX 7

**REPORT FROM THE CONSULTATION WORKSHOP IN PHOU KOOT DISTRICT
30TH OCTOBER 2007**

Report extracted from the consultation annex of the Ecolao - Norplan 2009 report
(including presentation given, minutes of meeting & list of participants).

*Please note that the presentations attached are the ones which were given at the time of
consultation. Some features and analysis of the impact areas have changed since and the
reader is referred to the ESIA and the REMDP for a more precise and accurate description.*

**Report from
Consultation Workshop in
Phou Koot District
Xieng Khouang Province
regarding
Nam Ngum 3 Hydropower Project**

30th October 2007

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Agenda: Phou Koot District Consultation Workshop

October 30th 2007

9:30 - 10:00	Registration and Coffee
10:00 - 10:10	Opening remarks by Provincial Governor's Office
10:10 - 11:30	Presentation by EcoLao/NORPLAN
11:30 - 12:00	Questions, Comments and Feedback from participants
12:00 – 13:00	Lunch
13:00 - 14:30	Questions, Comments and Feedback from participants
14:30 – 14:45	Summary of main workshop points
14:45 – 15:00	Closing Remarks by Provincial Governor's Office

Objectives of workshop:

- To present information about the NN3 Hydropower Project, its impacts and compensation policy.
- To obtain concerns, suggestions and questions from participants

List of Participants from Phou Koot District

No	Name and Surname	Position	Organisation
1	Mr Damdouan Phimmanythong	Deputy	Governor office Province
2	Mr Amphone Syamphay	Deputy	PCTPC Xiengkhouang
3	Ms Sengkham Xongxana	Deputy	LWU Xiengkhouang
4	Ms Saisamone Mangnomack	Deputy	Department of Education Province
5	Mr Bountheung	Head Village	Nam Sam Village
6	Mr Phao	Reconstruction (<i>Neo Hom</i>)	Nam Sam Village
7	Mr Morten Johnsen	Consultant	Norplan
8	Mr BounYong	Reconstruction (<i>Neo Hom</i>)	Xiengdet Village
9	Mr Bounpheng	Youth	Xiengdet Village
10	Ms Somboun	Head Women Union	LWU District
11	Mr Bouavay	Committee	Nam Ngum Reservoir Project
12	Dr Maidee	Deputy	Planning office
13	Mr Phomma Phanhnychanh	Deputy	Education Office, Phoukout District
14	Mr Sosavanh	Deputy	Secretary Phoukout District
15	Mr Somxay Phanphongsa	Team leader	Lao holding state enterprise(LHSE)
16	Mr Douangta	Head Village	Xiengdet Village
17	Mr Phomsy	Head	Planning office
18	Mr Khampheth	Head	Governors office
19	Mr Khamchanh Farayok	Deputy	Energy & mine office
20	Mr Douangchay Nanthasone	Technical	Support & power Department
21	Mr Ar nolark	Officer	Nakhone louang company
22	Mr Somdy Bounxay	Head	Health Public District
23	Mr Bounkeun	Deputy	Energy & mine office, Province
24	Mr Pheng	Deputy	Electricity de Lao
25	Mr Saikham	Head	PSTEO
26	Mr Phetsamay Khammavylay	Head	Forestry
27	Dr VinYan Cheuyangxay	Deputy	Department of Health, Province
28	Mr Xaybralo	Deputy	Police, Province
29	Mr Chanthone	Head	Police, District
30	Mr Chansamone	Head	DAFO

Minutes from Phou Koot District Workshop,

Nam Ngum 3 Hydropower Project

October 30th 2007 – Phou Koot District

Presentation by EcoLao and NORPLAN social and environmental consultants

Facilitator: Are there any questions on the presentation?

LWU province – Thank-you for the presentation. I was interested in what I heard, and I understood most of the presentation, but there are some things I don't understand. For instance, what does 'fish population' mean? In Lao it is not proper to use the word 'population' for fish, it is better to use the amount of fish caught, or the amount of fish in the river, it is easier for the Lao people to understand.

My second point is about the slide that discusses the involvement of each of the government departments. Why aren't the Finance Department, The Police Division and the Department of Planning and Investment involved also? These are important groups as well, for example the police must help with security issues that may arise – what if drug use becomes more popular as the population becomes stressed through movement and influx of people?

Norplan Consultant responds: Thank-you for your comments. We will of course include other relevant departments, this is a provisional list. However, your comments are correct, and the affected villages may face many different kinds of problems and it is important for all government departments to work together. As regards to 'fish population' I take your word for it as I cannot speak Lao!

Thongsy Sithala, Workshop Chairman, and Deputy Director of the Provincial Cabinet Office:

I have a few points and a question.

1. These villages are facing new challenges, and we must all follow the rules and regulations carefully to work together and support them. It is important to improve the quality of their lives, increase their access to education and opportunities for further development.

It is important to spend significant amounts of time in the villages, especially Xiengdet Village, to help them understand this potentially difficult time.

2. Ethnic villages are often poor, and have different cultural and religious beliefs. It is key to try and understand these beliefs to ensure that the people do not have to deal with large amounts of psychological stress. There have been problems with resettling ethnic peoples in Khammouane and Savannakhet Provinces – due to misunderstanding about traditional beliefs new land has not been suitable for ethnic peoples because they do not want to live near Lao Lum cemeteries, or other cultural sites. Also, ethnic peoples may not have relatives living in other areas, all their people and ancestors are from this land, which makes moving more traumatic. Ethnic peoples have deep relationships with their land, and this must be understood.

3. How will we divide up the new land among families? Will we give large bits of land to people who previously had large bits of land and then no land to those who previously had no land? Or, can we try to ease some of the social inequalities found in villages? However, we must be careful with this because ethnic peoples have beliefs that their current poverty is due to past transgressions.

Mr. Sosavanh, District Governors office:

Agricultural compensation is a very important issue. Some people have a lot of paddy, and others don't have any, only upland rice. Will they be given upland rice in the new location when the government policy is now against supporting upland shifting cultivation?

Irrigation to increase production, training in new agricultural methods, hospitals and schools are the most important things for these villages, as they support the future.

Another important issue is road access. The road to these villages is very bad, and limits villager's access to markets, hospitals and other services. The lack of road access directly impacts on people's ability to increase their development.

It is not enough to have a road, there must be good bridges put in so that the road can be used all year round. However, we must carefully consider where to put the bridge, as they are expensive. When we plan for roads we should minimize the number of bridges needed. As well as expenses, bridges are also a problem during the wet season, so it is essential that they are well designed and built, otherwise they can be washed away each year in the floods.

Although the start date of 2010-2012 is still far away, it is a good idea to have these issues figured out well before this date. Road access should be improved immediately, it will probably be easier to build a new road as the old one is in very bad shape, so that people can start to take advantage of markets and other services soon.

NORPLAN consultant

Thank-you for the comments

1. Traumatic stress – especially for those in Xiengdet – is an issue we have been focusing on. We have a special focus on this issue in the social development plan to allow for information sharing between villagers, project and district. We hope that the sharing of information and understanding will help to ease the stress, which will be more pronounced if impacted people are unsure of their futures.

Some things like food security may even be easy for the impacted peoples, as there is a special plan to help ease the transition period, including rice and protein support until they are able to produce sufficient quantities themselves.

2. About cultural sites, it is very important to know as much as possible about these issues, so there will be more consultations at the village level to specifically address these issues

There are numbers of consultations going on at one time in each village

3. Compensation is based on household – type of land, house, and other goods. This means that existing social ranking will be maintained, although those who are very poor will improve – there is a minimum standard that all people will be raised to, it is still to be determined.

4. The focus is going to be on irrigation land, and paddy, less so on upland. We are quite sure there will be enough irrigated land to provide for each family. Once irrigation study has been completed there will be more consultations at Xiengdet. It is important to remember that during the dry season some families will have access to old paddy and garden lands.

5. The road is a crucial issue – and one of the priorities for the Resettlement Unit and district teams. We are still planning about where exactly it will go. It is a good idea to try and have it done soon to support timber extraction from the reservoir area, as well as supporting people's development.

After lunch: small review by chairman of the work we did in the morning, and requesting everyone to speak out about their ideas and feelings on environment and social impacts and other issues they may have about NN3, including wood, road, electricity, or...

Mr. Sosavanh, District Governors office:

1. Xiengdet and Nam Som need good road access to allow them to participate in development – now maybe it is better to improve existing road – if we build the road I was thinking of this morning, it will only benefit the people of Xiengdet, and not the other villages as needed.
2. Another point is about 720 m flooding point. I am confused about the trees that need to be cut under this level. If the reservoir will be flooded why is it so important? Can all the wood be taken out by 2010?
3. 90 families in Xiengdet, will they all be able to be moved in time before the beginning of construction? What happens if more people come to the village to get compensation? What happens if some people just leave the area, will there be some compensation for them, or do they relinquish their right to compensation?

EcoLao Consultant:

Reminds us that NN3 is not a new project, and that it has been in the planning stages for a long time – and now one of the main reasons for doing this workshop process is that the situation has changed due to other projects on the Nam Ngum, and that there are new rules by GoL and that the ADB is now involved. Many departments have been involved in getting the project to this stage.

Mr. Sompak, GMS Lao Representative:

GMS Lao is the real organization involved, and that Norplan/EcoLao is working as a consultant to support the environmental and social factors of this project. I've been working on this project for a long time, and that I know about the social and environmental plans are already in place, and that they've been ready from 2000, and that this is not a new idea – we are and we have been following the rules and regulations that have been set up for us from GoL and donors.

Now, to answer the question earlier about cutting wood and who is responsible/who gets profits, etc. This is done in conjunction with DAFO and PAFO also has input from foreign affairs export division.

720 m is the cut off point, and wood and vegetation below that level are taken out to ensure there are not problems with the filling of the reservoir.

Mr. Sosavanh, District Governors office:

To clarify, I wasn't talking about the cleaning of the area, but was more interested in actually cutting the trees themselves – **who gets the wood?**

Is this wood that can then be sold? What if it is really good wood? Iron wood or 'noy' wood – what happens to this? If it is left then it rots and there will be problems, he knows...

EcoLao Consultant calls attention to slide #8 which discusses why it is important to clear the area – it's not about chemical problems, but about rotted vegetation – when the water rises the first time it begins to rot unless it has been taken away.

Consultant then outlines EcoLao's suggestion for the road to be built on the other side of the river so it will not need a bridge. The old road is very bad, twisty and hilly, and making it an all-weather road would be a time consuming and expensive process. This suggestion avoids these problems, and it allows good road access to all the villages in the area, and it is only 8km long. There will also only be one very small stream to cross, and a good bridge in that area will not be difficult to do.

Dr. Maidee, PCTPC:

Having road gives infrastructure so people can improve their station, and they can work both in and outside the village.

It is important for the people to be involved in the planning of the new village layout. If they are too distant from the planning process they may begin to lack interest in the project and the motivation to continue to work for themselves. If others do too much for them without their active participation they can become lazy and less inclined to work for their own development. It would be great to have someone stationed in the village to help motivate them with the new project activities, and this person could monitor the uptake of the replacement activities, perhaps things such as new plants and gardens.

If the access to the project is increased it could prove an opportunity for tourism – there must be access to reservoirs and villages so tourists can come and see the area.

EcoLao Consultant: We have suggested the recruitment of an agriculture specialist to be based in Xiengdet to support the villagers exactly as Dr. Maidee outlined.

Villagers are also going to be involved in house construction, and in the plans for land usage.

NORPLAN Consultant: There is already an asset survey in the village – the project already knows who has what. Natural expansion is allowed – as people marry and form households of their own – this is fine. However, there is a cut off date for people moving into the village and looking for compensation. Anyone moving into the area after July 2007 will not be included. If families want to move outside the resettlement area, they are able to do so once they have demonstrated to the resettlement committee that they have sustainable opportunities, and then in that case they will receive cash compensation.

Nai Ban, Xiengdet –

1. household register – at the moment they are not allowing new families to move in, but those who are living with their parents and want to have their own house must have permission to do that

(**NORPLAN consultant** responds that it is natural for people to get married and have a family)

2. spiritual places like wat and forest – need to clearly discuss these issues and have it under supreme consideration

(**NORPLAN consultant** responds of course – it is very important for people, and is already included in the planning documents)

3. Road – in the traditional way, when the road is built the villagers are responsible for the maintenance – but in this case, logging and other groups will be using it, and so that means they must have a shared maintenance of the road.

(**NORPLAN consultant** agrees, and says there should be a road committee which will be responsible for the maintenance – such as joint venture with companies, government and village)

District LWU –

1. The project has come to the village and district a few times now for information gathering, and this data would be very interesting for the district to have to support district based planning efforts. I myself participated in the socio-economic survey and the gender and development study, and I think the results of this work would be very useful for my own work, and for others.

2. Compensation – the socio-economic survey already collected info and the local authority will find it easy if the process is clearly laid out so that it is clear in a step by step way who receives compensation for what from whom, in order that there are no complications and unfortunate incidents.

3. Xiangdet has not yet changed its name, so it is important that it is not referred to as Ban Nam Dai – the village has not yet received a new stamp with the new name, so we must not use it at this point.

Mr. Somphong – DTCP province –

He thinks the information given in the presentation is too brief – he wants to know how many ha, how much land costs, what type of forests, what kinds of trees, what is the value of the trees, what kinds of animals are in the forest, what kinds of prices for trees and animals, what is biodiversity in the area? Are there endangered? Etc. these hydrology and ecology questions must be answered, and given in detail.

2. Project policy and development – compared to NN5 – why isn't there a good report and mitigation plan laid out – if info is still being collected, who is doing it? What do we know about the village? Who is collecting info? Is the impact only NN3, or is it also NN5, if they are still working this out, so who is doing this?

3. Cash payments are dangerous – because it is not sustainable. Social development plan – how to improve the quality of life of the people, and how can we use natural and environmental resources effectively

4. Road – the three mentioned alternatives will have to be surveyed again – it is our responsibility at DTCP, and we will look to see the realities and then work in collaboration with the project

NORPLAN consultant:

Thank-you for the very valuable comments. Yes, it is brief, and if not we would be here for a week. We are still working on our plans, village layout, and other issues – this will be available soon, and there is a special forestry and gender consultant to go through effected areas to value trees and NTFPs, and the plans will be made available hopefully by the end of this year – then to WREA for approval and discussion and then finalized in Jan 2008. We have the same plan as NN5 – impact and mitigation and capacity building plans in the institutional setup as in NN5

Cash compensation will only be given to those who choose to move out of the area, and hopefully all the people will choose the resettlement package.

It is very important to work with DTCP on road issues, and to work with all government counterparts in a range of issues.

Mr. Sompak, GMS Lao Representative:

There was a plan to make all the information available in Lao language, to translate data as it was gathered, but the project had some problems during the Asian Financial Crisis and those plans were put on hold.

Now there is data in thick books, each containing info about forestry, animals, fish,...

Some of the social info is changing, but it is unlikely that the environmental info has changed – at the public consultation all people are invited, to discuss and view the data – and then during the next year the info will be finalized.

NORPLAN consultant answers LWU: The information will be presented in, we hope, Jan 2008, and will be made available for sure for all the people in the district as well after that time.

Compensation policy is described in detail already, who does what and how it works is done too

Regarding the name of Xiengdet – and it isn't something that we want to do anything about, we use the Nam Dai only to refer to the new area where the houses will be inside the Xiengdet area. It is not a name change, just a clear way of referring to the new households.

District Health Department –

Clean water – the biggest problem for these villages – where will the water come from for sanitation and for better health in villages? The health dept responsibility is to help with health – not just treatment but prevention – and clean water is the most important thing – how can the dept health fit into this – can we clarify their role?

Saibulong – PKS Police Province

1. Regarding the resettlement of village, I want to know, does the project know the area of the flooded land? If you are going to give compensation – when does it happen? Before or after moving?
2. Regarding the hospital and school – it is better to prepare these things before the moving occurs, in 2010
3. The resettlement committee – who is in charge? In my experience the project sets things out, and then the government is expected to implement, often without support and training by the project.

NORPLAN consultant: the committee is the link between the project and the govt – made up of both government and project participants

There is a public health action plan, and the local health authorities play a central role – these action plans will be available by the final national workshop in January.

All things like schools and hospital will be in place before resettlement

Usually it is land for land, so a new area would be set up for them at the new site. In the case of orchards or plantations the project will support the planting of a new one.

Khamchang – MEM – explains history of the project. Would like to see reports by January so that he can make comments

NORPLAN consultant says report will be in by end of year, and national workshop in January

Dam Douang – deputy chief of provincial governor’s office:

Is there a conflict resolution committee?

(**NORPLAN consultant** – there is a grievance committee in place already in resettlement action plan)

And a detailed compensation plan –

(**EcoLao consultant** answers, there is one in place, but the problem is only that the village hasn’t signed off on it yet.)

Mr. Chantanom – DAFO – agriculture extension –

1. In the past there was an agricultural survey, and has that shown that the new village is it appropriate for resettlement?
2. Say that the inundated ag productive land is 120 ha?, but what about forest land and other kinds of land? All involved in community livelihood strategies
3. Do we have enough land for 90 hh at the moment? Afraid that people may be tempted to slash and burn again.
4. also agrees cash compensation is not sustainable – in kind is better
5. Poor families should be given this opportunity to improve their quality of life through increased technological knowledge and fair access to land and resources.

NORPLAN consultant – the village is appropriate to resettle, and as **EcoLao consultant** said a compensation plan has been worked out. All land affected will be compensated and new livelihood strategies supported through the placing of an agricultural extension worker in the village. There is, at present, enough arable land to support the 90 households plus natural expansion, and irrigation and training will be supported by the project.

Dr. Vinyan – Department of Health, province

1. I have seen lots of beautiful plans, but what about the reality of the implementation – what about the hiring of expensive foreign and national consultants who do a good job, but when the project is finished and leaves there is no capacity of the local government to continue the work. I support the project to work closely with counterparts to improve local capacity and help ensure sustainability.
2. In Lao there are many hydropower already, so it would be good if the project explained the impact and the benefits to the impacted people so they can understand about how they are supporting the development of Lao
3. What are the profits of the project, and how much will come back to the local communities? It would be good to see more on the benefits in both the short and long term.

NORPLAN consultant: project will have a good collaboration between district and project staff – hopes for good collaboration and capacity building at both provincial and district levels as well as among project staff and consultants

This presentation highlighted impacts, but also some benefits for the affected peoples, and it wasn’t the aim to discuss the benefits to the whole country

This presentation is only about social and environmental impacts, and so cannot discuss profits. Sorry.

Nai Ban, Xiengdet – wants to say thank-you for the interest shown in his village...

The concern is still that the **project must tell them in detail when and where it will be flooded** – as they have always lived by the river and want to be near it – however, there is a concern about water borne diseases.

NORPLAN consultant: EcoLao Consultants will go back and discuss the results of the flooding report to let them know what's happening as soon as it's known.

Summary:

Reports, including action plans, will be made available during the final workshop in January 2008.

Important to clarify the roles of all the government counterparts, and make a definitive list of who is involved and what they are going to do. This is presented in the REMDP.

All activities, such as health, education and road building will be done in conjunction with district and provincial counterparts and will be in place before resettlement

Resettlement is to be done in close partnership with villagers – usually land for land and livelihood supporting activities: cash will only be given in certain cases

Spiritual and psychological considerations will be very important in the continuing work done with villagers. There are plans to locate an agriculture advisor in the village to support new livelihood plans. Ethnic issues will also be sensitively dealt with.

It is important that houses, new health systems, schools, food security activities including rice provision during the transition period, and other infrastructure is in place before resettlement happens, this can help limit the stress felt by affected communities.

Issues still to be addressed:

What happens to the wood that is taken from the reservoir area?

Village consultation with Xiengdet to discuss final plans

Nam Ngum 3 Hydropower Project

Presentation Consultation Workshop Phou Koot District



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1



Nam Ngum 3

- Installed capacity 440 MW (2,000 GWh/year)
- Dam height 200 m
- NN3 Reservoir will cover 25.6 km² and stretch 51 km at FSL 720m
- 55 km upstream Nam Ngum 1 Reservoir and 16 km up from the Nam Ngum 2 Reservoir
- Operation Year 2013

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2

Affected Districts and Villages

Phou Koot District:

Inundated: Xiengdet with 90 HHs

Partially affected: Nam Sam with 75 HHs

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3

Consultation Process (1)

Village level

- Village and household consultations in Xiengdet July/August 2007
- Consultation with village leaders in Peri-Reservoir villages, July 2007
- Consultation with project lands villages, Sept/October 2007

District/Province level

- Phoukoot District 30th Oct. 2007 with district and provincial offices.
- Hom District 1st Nov 2007, with repr. from Xaysomboun, Hom, Pak Ngum, and Thaphabat Districts, and province level

National level

- Vientiane 5th Nov. 2007 for relevant ministries and civil society

Final Workshops

- Presentation and discussion of final draft of safeguard documents – Venue and date to be decided (tentatively Jan. 2008)

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Consultation Process (2)

Issued raised during Xiengdet household consultation

- Compensation policy (houses, agricultural land etc)
- New village layout
- Water supply
- Preparing new farmlands, alternatives to hill rice
- Ceremonies for relocating objects of spiritual significance

Issued raised during peri-reservoir village consultations

- Request assistance with pest control
- Request construction of new irrigation systems
- Request support to develop land for producing marketable cash-crops

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NN3 Impact Zones

1. Upstream catchments
2. Reservoir area (including inundated area, drawdown zone and near reservoir lands)
3. Downstream river and reservoirs
4. Power transmission line corridor
5. Construction Land (Access road, quarries, borrow area, dam and power station and camps)



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Upstream Areas

Environmental

- Implications for fish biodiversity. Loss of long distance migrating fish species

Social

- Fisheries

-
- Fish Monitoring Plan to monitor the changes in populations and biodiversity caused by project related impacts
 - Monitoring will determine if there are any impacts on existing fisheries and consultations with affected people will determine the contents of a livelihood restoration package and support.

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Reservoir area impacts (1)

Environmental

- Hydrology (from river to lake)
- Water Quality
 - anoxic conditions in the lower layers
 - Increased nitrogen concentrations
 - Lower pH
- Fisheries
 - dramatic shift in fish species composition and population density
 - transition period for several years before a new stable ecosystem is established
- Low inherent conservation and biodiversity value



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Environmental Management Plans

- Reservoir Clearance and Filling Plan
 - Vegetation clearing below 720 masl before 2010 due to coffer dam.
- Water Quality Monitoring
 - Detecting trends
 - Monitoring any violation of standards
- Operation Activities Management Plan
- Compensatory Forest and Biodiversity Protection Plan to address forest regeneration in following areas:
 - Around the reservoir
 - Within Phou Khao Khouay NPA;
 - Within the Nam Bak catchment;
- Fish Monitoring Plan

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Reservoir area impacts (2)



Social

- Flooding of Xiengdet (90 HHs)
 - Loss of houses and other structures
 - Loss of Agricultural Land (Paddy fields, Gardens, Orchards) in total 125 Ha
- Resettlement / Relocation within village boundaries
- Fisheries
 - Xiengdet and 4 peri-reservoir villages
- Access to forests
 - Xiengdet and 4 peri-reservoir villages

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NN3 HPP Resettlement Policy

All eligible households will be assisted to have their current conditions restored and for most issues actually improved.

1. Housing – assist moving to and rebuild at suitable location;
2. For loss of assets – the project will compensate all assets, which can not be relocated;
3. Livelihood activities – the project will assist improving livelihoods and develop activities to reach a set income target
4. Health – the project will improve health facilities in the area;
5. Schooling – the project will build new primary and secondary school in Xiengdet;
6. Road access – the project will improve the access from Xiengdet to Road 7;
7. There will be a complete resettlement package – suggestions from all stakeholders, including affected villagers, are welcome and will be incorporated in the planning.

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NN3 Construction and Resettlement Schedule

Key dates:

Resettlement: Dry Season 2010/2011

Impounding of Reservoir: Wet Season 2012

Commercial Operation: Jan 2013

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General Health Issues

Impacts

- Intense pressure on health centres, water supply and sanitation.
- Degradation of nutritional status.
- Increase in water-related vector borne diseases.
- Increase in HIV/STI prevalence.
- Psycho-social stress.
- Increased road trauma.

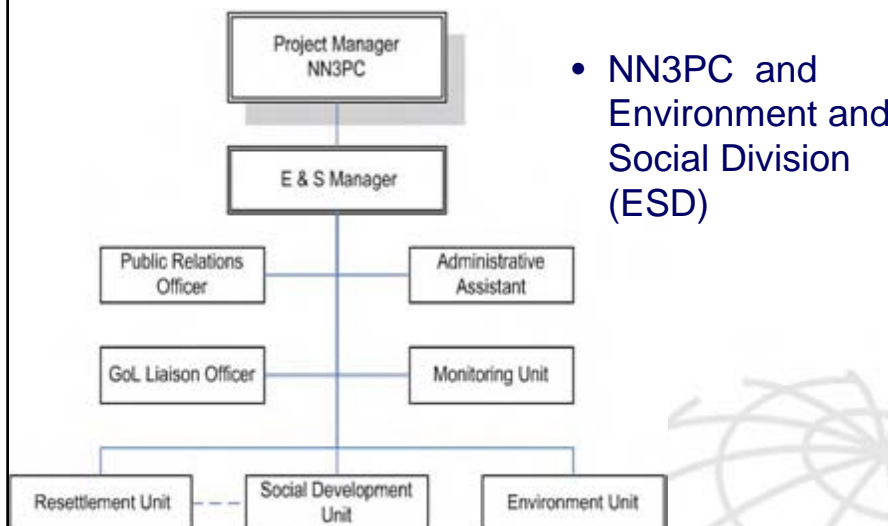
Mitigation

- Awareness campaigns
- Upgrading health post in Nam Sam and hospital in Long Cheng
- Regular surveys on health status in affected villages; disseminate health situation
- Liaise with MoH management at PHO and DHO level on operational issues.

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Institutional Setup (1)

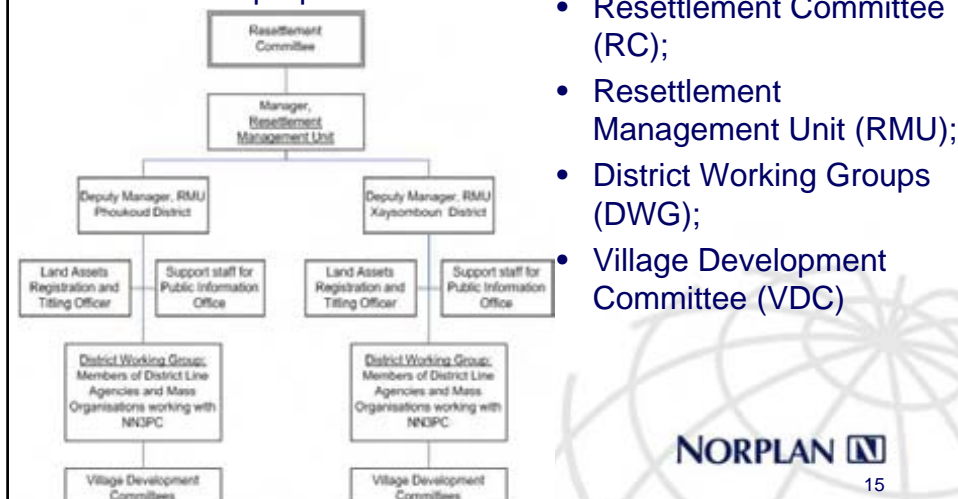


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Institutional Setup (2)

According to GoL regulations, the involvement of GoL at all implementing levels must be ensured. The following structure is proposed



Institutional Setup (3)

Governor's Office and Adm. Staff

- Representation in the RMU

District Communications, Post, Transport and Construction Office

- Assist implementation of infrastructure (roads, water ++)

District Agriculture and Forestry Office (DAFO)

- Assist resettlement and livelihood improvement programmes

District Health Office (DHO)

- Assist preventative health measures, monitoring and training

District Education Office (DEO)

- Assist establishment of new services and training of teachers

Lao Front for National Construction (LFNC)

- Training of village leaders, monitoring and consultation work.

Lao Women's Union (LWU)

- Mobilizing and representing the interests of women (women's health, credit groups ++)

Youth Organisation (sao num)

- Consultation process, youth mobilisation, income generation ++

District Information and Culture Office

- Responsible for cultural issues and for working with ethnic minorities

District Land and Taxation Office

- Represented in the RMU by full-time members for each District

- Grievance Procedures

District Labour and Social Welfare Office

- Responsible for overseeing labour recruitment and labour conditions

Overarching issues (1)

Gender Mainstreaming Strategy:

- The equity approach (sometimes called “mainstreaming”) aims to improve women’s opportunities and powers, especially concerning planning, decision-making, training, and access to resources;
- The anti-poverty approach concerns special activities for women with the objective of offering socio-economic stimulations for disadvantaged women and their families.

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Overarching issues (2)

Vulnerable Groups:

- Those who lack agricultural labour;
- Those who lack land and/or necessary tools;
- Those with disabled family members.

Special assistance:

- Household-based consultations and discussions with these HHs;
- Budget allocation to cover costs of additional labour needs during site preparation, house construction and livelihood development;
- Specific training for handicapped members – e.g. handicraft production;
- Additional rice supplement during transition period;

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Overarching issues (3)

Ethnic issues will be addressed through:

- Language used during consultations or meetings;
- Preference for resettlement housing;
- Preference for livelihood activities;
- Rituals to be carried out in relation to resettlement.

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THANK YOU FOR YOUR ATTENTION!



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Annex 8

**Report from
Consultation Workshop in
Hom District
Vientiane Province
regarding
Nam Ngum 3 Hydropower Project**

2nd November 2007

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Agenda: Hom District Consultation Workshop

2nd November 2007

8:00 - 8:30	Registration and Coffee
8:30 - 8:45	Opening remarks by District Governor
8:45 – 9:00	Remarks by GMS Lao
9:00 – 9:45	Presentation by EcoLao/NORPLAN
9:45 – 10:00	Coffee Break
10:00 – 11:45	Questions, Comments and Feedback from participants
11:45 – 12:00	Summary of main workshop points and closing remarks by District Governor
12:00 – 13:00	Lunch

Objectives of workshop:

- To present information about the NN3 Hydropower Project, its impacts and compensation policy.
- To obtain concerns, suggestions and questions from participants

List of Participants Hom District

No	Name and Surname	Position	Organisation
1	Mr Somxay Phanphongsa	Team leader	Lao holding state enterprise(LHSE)
2	Mr Douangchay Nanthasone	Technician	Support & power Department
3	Mr Sychanh Koumphoh	Office Manager	GMS
4	Dr Lyku Xayyaxang	Head of health department	Health public District
5	Ms Maly	Deputy	Women union office
6	Mr Samphanh	People	Xamkhone Village
7	Mr Somphanh	Deputy	Governor office District
8	Mr Yangdoua	Head Hinsor village	Hom District
9	Mr Cheunxong	Head reconstruction (<i>Neo Hom</i>) Hinsor village	Hom District
10	Mr Fanengyang	Head reconstruction (<i>Neo Hom</i>) Houaysiet village	Hom District
11	Mr Yiaxoualo	Head Houaysiet Village	Hom District
12	Mr Bouavavang	Deputy Head reconstruction (<i>Neo Hom</i>) Houasiet village	Hom District
13	Mr Vilay	Head Unity	Environment Hom District
14	Mr Kongkham Southammavong	Head Energy & mine office	Hom District
15	Mr Lyphong xayyaxang	Deputy Energy & mine office	Hom District
16	Mr Kaying lo Xokouty	Deputy Plan office	Hom District
17	Mr Vongsamay Lengxongpao	Head District	Hom District
18	Mr Somsith Vongphanakhone	Deputy Support office	Hom District
19	Mr Kham song	Deputy Head reconstruction (<i>Neo Hom</i>)	Hom District
20	Mr Thongchanh	Reporter	Hom District
21	Mr Khampasith Outtanasith	Office Manager	Ecolao company
22	Mr Erik Boerset	Senior environment planner	Norplan
23	Mr Garry Oughton	Deputy Director	Ecolao company
24	Ms Chansouk Insouvanh	Consultant	Ecolao company
25	Ms Xiayang	Officer office	Hom District
26	Ms Khammany	Youth officer	Hom District
27	Mr Bounnam	service officer	Hom District
28	Ms Tholo	service officer	Hom District
29	Ms Soukthiva	Accountant	Ecolao company

Minutes from Hom District Workshop

Nam Ngum 3 Hydropower Project

2nd November 2007 – Hom District

The facilitator introduced NORPLAN, EcoLao and Government Participants to the meeting, then called on District Governor to make some remarks.

District Governor: Welcomes all to the meeting, hopes it will be informative and that we will all gain new understanding about the purpose and impact of the NN3 hydropower project. We will also discuss options for mitigation and restitution. We will address the future implications of NN3, using both the successes and failures of NN1 as an example. It is really important for all participants to share their ideas and concerns together.

GMS Lao Company Representative, Mr. Sichan Khumphoud

GMS Lao is a registered company in the Lao law, and has signed a contract with the Lao government to implement the NN3 project. There are a number of shareholders in this project, and we are all working together to implement it. GMS Lao has signed a consultancy contract with NORPLAN to implement social and environmental impact assessments, culminating in this workshop consultation process.

I urge everyone to share their opinions, views and questions about the NN3 project, and to participate fully in the discussion that will follow the presentation.

EcoLao consultant gives presentation (see below)

Facilitator introduces commentators from EcoLao to add more information from the presentation:

There are also positive impacts of the project, like the new road access that will arrive, training on agriculture diversification, rural electrification schemes, markets for NTFPs and other products, as well as increased water and access to fisheries in some areas. Other more traditional development activities like basic infrastructure of education and health care in the district will be improved. New road access will also encourage school attendance.

Based on the land use survey in two districts, the project will be supporting sustainable land use intensification as is done with PAPs in the Theun Hinboun HPP.

Governor: villages in Muang Hom will be affected by the transmission line, and invites the three Village Headmen present to come up one by one to present the thoughts from their village to the meeting.

Village Headman – Phan Nam Noi (Hin So) Village:

– In the past they have been worried about the impacts of the project, construction and associated building for the transmission line on their village. They are glad to hear there is a policy which should protect them. A few comments are as follows:

1. It is important that the area of land impacted, fields, upland fields, forest or garden be compensated fully and equally.

2. NN3 must be a catalyst for help, and be supportive of people now and in the future – road access is key for this.

3. We want the project to help the village to get electricity (from NN3 power line when pass through their village).

4. In order to develop our local economy it is essential to employ village labour as much as possible, this will support the local community. (when the power line passes through village territories, priority for labour should be given to that particular village)

Village Headman Houay Siet Village:

– I also agree with the Nai Ban from Hin So – the four most important factors for our village are:

1. Employ villagers as labourers.
2. Improve road for all the village – an all-weather road.
3. Electricity for village is needed to make the villagers more productive.
4. Adequate compensation for land that is used for project purposes.

It is also important to remember that many villagers have started to plant trees for production – Para Rubber Trees and Aegar Wood - is being planted in plantations in Ban Houay Siet with some support from Chinese investment companies. These trees are now a few years old, if it is possible can NN3 not disturb the plantation areas? If they must, what is the process of compensation for such an issue?

Village Headman Meung Long Village:

Thank-you to the meeting. We have only a few points, as in our village there is only a very minor impact, as the transmission line will just cut into the south end of our village territory.

However, we think that the road impact will be quite great, and we would like to know the forest compensation package for the road building. Will there be new forests to compensate for the trees cut down for the road?

And, to join with the previous Headmen, it is important that the labour used on the project is recruited locally as much as possible.

District Office of social welfare:

On slide 28, there is a list of all the government departments involved at district level, why weren't they all at the meeting?

It is also important that the responsibility of each group is better defined, for instance the department of Labour and Social Welfare does not actually deal with labour issues, but with poverty – there is another department, the Lao Labour Union, which deals with supporting the labour law.

District Agriculture and Forestry Office:

The most important things are to clearly state the impacts, to support villagers and to improve local economies. Therefore, it is important that:

1. The impacts of transmission lines, roads and other construction activities is kept to a minimum, especially in NBCA areas and in farmed areas.

2. Local labour is recruited for project work to help support the local economy and improve community development.

3. 3 villages will have some impacts, and they need extra support to limit negative aspects – there is an agricultural plan in place to grow timber forests, and they hope the line will not involve cutting down these trees now as they are not yet ready for harvest. As far as I can tell any timber losses will be compensated by the project, correct?

NORPLAN consultant:

I am very pleased to be here and participate in this very active workshop. I will take this opportunity to respond to questions about forestry and transmission line impacts.

Firstly, the impact assessment is not yet finalized, so perhaps the transmission line will be moved to avoid certain pockets of most valuable forest.

Secondly, part of compensation process for transmission line is to compensate for privately owned trees, but also as ADB requirements dictate we must compensate if the project removes or damages natural forests or NBCAs.

District Governor

I have a few more comments and questions:

1. I am not yet clear about the land used for the transmission line in the village areas – will the land be rented or bought from the village?
2. According to policy, when we must use land from a NBCA we must replace it with land in another area. In this case, we will have to use some land from Phou Khao Khuai National Park, and can we build the compensation area for this loss in a different NBCA, namely the Phou Nyom NBCA?
3. It is also good to make clear that the compensation policy is not the responsibility of the project, but of the government, which has it's own rules in how to compensate – and there is a policy, for example, if a tree is 5 years old there is x amount of money to be paid for it...

EcoLao Consultant

The land for transmission lines must be bought from the villages, for a fair price. It cannot be rented.

As far as the NBCA issue goes, I am not sure exactly where the compensation areas will be, but current understanding indicates that there should not be a problem with this. The project's forestry consultant, together with government authorities are looking at this issue and will present to all stakeholders when agreement has been reached.

Local labour will be used as much as possible throughout the project, and consultation will happen with the Lao Labour Union to ensure that this happens in a suitable way in accordance with the law.

Governor:

Summarizes the key points:

- equal compensation
- clear practices for deciding how compensation is managed
- using local labour as much as possible
- supporting local economy through using labour and building roads
- support of local agricultural products

and then closes the workshop. Thank-you all.

Nam Ngum 3 Hydropower Project

Presentation Consultation Workshop Hom District



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1



Nam Ngum 3

- Installed capacity 440 MW (2,000 GWh/year)
- Dam height 200 m
- NN3 Reservoir will cover 25.6 km² and stretch 51 km at FSL 720m
- 55 km upstream Nam Ngum 1 Reservoir and 16 km up from the Nam Ngum 2 Reservoir
- Operation Year 2013

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2

Consultation Process (1)

Village level

- Village and household consultations in Xiengdet July/August 2007
- Consultation with village leaders in Peri-Reservoir villages, July 2007
- Consultation with project lands villages, Sept/October 2007

District/Province level

- Phoukoot District 30th Oct. 2007 with district and provincial offices.
- Hom District 1st Nov 2007, with repr. from Xaysomboun, Hom, Pak Ngum, and Thaphabat Districts, and province level

National level

- Vientiane 5th Nov. 2007 for relevant ministries and civil society

Final Workshops

- Presentation and discussion of final draft of safeguard documents – Venue and date to be decided (tentatively Jan. 2008)

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3

NN3 Impact Zones

1. Upstream catchments
2. Reservoir area (including inundated area, drawdown zone and near reservoir lands)
3. Downstream river and reservoirs
4. Power transmission line corridor
5. Construction Land (Access road, quarries, borrow area, dam and power station and camps)



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4

Reservoir area impacts (1)

Environmental

- Hydrology (from river to lake)
- Water Quality
 - anoxic conditions in the lower layers
 - Increased nitrogen concentrations
 - Lower pH
- Fisheries
 - dramatic shift in fish species composition and population density
 - transition period for several years before a new stable ecosystem is established
- Low inherent conservation and biodiversity value



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5

Environmental Management Plans

- Reservoir Clearance and Filling Plan
 - Vegetation clearing below 720 masl before 2010 due to coffer dam.
- Water Quality Monitoring
 - Detecting trends
 - Monitoring any violation of standards
- Operation Activities Management Plan
- Compensatory Forest and Biodiversity Protection Plan to address forest regeneration in following areas:
 - Around the reservoir
 - Within Phou Khao Khouay NPA;
 - Within the Nam Bak catchment;
- Fish Monitoring Plan

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Reservoir area impacts (2)



Social

- Flooding of Xiangdet (90 HHs)
 - Loss of houses and other structures
 - Loss of Agricultural Land (Paddy fields, Gardens, Orchards) in total 125 Ha
- Resettlement / Relocation within village boundaries
- Fisheries
 - Xiangdet and 4 peri-reservoir villages
- Access to forests
 - Xiangdet and 4 peri-reservoir villages

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Livelihood improvement in peri-reservoir villages

The project will assist with a combination of:

- Fish ponds and training
- Small livestock and support to improved veterinary service
- Training in NTFP processing



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Downstream Area (1)



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Downstream river and reservoir impacts (2)

Environmental

- Water quality from discharge water
 - Oxygen deficiency
- The dam will be a physical barrier between upstream and downstream waters, blocking migration of fish and other aquatic species
- Water quality impacts on Nam Ngum 2 Reservoir and potentially on Nam Ngum 1 Reservoir
 - Fisheries
- Discharge fluctuations below the tailrace of 0 m³/s up to 150 m³/s and low water flow in Nam Ngum between Dam and Power House



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Downstream River Environmental Mitigation and Monitoring

- Fish Monitoring Plan
- Water Quality Monitoring
 - Detecting trends
 - Monitoring any violation of standards

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Downstream river and reservoir impacts (3)

- 4 villages :
- Louang Phanxay,
 - Phan Xay
 - Nam Pha and
 - Nam Xan

Social

- Loss of fish catch
- Reduced quality of water supply
- River fluctuations
- River transport



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Livelihood improvement in downstream area

As for peri-reservoir villages, the project will base livelihood activities on outcome of consultation, possibly including:

- Fish ponds and training
- Small livestock and support to improved veterinary service
- Training in NTFP processing

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Power transmission line corridor impacts

- Habitat and Biodiversity Impacts
 - Phou Khao Khouay National Park (36 km)
 - Nam Bak catchment (15 km)
- Land Use Impacts
 - 13 villages
- Construction Period Impacts

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Power transmission line corridor Compensation Policy

Environmental

- Transmission Line Environment Management and Mitigation Plan
 - Vegetation clearing
 - Waste and wastewater handling
 - Erosion control
 - Wildlife protection

Social

- Replacement land of at least equal productive value
- Cash Compensation of loss < 10%
- To be finalized!!!



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Construction Lands Impact



Transmission Line, Access road, quarries, dam, power house and camps:

16 villages in four districts.

- Land take
- Increased Sediment flow
- Waste water
- Soil erosion
- Dust and noise emission
- Increased traffic
- Workers influx
- Health (HIV/STI, respiratory and diarrhoea)

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NN3 Construction and Resettlement Schedule

Resettlement: Dry Season 2010/2011

Impounding of Reservoir: Wet Season 2012

Commercial Operation: Jan 2013

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Construction Activities Mitigation

Construction Activities Environment Plan

- Spoil Disposal
- Emission and dust control
- Wastewater management
- Re-vegetation
- Water quality monitoring

Construction Phase Social Management Plan

- Local Recruitment
- Traffic and Access management
- Health Awareness Campaigns (STI)
- Public Health Action Plan

*Commencement of main civil work is scheduled from late September 2008 and last until November 2012

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Livelihood improvement in Project Construction Land areas

- Replacement land of at least equal productive value
- Replacement of structures of at least same standard
- Livelihood improvement activities for households affected by 10% of livelihood income or more. These will include: fish ponds, small livestock and NTFP processing
- Cash Compensation for households affected by less than 10% of livelihood income

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General Health Issues

Impacts

- Intense pressure on health centres, water supply and sanitation.
- Degradation of nutritional status.
- Increase in water-related vector borne diseases.
- Increase in HIV/STI prevalence.
- Psycho-social stress.
- Increased road trauma.

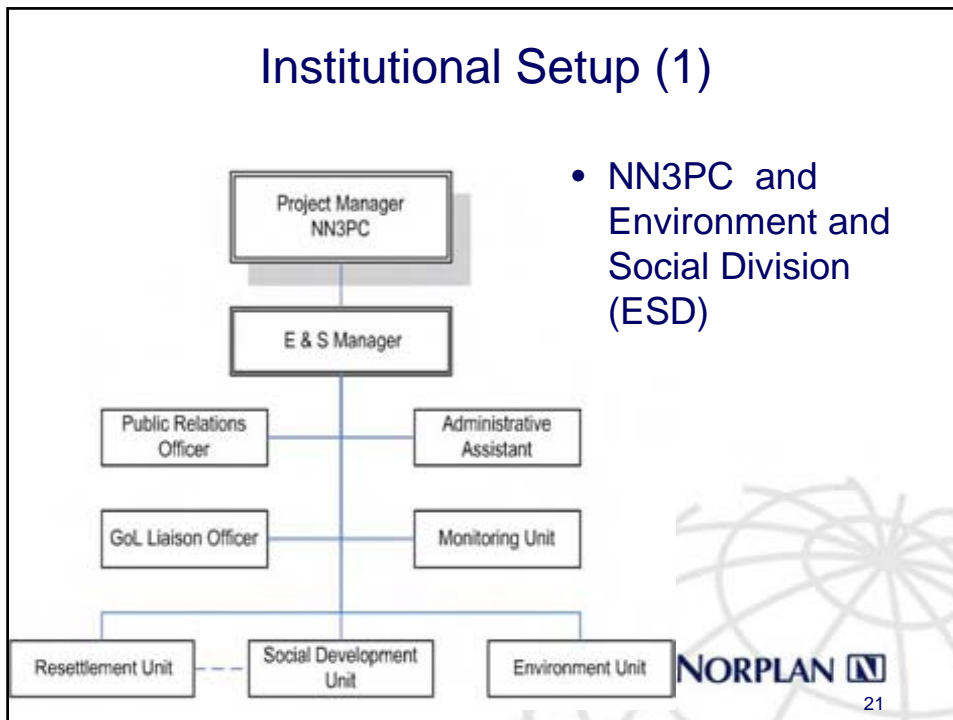
Mitigation

- Awareness campaigns
- Upgrading health post in Nam Sam and hospital in Long Cheng
- Regular surveys on health status in affected villages; disseminate health situation
- Liaise with MoH management at PHO and DHO level on operational issues.

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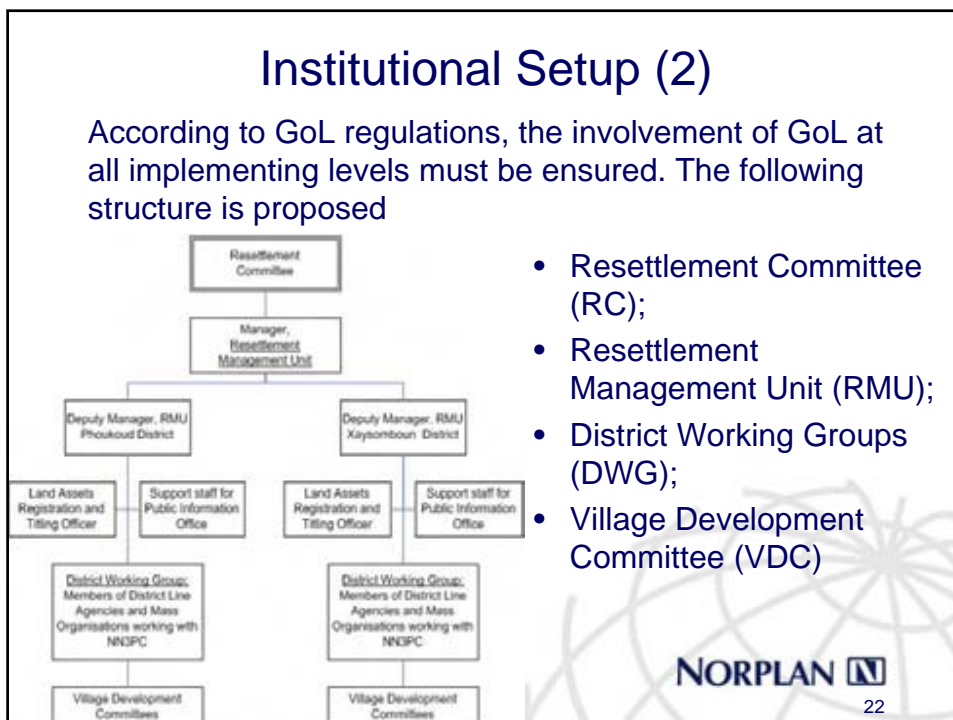
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Institutional Setup (1)



Institutional Setup (2)

According to GoL regulations, the involvement of GoL at all implementing levels must be ensured. The following structure is proposed



Institutional Setup (3)

Governor's Office and Adm. Staff

District Communications, Post, Transport and Construction Office

- Assist implementation of infrastructure (roads, water ++)

District Agriculture and Forestry Office (DAFO)

- Assist resettlement and livelihood improvement programmes

District Health Office (DHO)

- Assist preventative health measures, monitoring and training

District Education Office (DEO)

- Assist establishment of new services and training of teachers

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- Training of village leaders, monitoring and consultation work.

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- Mobilizing and representing the interests of women (women's health, credit groups ++)

Youth Organisation (*sao num*)

- Consultation process, youth mobilisation, income generation ++

District Information and Culture Office

- Responsible for cultural issues and for working with ethnic minorities

District Land and Taxation Office

- Represented in the RMU by full-time members for each District

- Grievance Procedures

District Labour and Social Welfare Office

- Responsible for overseeing labour recruitment and labour conditions

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Overarching issues (1)

Gender Mainstreaming Strategy:

- The equity approach (sometimes called “mainstreaming”) aims to improve women's opportunities and powers, especially concerning planning, decision-making, training, and access to resources;
- The anti-poverty approach concerns special activities for women with the objective of offering socio-economic stimulations for disadvantaged women and their families.

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Overarching issues (2)

Vulnerable Groups:

- Those who lack agricultural labour;
- Those who lack land and/or necessary tools;
- Those with disabled family members.

Special assistance:

- Household-based consultations and discussions with these HHs;
- Budget allocation to cover costs of additional labour needs during site preparation, house construction and livelihood development;
- Specific training for handicapped members – e.g. handicraft production;
- Additional rice supplement during transition period;

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Overarching issues (3)

Ethnical issues will be addressed through:

- Language used during consultations or meetings;
- Preference for resettlement housing;
- Preference for livelihood activities;
- Rituals to be carried out in relation to resettlement.

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THANK YOU FOR YOUR ATTENTION!



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APPENDIX 9

**REPORT FROM THE CONSULTATION WORKSHOP
XAYSOMBOUN DISTRICT**

20TH NOVEMBER 2007

Report extracted from the consultation annex of the Ecolao - Norplan 2009 report (including presentation given, minutes of meeting & list of participants).

Please note that the presentations attached are the ones which were given at the time of consultation. Some features and analysis of the impact areas have changed since and the reader is referred to the ESIA and the REMDP for a more precise and accurate description.

Annex 9

**Report from
Consultation Workshop in
Xaysomboun District
Vientiane Province
regarding
Nam Ngum 3 Hydropower Project**

20th November 2007

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Agenda and objectives for workshop	3
List of participants	4
Minutes from Workshop	5
Presentation (English version)	9

Agenda: Xaysomboun District Consultation Workshop

20th November 2007

Time	Item	Responsible person
8: 00-8:30	Registration	All Participants
8: 30-8:45	Opening of meeting	District Governor
8: 45-9:00	Opening comment by representative of MEM	Mr. Seng
9:00-9:15	Opening comment on history of NN3 HPP by GMS	Mr. Sompak
9:15-10:15	Presentation of NN3 HPP, impacts and mitigation/compensation	Representative of Norplan / EcoLao
10:15-10:45	Coffee Break	All Participants
10:45-12:00	Comments and suggestions	All Participants
12:00-13:00	Lunch	All Participants
13:00-14:45	Discussion	All Participants
14:45-14:55	Summary of workshop	District Governor
14:55-15:00	Closing of meeting	District Governor

Objectives of workshop:

- To present information about the NN3 Hydropower Project, its impacts and compensation policy.
- To obtain concerns, suggestions and questions from participants

List of Participants, Xaysomboun District

No	Name and Surname	Position	Organization
1	Mr Seng PANNHASLYI	Head	Hydro power Nam Ngum 3 project VTE Capital
2	Mr Phouthasak KHEMMALA	Technical	DOE VTE Capital
3	Mr Somxay PHANHVONGSA	Team leader (LHSE)	LAO HOLDING STATE ENTERPRISE
4	Mr Kenichi Tomicka	Civil engineer	KANSAI/ ITELCO VTE Capital
5	Ms Khankham SYTHANY	Head	Women's Union district
6	Mr PaYeu YANGXAVA	Office head	Old Youth Union
7	Mr Khamphout	Head Zone focus	Long Cheng
8	Mr Sytha	Committee village	Long Cheng
9	Mr Khamla KONGPHALY	Deputy sanitation	Long Cheng
10	Mr Khamta BOUNMANY	Deputy office	Education office district
11	Mr Khammuean VONGSOTH	Office manager	Health office district
12	Mr Soulang PHOMMCHANH	Deputy	STEA office district
13	Mr Toa lo	Deputy	Energy & mine office district
14	Mr Phoumy SOULIGNAVONG	Deputy	Agriculture & forest office Vientiane Province
15	Mr Khamtanh KEONINE	Head	Agriculture & forest office district
16	Mr Sysomphone DOUANGPHACHANH	Technical	Agriculture & forest office district
17	Mr Hungthong KHAMLASY	Technical	DEM of Vientiane Province
18	Mr Khamphoua PHENGPHANHAK	Head	Water resource & environment office VTE Province
19	Mr Khamtanh VILAVONG	Head	Plan office District
20	Mr KhamPheuy NAMMONTY	Deputy	Neo Hom (reconstruction) district
21	Mr Khamphouthone VONGPHACHANH	Head	Governor office district
22	Mr Laylo XAYSEU	Head	CTPC District
23	Mr. Sompak	Project Manager	GMS LAO VTE Capital
24	Mr Bounsouk SOUPHATLAK	Head	District military Unity
25	Mr Khamla SENGVONG	Deputy	Governor office Vientiane Province
26	Mr NengHeuy XAYLEAVEU	Community staff	Phou Bia mining
27	Mr Khamman	Deputy	District police Unity
28	Mss Souphaphone VANHNYVONG	Technical	Governor office district
29	Mss Vongphanh PIASAKHA	Technical	Neo Hom (reconstruction) district
30	Mr Yilo KIASEU	Deputy	Propaganda office
31	Mr Chanmay XONG	Technical	ECOLAO VTE Capital
32	Mr Bounsouk SOUNDALA	Deputy	Secretary district
33	Mr BounNome KHUNPANGNA	Technical	GMS LAO VTE Capital
34	Mr Sommai	Master of ceremonies	Governor office district
35	Mss Chansouk INSOUVANH	Consultant Norplan	Norplan company
36	Mr Bouasone PANGNALATH	Driver	Governor office Vientiane Province
37	Mr Sangkhom SOUNDALA	Deputy	Governor office district
38	Mr Sompong	Technical	Long Cheng
39	Mr Khampasith OUTTANASITH	Office Manager	ECOLAO VTE Capital
40	Mr. Garry Oughton	Consultant	ECOLAO VTE Capital

Minutes from Xaysomboun District Workshop

Nam Ngum 3 Hydropower Project

20th November, 2007 – Xaysomboun District

The Deputy District Governor – Mr. Bounesouk Sundara, Chairman:

In his Opening statement encouraged participants to contribute their points of view and thoughts.

Presentation by Norplan/EcoLao Representative Ms. Chansouk Insouvanh (see below).

Mr. Seng Pagnasyli , Deputy Chief, Department of Energy and Mining in Vientiane:

Explained the history of hydropower projects in the country with particular reference to the Nam Ngum River Basin. He explained the need of having hydropower and its importance. He stated that hydropower installation is in compliance with the Government of Lao policy on poverty alleviation. Selling energy to a neighbouring country (Thailand) being one of the official strategies to generate national income. In addition, hydropower installation is also intended to augment local electricity availability and utilisation and improve the life of the Lao people.

Mr. Sompak, Project Manager of GMS-Lao: explained the history of the NN3 Project. He explained the relationship between the Lao government and the GMS group of Companies, GMS-Lao is a branch of GMS-Power, Thailand.

As for the history of the NN3 Hydropower Project, GMS-Lao conducted the first feasibility study in 1995. The Project is not new but because it confronted funding difficulties during the Asian economic crisis, the exploration and design were delayed. Recently, nonetheless, most of the pre-Project activities, including surveys on socio-economic and environmental impacts, have been resumed.

All survey activities, data collection processes, and report formats are in compliance with the Water Resources and Environment Authority (WREA) policy. GMS has always complied with GoL policy.

Long Cheng Focal Zone authorities:

Because the three clustered villages (Long Cheng, Xam Thong, and Nam Ngua) are likely to have some impact from the project (mainly on fishing and NTFP gathering), the NN3 project planners should address the following issues:

1. NTFP domestication should not only be introduced within the directly impacted areas, but also catchment-wide with attention to reaching markets.
2. Should allow villagers to continue using NTFPs as sources of food and household materials
3. Prevention of water bourn diseases: All disease prevention activities should be in collaboration with Provincial and District health authorities. There should be a health centre or hospital erected in Long Cheng.
4. Allocate funding for agriculture and livestock husbandry, but address raising ruminants instead of fish and chickens because of the wide areas of (as yet) unimproved grassland available. Villagers should be trained before introducing new agricultural practices. The NN3 project should provide agricultural experts to address cattle raising and NTFP domestication and in-village processing.

Education Department:

1. Help build schools in the areas
2. Help train teachers and upgrade teaching skills

Agriculture and Forestry:

1. Xam Thong soil conditions are very poor and rice production is extremely low. Is there any way to improve soil conditions or should we introduce new crops instead of continuing to grow rice?
2. Can the Project help to improve irrigation infrastructure in the Xam Thong area?
3. The Project should sponsor extension support for growing improved forages, specifically for cattle raising.
4. The Project should improve roads condition to enhance villagers' mobility and access to markets

Electricity du Laos:

Can the Project reticulate electricity to impacted villages?

Transportation, Communication, Post and Construction:

1. There are potentially seven villages that will be impacted by the project. Even though three villages are expected to be more severely affected, the Project should help all villages equally so as to avoid future conflicts
2. The Government plans to improve road condition between Xieng Khouang, Xam Thong, Long Cheng and Tha Bok, but it is only expected to be completed in 2015. Can the Project improve road condition in the Long Cheng area during the dam construction period to prevent dust pollution, which would harm villager's health?
3. The Project should help improve road access to markets, this will allow villagers to sell NTFPs and agricultural products

Energy and Mining:

The Energy and Mining Division should be added to the Institutional Organisation Diagram.

Labour Union:

1. The local Labour Union Department should work closely with the NN3 Project for two reasons:
 - a) to protect the rights and interests of the workers, and;
 - b) to prevent labour conflicts and other issues
2. The Government of Lao has a Labour Policy which should be adopted by the NN3 Project

Health Department:

1. The Project should carefully plan health awareness campaigns for the impacted villagers, especially addressing women's health issues
2. School enrolment rates are low and unbalanced - more boys than girls. The Project should address this inequality.
3. The Project should also address gender inequality and women's' empowerment
4. During the construction period, the recruitment process should be implemented in consultation with the District and village authorities. Any new local recruitment should be done in consultation with, and authorised by, local authorities before starting to work with the Project.

The Lao Women's Union:

1. The NN3 project funds for community development should be used to augment the funds allocated by the Nam Ngum River Basin Project. The development plans of the two projects should coincide.

2. These Projects should support and encourage women's' activities such as gardening, weaving, knitting and tailoring. A Development committee should be established specifically for supporting women's' interests and for their skills development.
3. The Project should also emphasize reproductive health awareness-raising for the villagers. Family planning, child nutrition, maternal health, and women and children health should be addressed in the social development plan
4. "Gender in Development" is an important factor. The Project should start addressing school enrolment rates (boys versus girls) as well as dealing with gender inequality as a separate issue.

District Police:

A major issue with a large development project is local population expansion; thus, population and migration control measures should be planned in consultation with the relevant authorities. The following issues should be seriously considered:

1. Employment process and procedure
 - a. Local applicants for recruitment should present a complete set of relevant documentations certified by Village, District, and Provincial authorities.
 - b. Foreign applicants for recruitment should follow Lao PDR immigration and recruitment laws:
 - i. sub-contractors should have an official permit issued by the government
 - ii. Tourist Visa holders and those without Work Permit cannot work for the Project;
 - iii. All foreign personnel must have Work Permits.
2. Transportation and local travel must be approved by local authorities.

Vientiane Province Water Resources and Environment Office (WREO):

Project documentation should address the roles of WREA/WREO and how they oversee the EIA and SIA processes involving social issues.

Mr. Khamla, Vientiane Provincial Governor's Office representative:

Commented that the NN3 consultation process is taking the right direction as compared to other hydropower projects in the area. He gave examples that Nam Lik and Nam Ngum 2 projects are encountering many chaotic problems. Nam Ngum 2 faces huge compensation difficulties in Feuang District. However, he complemented the NN3 approach.

He stated that some of the project activities, especially related to field surveyors and specialists are very well performed. Other issues he addressed are listed below:

1. Security – collaboration with local authorities is most important. When travelling, always give notice well in advance
2. Compensation – collaborate with other projects and adopt all GoL policies and decrees on compensation and resettlement of people affected by development projects. It is especially crucial that the project should avoid inconsistency about the compensation rates, otherwise conflicts might occur. In addition, project presents that it will improve the living condition of the villagers at least by ten percent and more. Ten percent is not enough, especially for the extremely poor family. Every resettling household should benefit equally. Their houses should be made up of concrete frames (posts), wooden walls, and tile roofs
3. Ethnic Sensitivity –respect the various ethnic groups, their traditional ways of life and practices
4. Disturbance –do not unnecessarily disturb any local properties (lands, forests, gardens, rice fields, etc.) without consulting with local authorities

5. Public awareness initiatives – do not conduct any unilateral awareness campaigns. Every public awareness initiative is vested only under the responsibility of the government. Project cannot conduct awareness campaigns of any kind without government counterpart.
6. Capacity Building – since the Project will involve many training activities, can the project finance the establishment of a Training Centre in the impacted area?
7. Institutional organisation structure – every governmental level should be included in a Project Management Committee. For instance, including village authorities will allow project activities to run smoothly and conveniently.

Deputy District Governor – Mr. Bounesouk Sundara, Chairman:

He summarised and outlined the main points raised during the meeting. He noted that major NN3 Project activities are about to commence. He notes that every hydropower project have some impact on the livelihoods of the affected villagers; nonetheless, the NN3 preparation appears to be going in the right direction compared to many others.

As a local government representative, he will collaborate with and support the Project. He is willing to support projects which will promote the future development of Lao PDR, especially for the compensation and development of the impacted villages.

Nam Ngum 3 Hydropower Project

Presentation Consultation Workshop Xaysomboun District



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Nam Ngum 3

- Installed capacity 440 MW (2,000 GWh/year)
- Dam height 200 m
- NN3 Reservoir will cover 25.6 km² and stretch 51 km at FSL 720m
- 55 km upstream Nam Ngum 1 Reservoir and 16 km up from the Nam Ngum 2 Reservoir
- Operation Year 2013

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2

Consultation Process (1)

Village level

- Village and household consultations in Xiengdet July/August 2007
- Consultation with village leaders in Peri-Reservoir villages, July 2007
- Consultation with project lands villages, Sept/October 2007

District/Province level

- Phoukoot District 30th Oct. 2007 with district and provincial officers.
- Hom District 2nd Nov 2007, with district and province officers.
- Xaysomboun District 20th Nov. 2007 with district and province officers.

National level

- Planned for January 2007

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NN3 Impact Zones

1. Upstream catchments
2. Reservoir area (including inundated area, drawdown zone and near reservoir lands)
3. Downstream river and reservoirs
4. Power transmission line corridor
5. Construction Land (Access road, quarries, borrow area, dam and power station and camps)



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Reservoir area impacts (1)

Environmental

- Hydrology (from river to lake)
- Water Quality
 - anoxic conditions in the lower layers
 - Increased nitrogen concentrations
 - Lower pH
- Fisheries
 - dramatic shift in fish species composition and population density
 - transition period for several years before a new stable ecosystem is established
- Low inherent conservation and biodiversity value



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Environmental Management Plans

- Reservoir Clearance and Filling Plan
 - Vegetation clearing below 720 masl before 2010 due to coffer dam.
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 - Around the reservoir
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Reservoir area impacts (2)



Social

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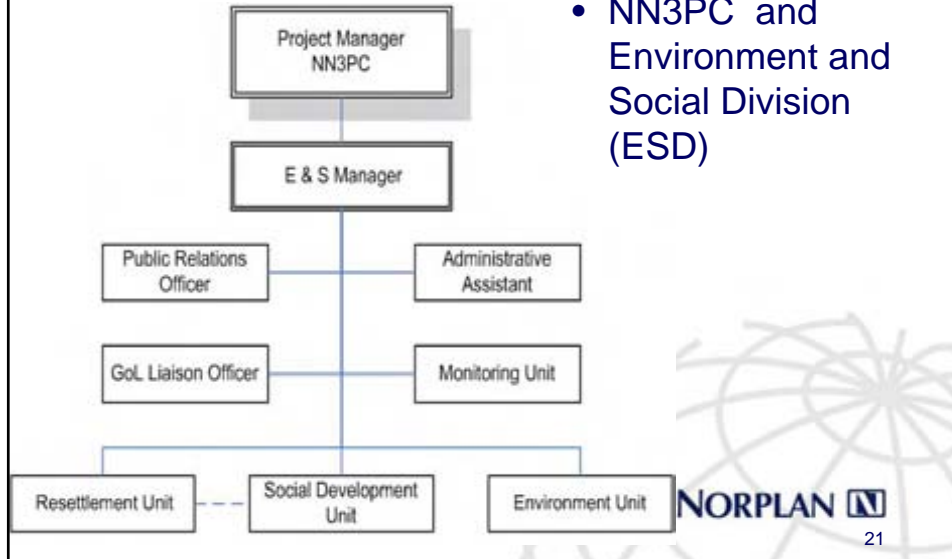
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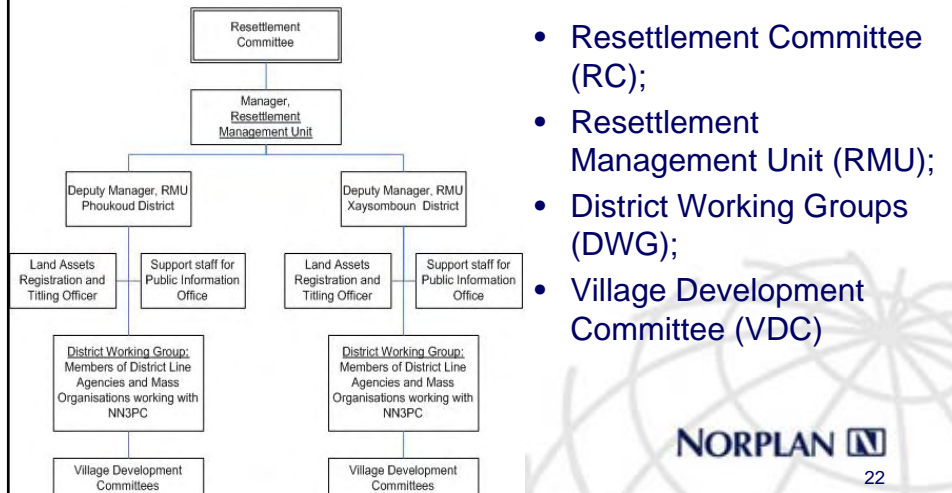
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Overarching issues (1)

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- The equity approach (sometimes called “mainstreaming”) aims to improve women’s opportunities and powers, especially concerning planning, decision-making, training, and access to resources;
- The anti-poverty approach concerns special activities for women with the objective of offering socio-economic stimulations for disadvantaged women and their families.

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Overarching issues (2)

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- Those with disabled family members.

Special assistance:

- Household-based consultations and discussions with these HHs;
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Ethnic issues will be addressed through:

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THANK YOU FOR YOUR ATTENTION!



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APPENDIX 10

REPORT FROM THE NATIONAL CONSULTATION WORKSHOP

VIENTIANE, 16TH JANUARY 2008

Report extracted from the consultation annex of the Ecolao - Norplan 2009 report (including presentation given, minutes of meeting & list of participants).

Please note that the presentations attached are the ones which were given at the time of consultation. Some features and analysis of the impact areas have changed since and the reader is referred to the ESIA and the REMDP for a more precise and accurate description.

Annex 10

**Report from
National Consultation Workshop
regarding
Nam Ngum 3 Hydropower Project
COSMO Hotel, Vientiane
16th January 2008**

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Agenda: National Consultation Workshop

COSMO Hotel, Vientiane

16th January 2008

Time	Item	Responsible person
8.00 - 8.30	Registration	Secretary
8.30 - 8.40	Objectives of the Consultation Workshop	Mr. Phouvong Luangxaysana, Chief of Section of Environmental and Social Impact Assessment
8.40 - 8.50	Opening of Consultation Workshop	Mr. Noulinh Sinbandith, Deputy Minister to the Prime Minister office, Deputy Chief of WREA
8.50 - 9.00	Brief presentation on NN3 HPP	GMS representative
9.00 - 9.10	Presentation of technical aspects of NN3 HPP construction	GMS representative
9.10 - 10.00	Presentation of EIA / EMMP	Norplan representative
10.00 - 10.15	Coffee break	
10.15 - 11.00	Discussion (EIA / EMMP)	All participants
11.00 - 12.00	Presentation of SIA / REMDP	Norplan representative
12.00 - 13.00	Lunch	
13.00 - 13.35	Discussion (SIA / REMDP)	All participants
13.35 - 14.15	Presentation of SMP, GAP and Consultation Report	Norplan representative
14.15 - 14.30	Coffee break	
14.30 - 15.10	Discussion (SMP, GAP and Consultation Report)	All participants
15.10 - 16.00	General Discussion	All Participants
16.00 - 16.30	Comments from the Chairman and workshop closure	Mr. Noulinh Sinbandith, Deputy Minister to the Prime Minister office, Deputy Chief of WREA

Objectives of workshop:

- To present the safeguard documents for NN3 Hydropower Project.
- To provide a forum for exchange of comments and suggestions from the workshop participants.

List of Participants, National Consultation Workshop, Vientiane, 16th January 2008

No.	Name list	Organisation	Position
Central level			
1	Mr. Noulinh SINBANDHIT	WREA	Deputy Minister of Prime Minister's Office
2	Dr. Viengsavanh DOUANGSAVANH	WREA	Director General Department of Environment
3	Mrs. Bounkham VORACHIT	WREA	Deputy Director General Department of Environment
4	Mr. Phouvong LAUNGXAYSANA	WREA	Chief of Environmental and Social Impact Assessment; DOE, WREA
5	Mr. Soudaxay KHAMPHENGXAY	WREA	Technical officer
6	Mr. Souphon KHATTIYAVONG	WREA	Technical officer
7	Mr. Phutthasone KHEMMALA	WREA	Technical officer
8	Mr. Thepnakhone VONGSAPHAY	WREA	Technical officer
9	Mr. Phouvong AONESISALUEM	WREA	Technical
10	Mr. Kaikeo CHANTHAVISOUK	WREA	Technical
11	Mrs. Soutsada SEVILAY	WREA	Technical officer
12	Mrs. Phetsamone INPAIYALAD	WREA	Technical
13	Mrs. Oukham SITTHIVONG	WREA	Technical officer
14	Mr. Bounthavi THIPSUVANH	WREA	Driver
15	Mr. Seng PANYASIRI	Department of Energy Promotion and Development	Division chief of NN3, NN5
16	Mr. Chanhtho MILATTANAPHENG	Department of Electricity of Ministry of Energy and Mines	Director General of Environment
17	Mr. Bourlom XAYSANAVONG	Department of Electricity of Ministry of Energy and Mines	-
18	Mrs. Sonenathi PHAKHOUNLUANG	Road & Bridge Department	Director General of Environment Department
19	Mr. Sanglath TILASAK	-	-
20	Mrs. Inthasith KHOMMAMUENG	Plant Department	
21	Mrs. Khamphang HOMSOMBATH	Fishery Research Institution	Technician
22	Mr. Mukda SANGVILAY	Personnel Department Ministry of Labour & Social Welfare	Technician
23	Mr. Phimmasang KHAMDALAVONG	Museum & Antiquities Department, Ministry of Information & Culture	Deputy Director General
24	Mr. Shosonephith PHANUVONG	Ethnic group Department	Deputy Director General
25	Mr. Aunakhone XAYVILIYA	WRCES	Technician
26	Mr. Champhu KEOPANYA	Ministry of Education	Committee Department
27	Dr. Aonechanh KEOSAVANH	Hygien & Prevention Department	Deputy Director General
28	Mr. Phangvan	-	-
29	Mr. Aehvinai Xayyalath	-	-
30	Mr. Roenkham HANSANAVONG	-	Technician
31	Mr. Aehkaphone PHUTHONESY	Vientiane time Newspaper	Reporter
32	Mr. Phonesavanh VONGSAY	Vientiane time Newspaper	Reporter
33	Mr. Bounaoum KHONGKEOMANIVONG	People Newspaper	Reporter
34	M. Aulayphet PHIMMUENG	People Newspaper	Reporter

No.	Name list	Organisation	Position
35	Mrs. Somphone BORLIVAT	Lao National Television	Reporter
36	Mr. Khamning AEHKAPHAN	Lao National Television	Reporter
37	Mr. Suriyo SANGKHAUM	Vientianemai Newspaper	Reporter
38	Ms. Anna JOHNEN	-	-
39	Mr. Richard FRANKEI	WREA	EIA Advisor, D.E
40	Mr. Vilay THONGKHAMHAN	DOE	Interpreter
41	M. Bounma SITTHISOM	Labour Department	Deputy of Researcher
42	Mr. Boaleane	Economy Newspaper	Reporter
43	Mr. Phothilad	-	Reporter
44	Mr. Soulivan SITHPHASAY	-	Translator
45	Mr. Maypheth PHONPHILA	Lao holding state Enterprise	Project Division
46	Mr. Somxay PHANPHONGSA	Lao holding state Enterprise	Project Team Leader
Xieng Khouang Province			
47	Mr. Sinethong VONGLORKHAM	Cabinet of Xieng Khouang Province	Deputy head of the Cabinet of Xieng Khouang Province
48	Mr. Thoumma SALEUMSAY		
49	Mr. Bounkhen LORMAOKUE	Energy & Mines Department	Deputy Head office of Energy & Mines Department
50	Mr. Somphong PHONEVICHITH	Agriculture and Forestry Department	Deputy of Forestry Department
51	Mr. Boalay PHIMMASONE	-	-
52	Mr. Somvandy SISOUPHAN	People's Assembly Office	Director General
53	Mr. Bounlieng		
Phoukhoud District			
54	Mr. Vanthong CHANTHAVONG	Phoukhoud District	Governor of Phoukhoud District
55	Mr. Khamphet AUDOMSUK	Cabinet office of Phoukhoud District	Head office of the Cabinet of Phoukhoud District
56	Mr. Thongphan	Environment office of Phoukhoud District	Technician
Ban Xiengdet			
57	Mr. Duangtha	-	Chief of village
58	Mr. Khemphone	-	Village' s Union
59	Mrs. Sang	-	Women's Union of village
60	Mr. Vis	-	Representative of People
61	Mrs. Tha	-	Representative of People
62	M. Vivone	-	Representative of People
63	M. Khamdang	-	Representative of People
64	M. Khamsy	-	Representative of ethnic group
Vientiane Province			
65	Mr. Vinat SISUK	Cabinet of VTE Province	Head office of the cabinet of VTE Province
66	Mr. Chandang KEOPHASEACH	Energy & Mines Department	Division Chief of Energy & Mines Department
67	Mr. Bountheane AOUNDALA	Agriculture and Forestry Department	
68	Mr. Thavone PHENGSAISAI	CTPC Department	Director General of CTPC Department

No.	Name list	Organisation	Position
69	Mr. Somdy PHAGEMPHON	-	-
70	Mr. Khamdang SILAVONG	-	-
Xaysomboun District			
71	Mr. Khomphuthone VONGPHACHANH		Head office of the cabinet of Xaysomboun District
72	Mr. Bounsy KHAMTHILAVONG	Environment office	Director General Environment office
Ban Muengphukaochao			
73	Mr. Bounsu	-	Chief of village
Ban Nam Xan			
74	M. Phaghaolry LAOTUTONGTOUR	-	Village' s Union
Ban Nongphu			
75	Mr. Khamsy LAVRY	-	Chief of village
Ban Luangpansay			
76	M. Nithone LUENGSAANY	-	Chief of village
Ban Pansay			
77	M. Chanphone MALANGSAY	-	Chief of village
Ban Homsay			
78	M. Saimani	-	Chief of village
Ban Nampha			
79	M. Khomephone SINGPHAVONG	-	Chief of village
NN3 Project			
80	Mr. Robert Kay	GMS Power	SUP
81	Mr. T. Ozono	Marubeni	SUP
82	Mr. O. Shimbara	Marubeni	SUP
83	Mr. Nopporn	GMS	SUP
84	Mr. Songpan	GMS	Engineer
85	Mr. Sathaporn	GMS	Project Manager
86	Mr. Sompak	GMS	-
87	-	Rathcaburi	Ass. Director
88	Mr. Sychanh	GMS	Office Manager
89	Mr. Henrik NILSSON	Norplan	Social Expert
90	Mr. Erik BORSET	Norplan	Environmental Expert
91	Mr. Maypheth	LHSE	Project Division
92	Mr. Somxay	LHSE	Project Team Leader
93	Mr. Garry	ECOLAO	Consultant
94	Mr. Khampasith	ECOLAO	Office Manager

INTERVENTION

**By Mr. Noulinh Sinbandith, Vice Minister to the Prime Minister's Office,
Vice-President of WREA at the National Nam Ngum 3 Environment and
Social Consultative Meeting, 16 January 2008
Cosmo Hotel**

- Respected Governor of Phoukoot District and Governor of Saysomboon District,
- Respected Directors and Deputy Directors of Departments of WREA and agencies concerned,
- Representatives of Nam Ngum 3 hydropower project developers,
- Honorable ladies and gentlemen,

On behalf of the Water Resources and Environment Agency, it is a great honor to deliver this intervention and chair the consultative meeting on Nam Ngum 3 hydropower project's environmental and social reports. On this occasion, I would like to express my appreciation to the administrative authorities of Xiengkhuang Province and agencies concerned at the central, province and district levels, and the affected communities for honoring this meeting with their presence and for giving some of their precious time. At the same time, I also thank the developers of Nam Ngum 3 hydropower project for their financial support to this meeting.

Honorable ladies and gentlemen,

It is well known that Lao PDR attaches priority to electric power development to generate national revenues given our country's water resource potentials that are slated for the generation of 23,000 MW from 2006 to 2010. Several projects are currently under construction for future production of electricity for domestic use and export to neighboring countries.

Among such projects, Nam Ngum 3 is located on the Nam Ngum near Ban Longcheng at about 4.5 km upstream of Nam Pha's mouth, about 65 km upstream of Nam Ngum 1 dam and 30 km upstream of Nam Ngum 2 dam. It comprises a 220 m high dam with a 3,890 km² wide watershed area and 27.5 km² reservoir area at 723 meters of altitude above sea level, an installed capacity of 440 MW and an annual production capacity of 2,00 GWh in average, 230 kV transmission line at 40 m wide alignment over approximately 96 km that will be built from Nam Ngum 3 and pass through Phu Bia gold mining area and the Nam Lik dam's powerhouse before crossing the Phu Khao Khuay national forest reserve over a distance of approximately 36 km before joining the Nabong substation. Furthermore, 20 km of new road will be built and 46 km of road upgraded. Limestone from Ban Longcheng will be used as coarse and finely ground supplement to concrete material. Construction will require employment of 3,000 to 4,000 labourers.

Ladies and gentlemen,

From 1998 to 2002, the Nam Ngum 3 hydropower project recruited Resource Management and Research (RMR) to study environmental impacts and development and environment action plan for the project. During that period of time, the project preparation process was delayed due to the Asian financial crisis. In 2006, the Nam Ngum 3 project's development resumed and the environment and social impact assessment studies were carried out by Norplan and Ecolao.

The impact assessment indicated a number of potential impacts. Main environmental and social impacts will affect the forest area, wildlife, neighboring communities during the construction phase and the water flow; silting; changes to water quality, fishery and others. However, major impact from Nam Ngum 3 hydropower project will consist of water level in the reservoir that will flood 1 village in Phoukoot District – Ban Xiengdet – and affect 7 downstream villages.

Ladies and gentlemen,

This meeting is held to listen to the results of detailed environment and social impact assessment, environment and social management plan, resettlement plan and other plans summarized in 7 reports. Therefore, we will today focus on discussing and commenting of these reports submitted by the project developer to WREA for review and consideration of their completeness and accuracy so as to ensure the project's highly efficient development with minimal environmental and social impacts. Also, this meeting allows the project affected communities to lead a better life.

Therefore, I call upon all participants to provide their views on all environment and social reports to ensure their overall content and efficient implementation.

Finally, I would like to reiterate my wishes for the success of this meeting as planned and declare it officially opened from this moment onwards.

Thank you.

RECORDS
National Consultative Meeting
On the Nam Ngum 3 Environment and Social Reports (EIA/EMMP, SIA,
REMDP, SMP, GAP, Consultation Report) at Cosmo Hotel, Vientiane, on
16/01/2008

In the morning of 16/01/2008, a national consultative meeting on Nam Ngum 3 hydropower project's environmental and social reports (EIA/EMMP, SIA, REMDP, SMP, GAP, Consultation Report) was held at Cosmo Hotel under the chairmanship of Mr. Noulinh Sinbandith, Vice Minister to the Prime Minister's Office and Vice President of the Water Resources and Environment Agency with attendance by 77 persons from relevant central and local authorities, project-affected communities and project developers (see attached detailed list of participants).

Following presentation of the meeting's objectives by the organizing committee, the chair made opening remarks on the current socio-economic development status and action plans with emphasis on hydropower projects development program to reduce the development gap with industrialized and modernized countries in conjunction with environmental protection. The chair also raised matters relating to the legal framework governing the management of development projects and more specifically on the Environment Protection Law. The representative of GMS Co., Nam Ngum 3 hydropower project's developer, then gave a summary presentation of the project's background and technical information of the dam's construction. Mr. Erik from the environment impact assessment team of Norplan, the project's environmental consulting firm, then presented the project's detailed environmental impact assessment report and environmental monitoring and management plan (EIA/EMMP), followed by discussions to gather feedback on such reports.

Mr. Henrik from Norplan environment consulting firm's social impact assessment team, also presented the detailed social impact assessment report, the resettlement and ethnic minority development plan (SIA, REMDP) and social management plan, gender action plan (SMP, GAP), consultation report, followed by discussions. Following each presentation, participants aired their views which may be summarized as follows:

1. Phoukoot District Governor:

On behalf of the local administrative authorities of Phoukoot District which lies in the area affected by Nam Ngum 3 hydropower project's construction works, approval of the project's development is confirmed with a number of proposals for consideration by the project:

- 1) In addition to the environmental impact assessment, the project should further examine the area for reforestation.
- 2) The Nam Ngum 3 project's reservoir area from where timber extraction is planned still contains economic trees. The relevant parties are requested to properly plan such extraction prior to flooding.

- 3) Potential mineral reserves within the reservoir area should be surveyed. This matter was not raised by the environment consulting company at the meeting. This issue should be properly surveyed in detail.
 - 4) Resettlement of affected population requires access roads. The project is therefore requested to work in coordination with the local administrative authorities on the alignment of access roads to resettlement areas.
 - 5) Regarding compensations to affected people should be based on the actual impacts incurred from the project and should not be averaged.
 - 6) Nam Ngum 3 hydropower project is proposed to seek remedies in conjunction with Nam Ngum 5 hydropower project on potential issues relating to water quality in the area of Ban Xiengdet during the construction phase of Nam Ngum 5.
2. Forestry Department, Ministry of Agriculture and Forestry
 - 1) The project has allocated a budget of US\$385,500 for biodiversity conservation but has not mentioned any budget for monitoring and control. If such a budget has been planned by the project, it should be clearly shown.
 - 2) If feasible, a specific unit should be established to manage the watershed area. This unit would work in coordination with the district and province authorities and may also work jointly with other neighboring projects and namely with Nam Ngum 2 hydropower project.
 3. Cultivation Department, Ministry of Agriculture and Forestry
 - 1) The project has not indicated any sedentary occupation promotion plan. Such a plan should be included in the reports, especially with regards to cultivation and animal husbandry activities (the project explained that such a plan is mentioned in the resettlement plan).
 4. GMS Co. representative:
 - 1) Impacts should be accurately broken down by level and category, such as types of impacts under 10% and over 10% to facilitate the development of measures to alleviate such impacts.
 - 2) The production area at Ban Xiengdet may be further used during periods of lower water level. Thus, what would be planned by the project to prevent competition for land and land use in this area should also be planned.
 5. Dr. Richard, SEM II Project expert, Environment Department
 - 1) Is it possible to arrange the 230 kV transmission line so as to circumvent the Phou Khao Khuay national forest (without cutting though) in order to reduce potential impacts on the local biodiversity?
 - 2) The project has endeavored to promote biodiversity conservation within the project area, but it has not yet clearly given any clear indicators and outputs as reference for reforestation. (The project explained that this may be included in work components and that there are still no clear information on reforestation).
 6. Heritage Department, Ministry of Information and Culture
 - 1) Based on the Heritage Law, before construction, a project is required to survey for potential artifacts that may exist in the project area. In the different reports presented by the project, there was no mention of this matter. (The project explained that the project area does not contain significant sources of artifacts).

7. Civil Works and Transport Department, Vientiane Province
 - 1) According to plans, Vientiane Province will build a new access road to Nam Ngum 3 construction site over a distance of 27 km at a cost of 27.5 billion kips. Nam Ngum 3 project is requested to build an extension starting from km 27 to the project site based on such access road's environmental and social impact assessment as it may bring changes to the nature in that area.

8. Hygiene-Prevention Department, Ministry of Health
 - 1) Compared to other projects, health activities have been quite well examined and planned by Nam Ngum 3 project. However, the project is suggested to further focus on: (1) separating health management plans between workers and communities, (2) no mention is made about occupational health and safety, (3) developing a detailed budget for workers camp management (waste water, solid waste disposal...). These issues should be clearly indicated in the reports.
 - 2) The budgeted amount of US\$1.8 million is seen as sufficient to support health operations.
 - 3) Ban Xiengdet is targeted for resettlement under the Nam Ngum 3 project and is expected to be affected by Nam Ngum 5 project during the construction phase. As raised by the Governor of Phukut District, water supply should be secured prior to the project's construction. Two solutions are possible: (1) Shallow wells and supply of recipients to collect water, or (2) bringing water from elsewhere and keep in reservoirs. Nam Ngum 3 project and Nam Ngum 5 project should further coordinate the selection of methods and measures.

9. Agriculture and Forestry Department, Vientiane Province
 - 1) Nam Ngum 3 project covering 2 provinces, the project will directly affect 1 upstream village, 7 downstream villages in Saysomboon District and another 5 villages in Hom District. These villages have difficult access and most of the communities rely on the nature for their livelihood. Therefore, if possible, the project is requested to assist in building small irrigation schemes for these communities.

10. Ethnic Affairs Department, Lao Front for National Construction
 - 1) The following matters are suggested for further consideration by the company and the administrative authorities at all levels. Actual implementation of different activities should take proper consideration of the 3Ps in ethnic development, being 1. P for people (people-based joint work); 2. P for democracy (due account of views from all persons, all ethnic groups and all social strata); 3. P for coordination (coordination with stakeholders).

As all participants expressed their views and comments, the chair invited Ms. Bounkham Volachit, Deputy Director of the Environment Department, to give further comments:

- 1) An awareness raising program should be added for the upstream and downstream communities.
- 2) The transmission line and access road construction have not yet been coordinated with the relevant authorities. The project is therefore requested to further act on this matter.
- 3) The company should continue to consult the affected communities on the dam's construction and provision of new occupations.

- 4) Regarding potential impacts on local communities of Ban Xiengdet, Nam Ngum 5 and Nam Ngum 3 projects should further coordinate their remedies.
- 5) Further attention should be given to coordination with stakeholders, namely with the local administrative authorities and communities living within the project area.
- 6) Compensatory houses for non-permanent residents should be designed in general terms within proper guaranteed criteria acceptable to the local communities.
- 7) The project is requested to re-arrange the environment and social management budget plan, especially with regard to the biodiversity monitoring and control plan, and the social action plan.
- 8) The budget for the water reservoir's sanitation should be re-examined as the project owner is required to ensure sufficient funding for actual implementation.

Answers and clarifications provided by the project team helped to improve the participants' understanding namely regarding community development, solutions and reduction of potential impacts during the construction and operating phase of the project, health, labor management, compensations, resettlement and other issues.

Finally, Mr. Noulinh Sinbandith, chair of the meeting, assessed and summarized the meeting's outcome by indicating that the project developers have efficiently studied information and developed effective measures. From the presentation of studies, environment management plan, resettlement plan and other plans that have been extensively discussed, the project has gathered all studied matters and feedbacks from participants. Such information will serve as reference for further examination and consideration for the reports' improvement by the project developer. Furthermore, the chair also suggested the project emphasize on the following:

- 1) Having listened to comments from participants and the outcome of meetings held at the village to the central level, it comes out that major issues revolve around compensations to the affected communities. The project should therefore review in detail proposed compensations against actual levels of impact.
- 2) To support the implementation of the project's different activities, the project owner should set up appropriate budget lines for environment and social management, namely for the preservation of forests in the watershed area, biodiversity and others.
- 3) The project should increase coordination with authorities concerned of activities that still need to be included in the reports, namely mining areas, study of impacts on fishery, the Nam Ngum fish population likely to be affected, types of impacts by fish species and potential consequences of fish migration.
- 4) The design of new houses should offer several types for selection. New houses should be more solid and better built. The population should be allowed to participate in this process and the project should consider using their labor.
- 5) The company should establish an information unit to interact with the affected communities. Also, Phoukhoot and Saysomboon Districts are also suggested to set up an information hall to allow the communities to receive information on the project as well as on other previously established projects as project information dissemination facility.

An official opinion will be issued containing all the above will be sent by WREA to the project developer based on the reports submitted by the project, the outcome of

the consultative meeting and comments from stakeholders for finalization of the reports by the project team. Upon improvements, the project is requested to send them to WREA for the issuance of a certification of environmental and social approval to the project subject to positive review. Any additional comments may be sent to the Environment Department until January 30, 2008, for inclusion in summary comments to be sent to the project developer. In addition, the chair of the meeting also mentioned that the construction of Nam Ngum 3 hydropower project will bring a good opportunity for the relevant provinces to gain benefit, especially in rural areas and in the project site, which will improve the quality of life of the local population. It is expected that, upon completion of the project, all facilities will be ensured. Therefore, the provinces and districts concerned are requested to actively participate in this project's development and ensure its success. By the year 2013, the project will then be able to export electricity as planned. The chair also highly evaluated the meeting's outcome.

Director General of the
Environment
Department,
Bounkham Volachit

Head of the
Environment and
Social Assessment
Division,

Recorder

Nam Ngum 3 Hydropower Project

Presentations given at

National Consultation Workshop

Vientiane 16th January 2008

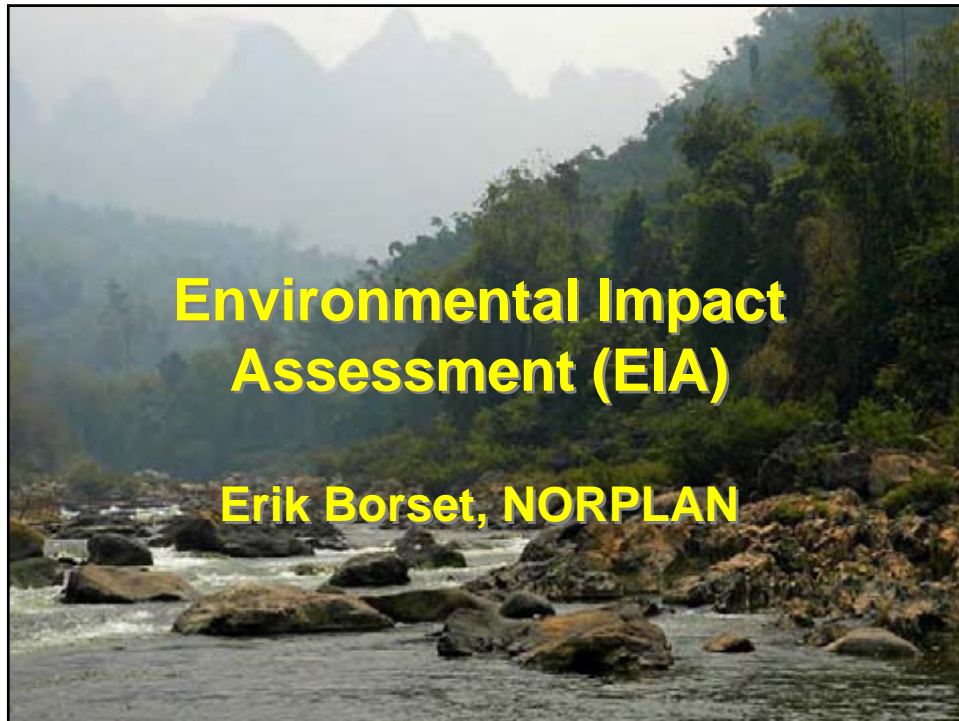
and

Public Consultation Workshop

Vientiane, 8th February 2008

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1. Environment Impact Assessment (EIA) – Environment Management and Monitoring Plan (EMMP)
2. Social Impact Assessment (SIA) – Resettlement and Ethnic Minority Development Plan (REMDP)
3. Social Management Plan (SMP)
4. Gender Action Plan (GAP)
5. Consultation Report



First Phase Studies

MoU in 1994

SMEC-SEATEC feasibility study in 1994 – 1996 including a volume - "Environmental Studies and Environmental Management Programmes"

RMR study 1998 to 2001. Resulted in comprehensive "Social Action Plan and Environmental Management Plan".

Public consultations and approval in 2002.

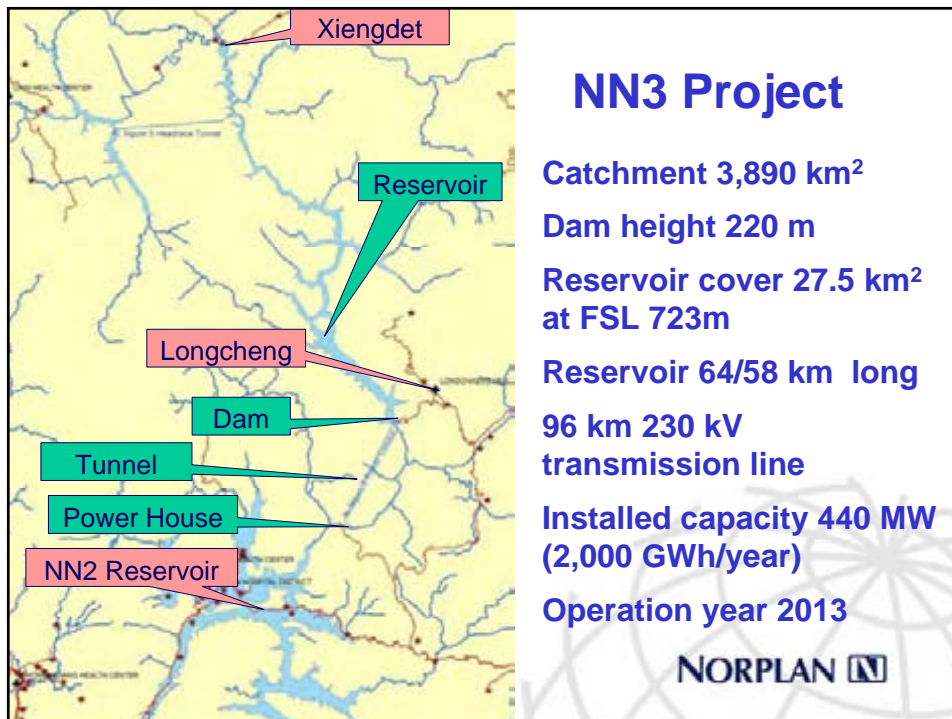
NORPLAN 

Revision Process

2007 NORPLAN, in collaboration with Ecolao, was contracted to revise, complete and edit information into standard EIA documents:

- Updating information
- New project conditions
- ADB presentation and process requirements

NORPLAN 



Content of EIA Report

- Introduction
- Legal and Policy Framework
- Project Description
- Physical Baseline
- Biological Baseline
- Project Impacts
- Analysis of Alternatives
- Environmental Management and Monitoring Plan

NORPLAN 



Project Impact Focus Areas

- Catchment
- Reservoir
- Downstream dam
- Construction sites
- Transmission line
- Access roads

NORPLAN 

Impacts - Catchment

Blocking upstream fish migration	-- (?)
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NORPLAN 

Impacts - reservoir

Eutrophication and algae bloom	--
Oxygen deficiency and anoxic deep water	--
Loss of agriculture land	-
Loss of forest land	--
Loss of biodiversity	-
Loss of river habitats and fish biodiversity	--
Risk of introduction of invasive water plants	--
Improved boat transport	+
Loss of traditional fisheries	-
New fisheries opportunities	(+)

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Impacts - Nam Ngum Downstream

River bank erosion	(-)
Periods of oxygen deficiency in water	---
Loss of bottom fauna and fish species	---

NORPLAN 

Impacts – Construction sites

Loss of land for permanent facilities	-
Improved infrastructure	+

NORPLAN 

Impacts – Access Roads

Loss of valuable forest	-
Loss of biodiversity	-
Loss of agriculture land	-
Traffic accidents	-

NORPLAN 

Impacts – Transmission Line

Loss of valuable forest	---
Loss of biodiversity	---
Loss of agriculture land	-

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Impacts – Construction Phase

Risk of traffic accidents	--
Noise and dust problems	--
Sediment pollution in river	-
Chemical water pollution	-
Solid waste pollution	--
Soil erosion from vegetation clearance and road construction	--
Increased pressure on wildlife and NTFP	--
Drowning of animals during reservoir filling	-

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Alternatives

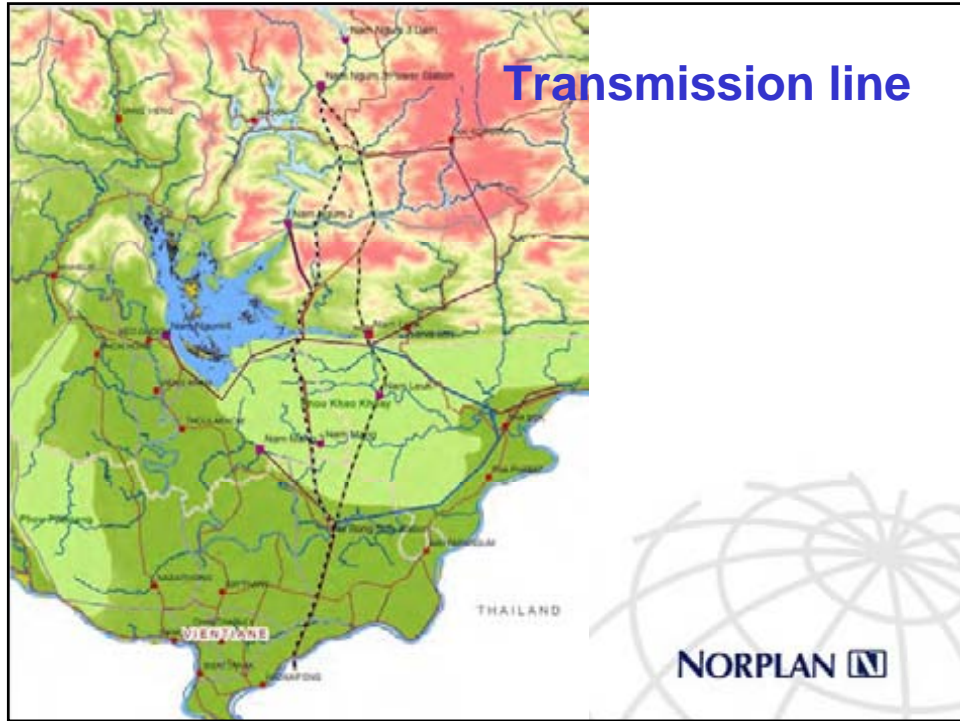
Policy alternatives

Alternative dam site and powerhouse locations

Riparian flow

Transmission line corridors

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Environmental Management and Monitoring Plan

- **Responsibilities**
- **Organisation**
- **8 Sub - EMMPs**

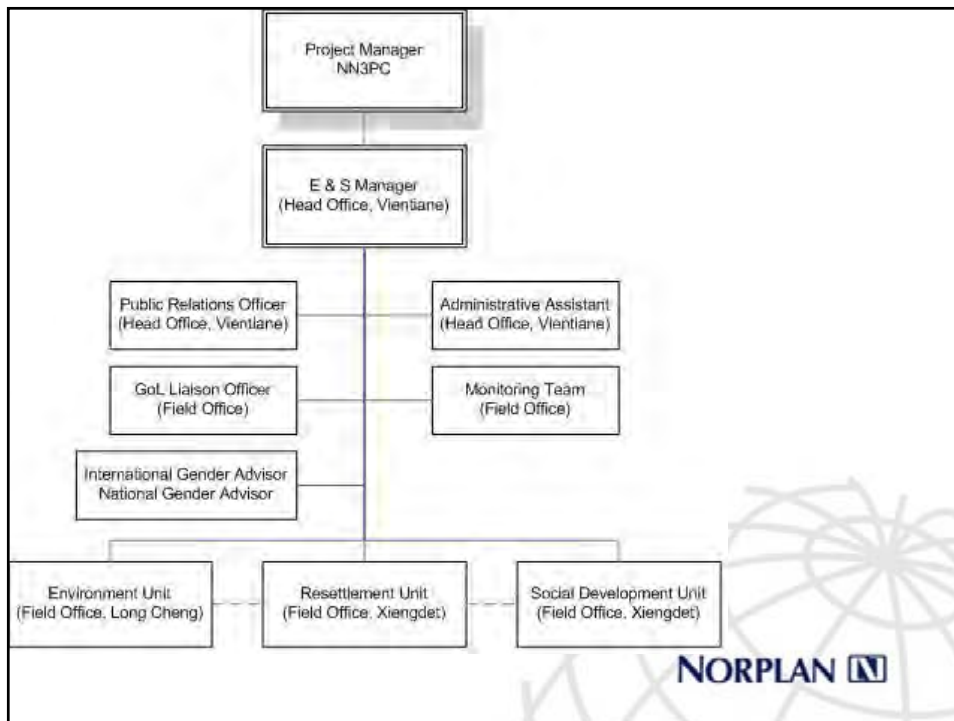
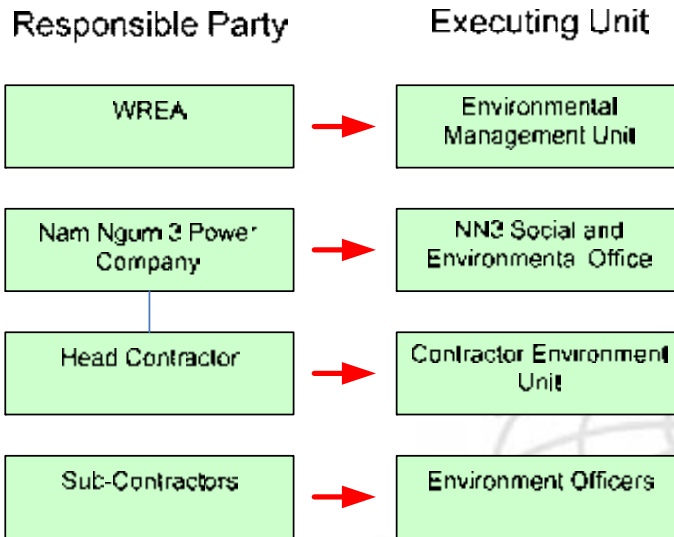
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8 Sub - EMMPs

- **Reservoir Clearance and Filling Plan**
- **Compensatory Forest and Biodiversity Protection Plan**
- **Water Quality Monitoring**
- **Construction Activities Environment Plan**
- **Operation Activities Environmental Plan**
- **Fish Monitoring and Mitigation Plan**
- **Transmission Line Environment Management and Mitigation Plan**
- **Environmental Education Training**

NORPLAN 

Responsible Parties



Reservoir Clearance and Filling Plan



- Improve water quality
- Clear waterways
- Improve fishing potential
- Salvage timber
- Aesthetic appearance
- Reduce floating debris

NORPLAN 

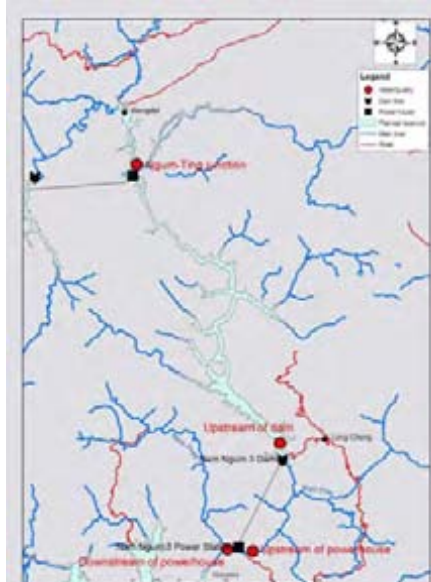
Forest Regeneration Programme



- Increase forest cover
- Improve biodiversity
- Increase available NTFP

NORPLAN 

Water Quality Monitoring



Construction:

- Hazardous chemicals
- Domestic wastewater
- Sediments
- Changes during reservoir filling

Operation:


- Eutrophication and oxygen depletion
- Water temperature
- Sediments
- Iron content

NORPLAN 

Construction Activities Environment Plan



- Spoil disposal
- Quarry management
- Chemical waste and spillage
- Household waste
- Emergency plan for hazardous materials
- Emission, dust control and noise
- Wastewater
- On-site traffic and access
- Landscaping and re-vegetation
- Unexploded ordnance (UXO)

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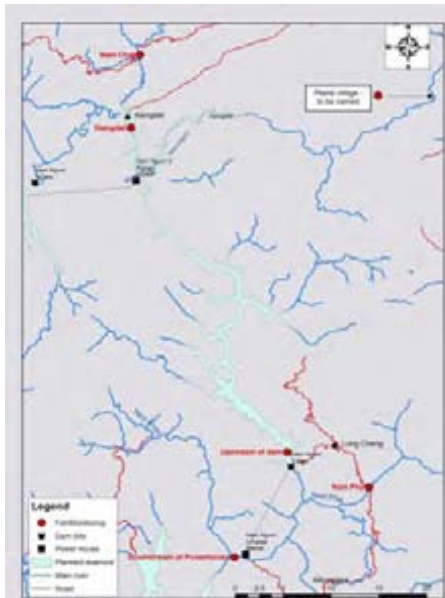
Operation Activities Environment Plan



- Waste and sanitary water management
- Oil release emergency response
- Unexpected water release emergency response

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Fish Monitoring and Mitigation Plan



Reach between NN3 dam and NN2 reservoir

NN3 reservoir

Upstream and tributaries

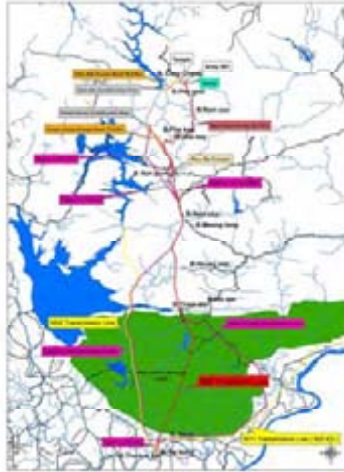
Improve knowledge of species and biology of fish

Monitor the changes

Identify measures to reduce or compensate impacts

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Transmission Line Environment Management and Mitigation Plan



- Vegetation clearing
- Erosion control
- Traffic and noise
- Water and wetland protection
- Wildlife protection and “Elephant Management”
- Oil Management

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Environmental Education Training

- Construction crew
- Village people
- Newcomers and camp followers
- Children



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Environmental Management and Monitoring Plan Budget

	Pre COD	Post COD	Total
TOTAL	1,310,025	1,017,033	2,327,057
EMP EU Staffing	885,000	324,800	1,209,800
Reservoir Clearance and Filling	17,000	64,000	81,000
Forest and Biodiversity Protection	63,500	322,000	385,500
Water Quality Monitoring	52,000	33,000	85,000
Fish Monitoring	44,000	6,000	50,000
Environmental Awareness Training	45,000	-	45,000
Contingencies	132,780	89,976	222,756

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Nam Ngum 3 Hydropower Project

Social Impact Assessment & Resettlement and Ethnic Minority Development Plan



Overview of project areas

1. Xiengdet
2. Peri-reservoir area (5 villages)
3. Downstream area (7 villages)
4. Upstream area (potentially 150 villages)
5. Project construction lands (12 villages along access road and transmission line)

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Social Impact Assessment (SIA)

The SIA has identified the type of impacts from the NN3 HPP.

1. Xiengdet

- Main impact is regular and partial inundation of housing and paddy field areas
- This will necessitate resettlement of entire village
- Other impact areas include:
 - forest - inundation and uncontrolled cutting;
 - livestock grazing land,
 - fishery - migratory fish species and access in rainy season
 - health - water borne diseases, psycho-social illnesses, etc.

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3



SIA (2)

2. Peri-reservoir area

- Fishery
- Forest utilization
- Livestock grazing

3. Downstream area

- Fishery

4. Upstream area

- Fishery

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4



SIA (3)

5. Project Construction Lands

- Land acquisition
- Loss of houses and other structures
- Loss of agriculture production
- Loss of fruit trees
- Health (dust, social disruption, STI/HIV)
- Traffic safety

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5



SIA (4)

Routing of Transmission Line (old proposed and current alignment)

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6

Fisheries

SIA (5)

Current annual catch and estimated impacts by zone (kg)

	Catch			Estimated Impact		
	Men	Women	Total	Men	Women	Total
Xiengdet	4,866	2,433	7,299	1,693	549	2,242
Peri-reservoir	12,224	817	13,041	7,873	475	8,348
Downstream	14,890	5,436	20,326	2,978	1,087	4,065
Total	31,980	8,686	40,666	12,544	2,111	14,655
Upstream	To be monitored					

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Project Construction Lands

SIA (6)

Impacts due to road widening on road from Nam Ngone to Long Cheng and to the originally proposed transmission line alignment comprise:

- 146 houses and two rice huts,
- 28 rice storages,
- 11 shops,
- 6.3 ha of paddy land,
- 6.1 ha of swidden land,
- 1,374 big trees, 167 medium sized trees and 14.689 small trees

Based on initial findings of the environment and social impact assessment the Consultant advised the Client to change the alignment in order to:

- Reduce the impact on Phou Khao Khouay NPA; and
- Minimize the number of villages affected (see Slide 6).

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8

Summary of impacts

SIA (7)

Project zone	Type of Impact	Severity of Impact	Mode of Compensation
Xiengdet	Inundation of houses	High	Resettlement within village
	Inundation of paddy fields	Medium	Livelihood improvement plan including dry season irrigation and terracing
	Fishery	Low – medium	
	Forestry / NTFP	Low	
	Health	Medium	See SMP (PHAP)
Peri-reservoir	Fishery	Low – medium	Livelihood improvement plan
	Livestock	Low	
	Forestry / NTFP	Low	
Downstream	Fishery	Low – medium	Livelihood improvement plan
Upstream	Fishery	Low	Livelihood improvement plan
Project Construction Lands	Land acquisition	Medium	Replacement of land
	Loss of structures	Medium – high	Relocation of structures
	Loss of agriculture production	Low	Cash
	Loss of fruit trees	Low	Cash
	Health and traffic safety	Medium	See SMP (PHAP & CPSMP)

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People affected by NN3 HPP

SIA (8)

Project impact zone	Type of impact	No. of villages	No. of HH	Population
Xiengdet	Resettlement	1	90	523
Peri-reservoir	Livelihood	5	420	2,321
Downstream	Livelihood	7	396	2,455
Project Construction Lands	Assets and Livelihood	12	1,485	9,030
Total ¹		22	2,096	12,789

¹ Three villages appear in more than one impact zone.

In addition, impact on long-distance migratory fish species could affect the catch of people fishing in the upstream area. The total number of households in the catchment area is 15,200.

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Ethnic composition of project affected villages

SIA (9)

Category	Village	Hmong	Khmu	Lao Loum	Lao-Tai Deng	Lao-Tai Phouan	Lao-Tai Khuane	Lao-Tai Khang	Lao-Tai Dam	Other
Inundated village	Xiengdet		80	10						
Peri-Reservoir	Nam Sam		75							
Peri-Reservoir	Xieng Nga		21			77				
Peri-Reservoir	Xam Thong				46					
Peri-Reservoir	Nam Ngua		45	3						
Peri-Reservoir / Access Road	Long Cheng		45	23		47	21	17		
Downstream	Louang Phan Xay		2	5	53				7	
Downstream	Phan Xay				45					
Downstream / Access Road	Nam Pha		37		1	1				
Downstream / Access Road	Nam Xan	103								
Downstream	Nong Phou	2	45	14						4
Downstream	Meuang Phoun Kao	24	1	16					1	
Downstream	Horn Xay		39	5						
Transmission Line / Access Road	Nam Ngone	139								
Transmission Line	Nam Ard / Nam Cha	38		2						
Transmission Line	Meuang Long	81								
Transmission Line	Houay Siet	31								
Transmission Line	Hin Sor	69	1							
Transmission Line	Tham Din	76								
Transmission Line	Nonh			112						
Transmission Line	Thakokhai	248		164						
Transmission Line	Nabong			229						
	Total	811	391	583	145	125	21	17	8	4

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Resettlement and Ethnic Minority Development Plan (REMDP)

Policy framework

GoL policies:

- Decree on Compensation and Resettlement (No. 192/PM)
- Regulations for implementing Decree (No. 2432/STEA)
- Technical guidelines on Compensation and Resettlement (STEA)

ADB safeguard policies:

- Involuntary Resettlement (2006)
- Indigenous Peoples (2006)
- Gender and Development (2003)

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Compensation Policy

REMDP (2)

Compensation will be based on:

- Replacement by equal productive value of productive assets for losses of a value of 10% or greater of productive assets.
- Livelihood development for loss of livelihood income of 10% or more of total household livelihood income (cash and imputed).
- Cash compensation for loss of productive assets of a value less than 10% of the total productive assets.
- Cash compensation for loss of livelihood income of less than 10% of total household livelihood income.

- Compensation will include housing in accordance with local ethnic minority preferences for each household eligible to resettle, as well as communal structures and religious sites.
- Food security (rice, protein, fruit and vegetables, as needed) will be provided to households until the income target has been met.

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Resettlement Process

REMDP (3)

One village will require resettlement: Xiengdet in Phou Koot District, Xieng Khouang Province.

Selection of new resettlement site – Nam Dtai – within Xiengdet village territory, is based on:

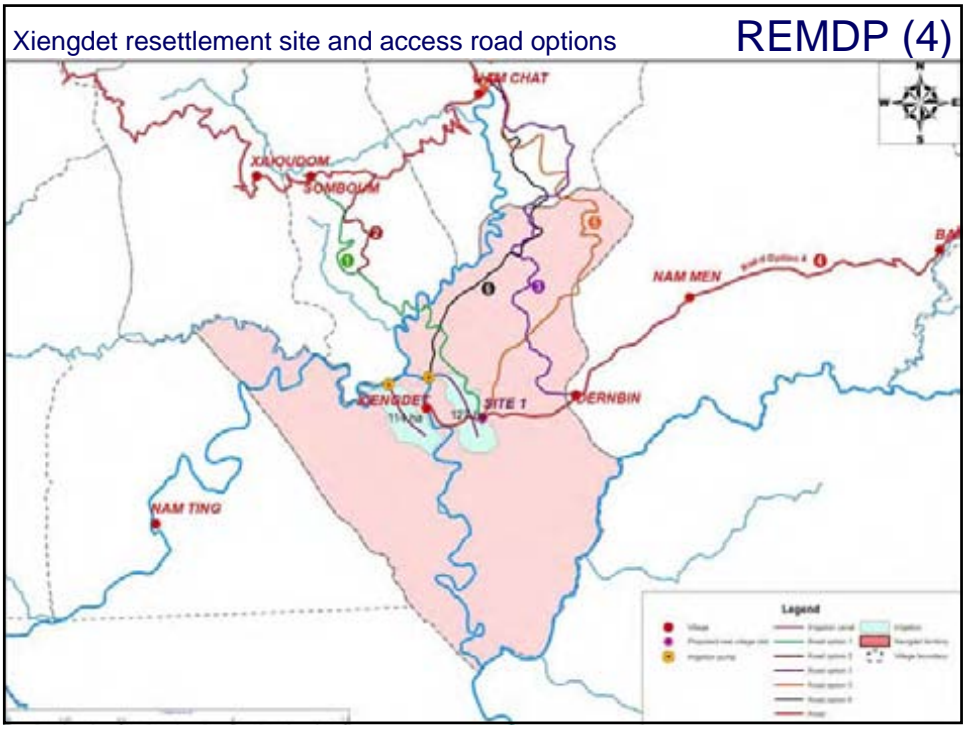
- Villagers' preference
- Technical investigations
 - sufficient land for housing
 - village has sufficient potential for paddy fields (dry season irrigated)
 - drinking water is available (pump or piped, to be decided)
- Limited land elsewhere in district

Households wanting to take resettlement into their own hands can be granted the right to do so by the Resettlement Management Unit and given a one-time cash compensation.

No households have requested this so far.


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Ethnic issues REMDP (5)

- The Khmu (90% of population) are positive continuing living together with the Lao Loum (10%).
- House design according to ethnic preference.
- Relocation of cemetery and spiritual sites will be carried out with appropriate ceremonies.

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Land preparation

REMDP (6)

- Thorough land and forest use planning will include a land capability assessment and a zonation of the village.
- UXO surveying and potentially clearing will be carried out before any soil excavation takes place.
- The potential flooding of paddy fields in Xiengdet makes wet season rice farming uncertain.
- However, the fields can be made very productive with dry season irrigation.
- A total of 241 ha land with slopes less than 5% is suitable for irrigation (see Slide 15).

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Infrastructure

REMDP (7)

- Houses with toilets, livestock pen, rice barn
- Water supply
- Electrification
- Primary and lower secondary school
- Village hall and office
- A covered market and various grain processing equipment
- A high priority for villagers is improved access to Route 7 and thereby markets and social services. Various alignments have been identified (see Slide 15).
- Upgrading of Health Centre in neighbouring Ban Nam Sam.

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Livelihood improvement

REMDP (8)

Xiengdet

Income target – 17,497,750 Kip/year (USD 1,842). This is based on what is necessary for a household to provide:

- food, clothing and shelter;
- medication, education and recreation; and
- taxes and savings.

44% of the 90 households have incomes below income target.

The livelihoods improvement plan therefore has two objectives:

1. To assist households currently below the income target to reach and exceed this target.
2. To assist households currently above the income target to maintain and improve their livelihood incomes.

The project will support livelihood activities carried out in a sustainable manner and help villagers plan for sustainable use of their resources.

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Livelihood improvement

REMDP (9)

Example of household land use model:

Land Type	Area (ha)	Slope
Irrigated paddy	1	0–5%
Rain-fed terrace	0.5	0–12%
Garden plot	0.01	0–5%
Forage plot (terraced)	0.5	12–25%
Orchard	0.2	12–25%
NTFP garden	0.5	12–25%
Individual fish pond	0.01	0–5%
Share of community forest	1.5	35–45%
Plantation	1.5	5–12%
Total	5.72	

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Livelihood improvement

REMDP (10)

The affected households will be supported in their efforts to adopt a range of livelihood activities with actual adoption being dependent on:

- The wishes and inclination of any particular household, and
- Labour and other resources available to each particular household (over and above those resources provided by the Project).

Net agricultural income per HH from the land use model is estimated as Kip 27.8 million / year after deducting costs (not including own labour).

To ensure that household income is sustainable, support will continue until at least 90% of the households have achieved an income equal to or greater than the secure income target for three out of five consecutive years.

Special support will be provided to households that do not achieve the income targets.

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Livelihood improvement

REMDP (11)

Peri-reservoir area

Training and support will be provided to people living in the 5 villages adjacent to the future NN3 Reservoir:

- Fish farming
- Forest management and NTFP domestication
- Livestock raising and veterinary services.

Some catchment residents do, reportedly, occasionally visit the Nam Ngum river valley for fishing, hunting or gathering of NTFPs.

The Consultant is currently investigating the existence of any non-village based people utilising the areas adjacent to the reservoir zone.

All identified populations affected by the NN3 HPP will be entitled to adequate support in terms of housing, social development and livelihood activities, according to actual impact.

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Livelihood improvement

REMDP (12)

Downstream area

Training and support will be provided to people living in the 7 villages adjacent to tributaries of the NN3 downstream area:



- Fish farming
- Forest management and NTFP domestication
- Livestock raising and veterinary services.

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Livelihood improvement

REMDP (13)

Upstream area

Monitoring will be carried out to determine the relative importance of long-distance migratory fish species and the relative importance of fishery in each village. A staged approach will be pursued:

Stage 1: Ban Nam Chat and Ban Nam Ting.

Stage 2: 16 villages upstream of Nam Chat and Nam Ting – only six, if the NN5 HPP goes ahead.

Stage 3: Approximately 140 villages in the far upper part of Nam Ngum and its tributaries (Plain of Jars).

Potential compensation measures include support to:

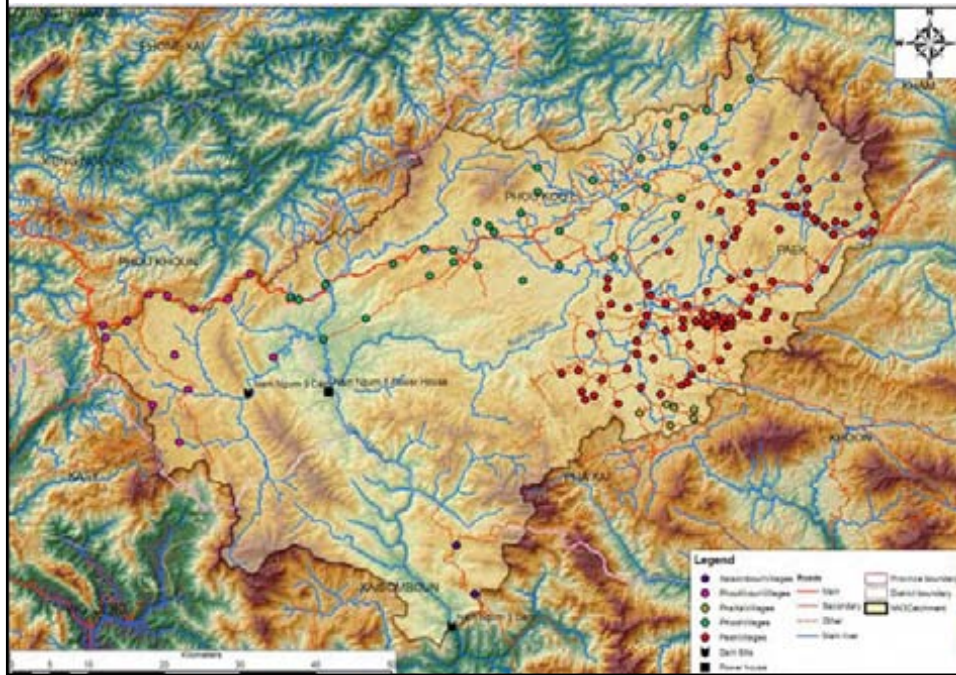
- Fish farming
- Livestock raising and veterinary services.

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Map of NN3 Upstream area

REMDP (14)



Livelihood improvement

REMDP (15)

Project Construction Lands

A detailed inventory of losses will be made after alignment of road and transmission line is known and prior to commencement of construction.

Structures affected will be compensated through backwards relocation where possible, and in full consultation with affected households.

Impacts on land and livelihood will be compensated by cash where impact is less than 10%.

Where impacts are 10% or larger, compensation will take place through replacement land and livelihood activities.

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Social Development

REMDP (16)

Xiengdet resettlement will take place within the village territory keeping the village population and its leadership intact.

Local community leaders will need enhanced skills to guide their communities through resettlement.

Overall village leadership will continue to be the responsibility of the Village Administration Committee (VAC).

In addition, a Village Development Committee (VDC) will be formed in order to manage relocation, transition and their village's long-term social and economic development.

NN3PC will provide support for:

- Stipends for existing and aspiring teachers, school books and basic stationery, as well as sports equipment and a stipend for competitions.
- Early Childhood Care and Development activities to encourage community participation.
- Adult literacy training.
- Credit-saving schemes / village revolving funds.

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Social Development

REMDP (17)

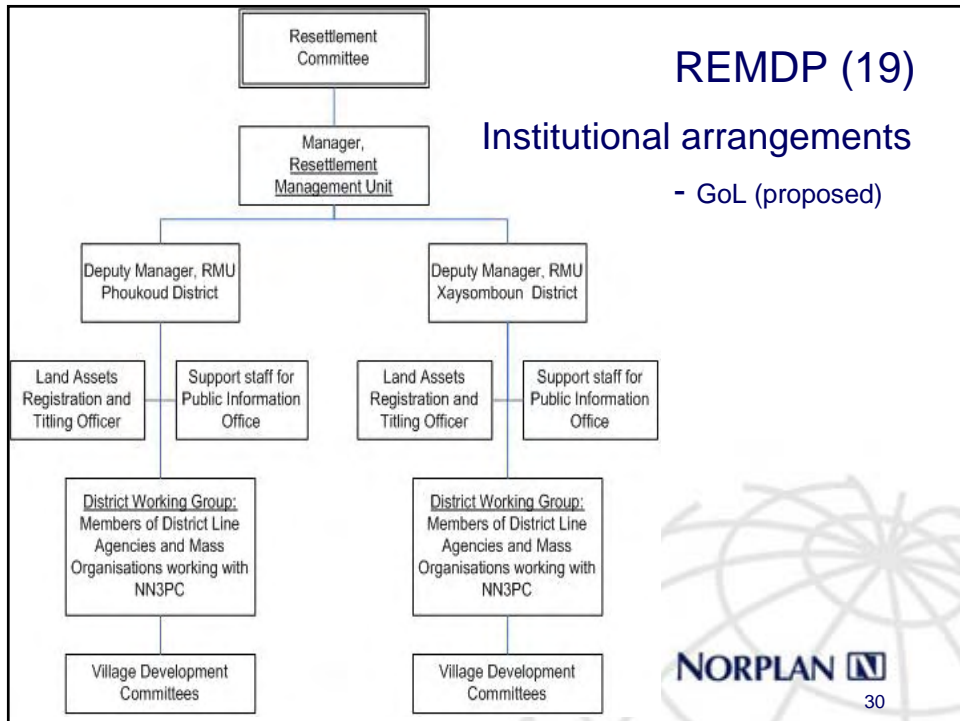
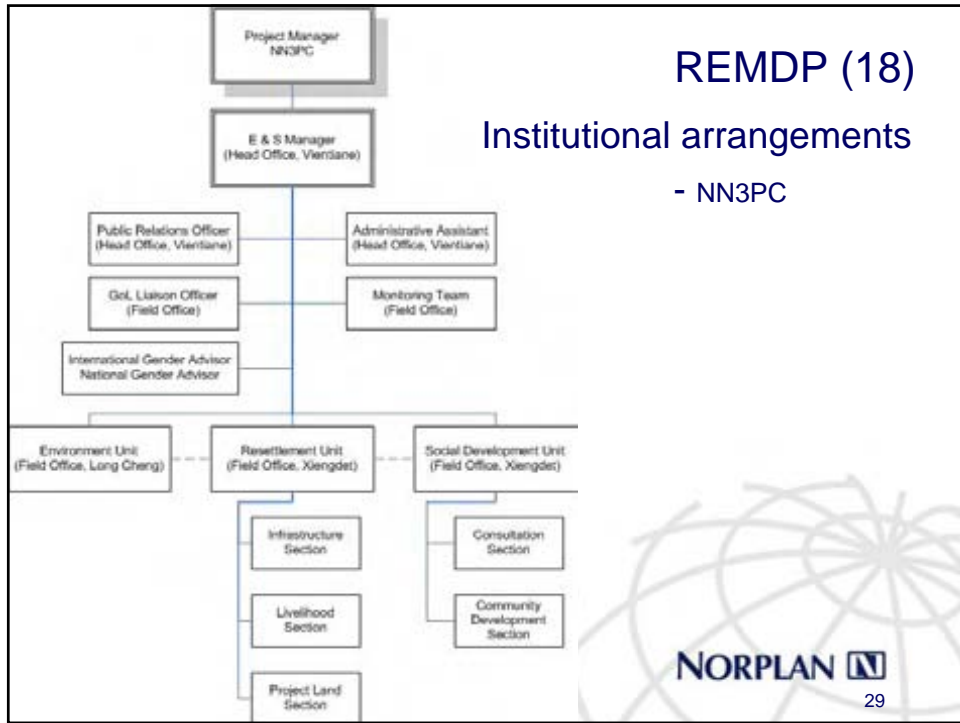
Vulnerable households will be paid special attention so they can successfully complete the transition to the new site. Such household include:

- Female headed households
- Households without sufficient labour



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Budget

REMDP (20)

		Sub-total, pre COD	Sub-total, post COD	Total
	GRAND TOTAL	12,390,164	9,967,170	22,357,334
1	Staffing	4,453,721	5,405,220	9,858,942
2	Xiengdet, Infrastructure & Livelihood Improvement	3,351,364	698,482	4,049,846
3	Social Development	74,032	80,956	154,988
4	Peri-reservoir villages	451,464	373,093	824,557
5	Downstream villages	446,596	373,334	819,930
6	Upstream villages	290,784	210,085	500,869
7	Project Construction Land villages	519,804	-	519,804
8	Monitoring and Evaluation	546,841	772,362	1,319,203
9	Public Health Action Plan	857,148	985,726	1,842,874
10	Construction Phase Social Management Plan	70,892	-	70,892
11	Contingencies	1,327,518	1,067,911	2,395,429

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Nam Ngum 3 Hydropower Project

Social Management Plan



Public Health Action Plan
(PHAP)

Construction Phase Social
Management Plan (CPSMP)

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1

Public Health Action Plan (1)

Potential health risks include:

- Intense pressure on health-related community infrastructure (health centres, water supply and sanitation).
- Livelihood changes from changed access to land and natural resources, resulting in degradation of nutritional status.
- Increase in water-related vector borne diseases as a result of creation of the reservoir.
- Increase in HIV/AIDS/STI prevalence.
- Substance abuse, such as increased alcohol consumption, with accompanying social problems such as debt and domestic violence.
- Psycho-social stress resulting from relocation and pressure to change traditional cultural practices.
- Increased road trauma resulting from the increased number of heavy transport vehicles using access roads.
- Increased environmental health hazards from dust along access roads.

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2

Public Health Action Plan (2)

Diseases and deaths in the Lao PDR can often be prevented through low cost efforts.

The primary focus for the PHAP is therefore to strengthen preventive health services and networks and not establish a parallel structure.



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3

Public Health Action Plan (3)

Key features are:

- Prevention of the most common diseases through immunization, birth spacing, and provision of safe water and sanitation;
- Expansion of Health Centres and staff and improvement to area hospital facilities;
- Curative services that are safe, accessible and affordable, and backed up by a well-functioning referral system;
- An 'equity fund' to support the most vulnerable people affected by NN3 HPP;
- Systematic in-service and refresher training for GoL health staff and Village Health Volunteers / Traditional Birth Attendants;
- Surveillance to monitor health changes.

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Public Health Action Plan (4)

Implementation:

A small NN3 health team, comprised of 3-4 staff will carry out the following key functions:

- Baseline study on the health status of communities in NN3 affected villages;
- Regular health surveys in NN3 area and disseminate results to NN3PC and MoH to design and implement mitigation strategies;
- Liaise with PHO and DHO on operational issues;
- Coordinate with other agencies involved in implementing health sector projects in the project area;
- Participate in monitoring and supervision of health units, and provide mentoring to MoH management on monitoring and supervision.

Health Liaison office team members will spend the majority of their time in the field.

Team members will avoid getting involved in service delivery, health finances or drug distribution.

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5

Construction Phase Social Management Plan (1)

The aim of the CPSMP:

To present mitigation measures to reduce the expected negative impacts following the influx of new people to the area due to the Project.

Specifically, the plan stipulates that:

1. The construction companies will as far as possible recruit men and women from the local area as a key measure to reduce potential population influx and optimise benefits for local communities.

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6

Construction Phase Social Management Plan (2)

2. Health conditions among camp followers and communities adjacent to project sites are of a reasonable standard with basic measures to ensure safe drinking water and sanitation and to reduce incidence of STI and HIV.
3. Local organisations involved in enforcement, and monitoring of health and social impacts are ensured adequate training, personnel, technical assistance and funding.
4. Illegal social and economic activities by **workers** and **camp followers**, including drug addiction, trafficking in people and employment of children, are quickly discouraged and heavily penalised, including the consequences of job-loss and repatriation.

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Construction Phase Social Management Plan (3)

12 villages affected by construction activities:

Category	Village	District	No. of HHs	Population	Female Population
Access Rd / Peri-Reservoir	Long Cheng	Xaysomboun	153	766	388
Access Rd / Downstream	Nam Pha		39	225	110
Access Rd / Downstream	Nam Xan		103	649	322
Trans. Line/ Access Rd	Nam Gnone		139	839	441
Transmission Line	Nam Cha		40	247	116
Transmission Line	Meuang Long	Hom	81	608	304
Transmission Line	Houay Siet		31	160	78
Transmission Line	Hin Sor		70	488	231
Transmission Line	Tham Din		76	527	267
Transmission Line	Ban Non	May Pak Ngum	112	498	245
Transmission Line	Thakokhai		412	2,768	1,400
Transmission Line	Na Bong		229	1,355	638
Total			1,485	9,130	4,540

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8

Nam Ngum 3 Hydropower Project

Gender Action Plan



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1

Gender Mainstreaming

- A strategy to ensure that women's as well as men's priorities are central to all aspects of programming.
- Gender mainstreaming is the responsibility of all staff.
- Gender mainstreaming will help ensure that women and men, girls and boys will benefit fairly from the project.
- Effective gender mainstreaming will improve project efficiency and sustainability.

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2

NN3 HPP Mainstreaming Strategy

- National and International Expertise
- Local Control and Management
- Cross Sector Involvement
- In-house Monitoring and Analysis
 - Process indicators (gender balance targets)
 - Outcome indicators (4 strategic action areas)
- Specific Interventions to Build Equality

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3

Gender Balance Targets (GBTs) in EMMP, REMDP and SMP

GBTs for NN3PC at the **project** level are:

- at least 40% female participation in all project activities.
- at least 30% female representation in leadership or decision-making positions.

NN3PC responsibility at the **project** level is to:

- Meet or exceed the GBT of 40% women's participation in consultation, training and other project activities.
- Meet or exceed the GBT of 30% women in the VDC and other leadership positions.

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GBTs at the Organizational Level

GBTs for NN3PC at the institutional level are:

- at least 40% female representation in professional positions.
- at least 30% female representation in management positions.

NN3PC responsibility at the institutional level is to:

- Meet or exceed the GBT of 40% women in professional positions.
- Meet or exceed the GBT of 30% women in management positions.
- Ensure job advertisements include the line “women are especially encouraged to apply.” Give preference to female candidates if two candidates have similar qualifications.

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5

Project Gender Actions

- Meet Gender Balance Targets (GBTs)
- Utilize gender specific data
- Ensure joint spousal authorization and receipt
- Increase women’s activities in new areas
- Increase women’s voice in village level activities
- Improve women’s representation in leadership and decision-making positions

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6

Four Strategic Action Areas to Mainstream Gender - Xiengdet

- Women and men will be affected by the project in gender-specific ways.
- Project work will respond by taking gender-based action in strategic areas.

1. Improve Women's Health

2. Reduce Women's Workloads

3. Increase Women's Access to and Control over Resources

4. Increase Women's and Girls' Levels of Education and Literacy

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7



Nam Ngum 3 Hydropower Project

Consultation and Participation



Requirement for and purpose of Consultations

Consultations are carried out according to Lao and ADB requirements.

The purpose is to:

- Present the impacts to the affected people, GoL and other stakeholders.
- Understand the concerns and incorporate recommendations of stakeholders into the mitigation and compensation plans.

Consultations and surveys carried out

Stakeholder	Consultations and Surveys
National level:	<ul style="list-style-type: none"> National Consultation Workshop on 16th January 2008 Public Consultation Workshop on 8th February 2008
Province Level: Xieng Khouang and Vientiane District Level: Phou Koot, Xaysomboun and Hom	<ul style="list-style-type: none"> Combined Provincial and District Workshops held in Phou Koot the 30th October, in Hom the 2nd November and in Xaysomboun the 20th November 2007. Provincial and district officers from relevant offices and NGOs working in the area were invited for these workshops. In addition district persons have been included in the team for all surveys, consultation and other field work.
Xiengdet	<ul style="list-style-type: none"> Household and village survey during March 2007. Inventory of fixed assets was carried out in July 2007 Household Consultations carried out in July 2007 Gender assessment study carried out in October 2007. Several field visits to Xiengdet for resettlement land identification and planning and assessment of forest Village consultation on resettlement site, December 2007
Peri-reservoir Villages	<ul style="list-style-type: none"> Village and fisheries surveys, and village consultations, five villages, July and November 2007
Downstream Villages	<ul style="list-style-type: none"> Village and fisheries surveys and village consultations, seven villages, November 2007
Upstream Villages	<ul style="list-style-type: none"> Fisheries and livelihood survey, two villages, December 2007 Village consultations, six villages, December 2007
Project Construction Land Villages	<ul style="list-style-type: none"> Village and sampled household surveys, and consultations, 12 villages, September – November 2007

3

Attendance at Village Consultations

	Xiengdet		Peri-reservoir	Downstream	Upstream ³	Project Construction Lands
	July '07 ¹	Dec '07 ²				
No. of villages	1	1	5	7	6	12
No. of Households	90	90	420	397	537	1,485
Total no. of participants	88	99	158	343	59	182
No. of male participants	68	65	108	260	47	145
No. of female participants	20	34	50	83	12	37
Relative attendance	98%	110%	38%	86%	11%	12%

¹ Consultations in July 2007 were carried out with each individual household.

² Consultation in December 2007 was carried out as a village meeting.

³ Consultations were carried out in six upstream villages, closest to the NN3 Reservoir. Other 144 villages are potentially affected.

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Issues from Xiengdet household consultations

Within NN3PC obligations (examples):

Principles
Compensation in kind not cash
Infrastructure
Convenient potable water
Proper supervision of house construction & relocation
Livelihood
Support agro-forest activities as alternative to hill rice
Provide support for developing new farmlands
Willing to support the GoL policy on dam construction but anxious that livelihoods will be improved
Social Issues
Provide assistance in transporting materials and possessions to new village site
Perform appropriate ceremonials for relocating objects of spiritual significance

APPENDIX 11

REPORT FROM THE PUBLIC CONSULTATION WORKSHOP

VIENTIANE, 8TH FEBRUARY 2008

Report extracted from the consultation annex of the Ecolao - Norplan 2009 report (including presentation given, minutes of meeting & list of participants).

Please note that the presentations attached are the ones which were given at the time of consultation. Some features and analysis of the impact areas have changed since and the reader is referred to the ESIA and the REMDP for a more precise and accurate description.

Annex 11

**Report from
Public Consultation Workshop
regarding
Nam Ngum 3 Hydropower Project
Don Chan Palace, Vientiane
8th February 2008**

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List of participants	4
Opening remarks	6
Minutes from Workshop	8

Agenda: Public Consultation Workshop

Don Chan Palace, Vientiane

8th February 2008

Time	Item	Responsible person
8.00 - 8.30	Registration	Secretary
8.30 - 8.40	Objectives of the Consultation Workshop	Mr. Phouvong Luangxaysana, Chief of Section of Environmental and Social Impact Assessment
8.40 - 8.50	Opening of Consultation Workshop	Mr. Noulinh Sinbandith, Deputy Minister to the Prime Minister office, Deputy Chief of WREA
8.50 - 9.00	Brief presentation on NN3 HPP	GMS representative
9.00 - 9.10	Presentation of technical aspects of NN3 HPP construction	GMS representative
9.10 - 10.00	Presentation of EIA / EMMP	Norplan representative
10.00 - 10.15	Coffee break	
10.15 - 11.00	Discussion (EIA / EMMP)	All participants
11.00 - 12.00	Presentation of SIA / REMDP	Norplan representative
12.00 - 13.00	Lunch	
13.00 - 13.35	Discussion (SIA / REMDP)	All participants
13.35 - 14.15	Presentation of SMP, GAP and Consultation Report	Norplan representative
14.15 - 14.30	Coffee break	
14.30 - 15.10	Discussion (SMP, GAP and Consultation Report)	All participants
15.10 - 16.00	General Discussion	All Participants
16.00 - 16.30	Comments from the Chairman and workshop closure	Mr. Noulinh Sinbandith, Deputy Minister to the Prime Minister office, Deputy Chief of WREA

Objectives of workshop:

- To present the NN3 HPP safeguard documents among a wider audience than in the first national workshop.
- To provide a public forum for exchange of comments and suggestions to the documents.

List of Participants, National Consultation Workshop, Vientiane, 8th February 2008

No.	Name	Organisation	Position
Ministries			
1	Mr. Khamchanh PALAYOK	Department of Energy Promotion and Development	Chief of logistics and Project support Division
2	Mr. Chantho MILATTANAPHENG	Department of Electricity of Ministry of Energy and Mines	Division Chief of Environment
3	Mr. Savanh CHANTHAKHOUMMAN	Department of Forestry of Ministry of Agriculture and Forestry	
4	Mr. Sila VIENGKEO	Ministry of Finance	Deputy of Head office
5	Mrs. Thamma PHETVISAY	Ministry of Planning and Investment	Deputy
6	Mr. Keomany LUANGLITH	Lao Mekong Committee	
7	Mr. Champhu KEOPANYA	Ministry of Education	Committee Department
8	Dr. Vilayvone MANGKASEUM	Department of Hygiene Ministry of Public Health	Deputy division of Environment
9	Mr. Vannith SENGPHATHITH	Hygiene & Prevention Department	Deputy of Head office
10	Mrs. Khonevilay	Lao Women's Union	Technician
11	Mr. Somsy XAYSETTALART	Lao Youth Union	Deputy of Head office
12	Mr. YONG CHANTHALANGSY	Press Department of Ministry of Foreign affairs	Director of Press Department
13	Mrs. Phonthip PHETSOMPHU	Environmental Research Institution	Deputy division of Technology & Environment
14	Mrs. Vanhsy SIRIYAPHONE	Ministry of Foreign affairs	Deputy Director of International Organization
15	Mr. Thapthavon SENGMANY	Press Department of Ministry of Foreign affairs	Deputy Director of Press Department
16	Mr. Maypheth PHONPHILA	Lao holding state Enterprise	Project Division
17	Mr. Somxay PHANPHONGSA	Lao holding state Enterprise	Project Team Leader
18	Mr. Anousak KHANYAVONG	EDL	Technician of Environment
19	Mr. Sithan KHAMSONPHU	Ministry of Defense	Deputy Director Of Defense Department
20	Mr. Bounphakhan SIXANON	Prime Minister' s Office	Director of Culture Department
21	Mr. Phonechalaun NONTHASAY	-	-
22	Mr. Khamsay SAMIKEO	Ministry of Defense	
23	Mr. Phongsamoot KHOUNSUVAN	National University of Laos	Deputy of
24	Mr. Somboune MANOLOM	Lao holding state Enterprise	Director of Lao holding state Enterprise
The Press			
25	Mr. Phokheun SUVANNAVONG	Road & Bridge Department	Director General
26	Mrs. Vipaphone THANPHILOM	LNTV	Reporter
27	Mrs. Vannitha	LNTV	Reporter
28	Mr. Phongsamoot	LNTV	Photographer
29	Mr. Vansana SITHTHIDAD	Economy & Social Newspaper	Reporter
30	Mr. Bounmaly SENGMUENG	Vientiane Mai Newspaper	Reporter
31	Mr. Somsak PHONGKAO	Vientiane time Newspaper	Reporter
32	Mrs. Phyvan PHUMIN	-	Translator
33	Mr. Dadsada SOCKCHASEUM	-	Translator
WREA			
34	Mr. Noulinh SINBANDHIT	-	Deputy Minister of Prime Minister Office
35	Mrs. Bounkham VORACHIT	-	Deputy Director General Department of Environment

No.	Name	Organisation	Position
36	Mr. Phouvong LAUNGXAYSANA	-	Chief of Environmental and Social Impact Assessment; DOE, WREA
37	Mr. Soudaxay KHAMPHENGXAY	-	Technical officer
38	Mr. Souphon KHATTIYAVONG	-	Technical officer
39	Mr. Phutthasone KHEMMALA	-	Technical officer
40	Mr. Thepnakhone VONGSAPHAY	-	Technical officer
41	Mrs. Soutsada SEVILAY	-	Technical officer
42	Mrs. Oukham SITTHIVONG	-	Technical officer
43	Mrs. Phakkavanh PHITSAMAI	-	-
44	Mr. Khamphadith KHAMMOUNHUENG	-	-
45	M. Oudomluk CHANTHAVONG	-	Technical officer
Vientiane Province			
46	Mr. Bounchan MALAVONG	Cabinet of VTE Province	Deputy head of the cabinet of VTE Province
47	Mr. Bounpheng PHIMPHONGSAVANH	Governor of Xaysomboun district	Deputy Governor of Xaysomboun district
48	Mr. Khamphou PHANGPANHAK	WREA	Head office of WREA
49	Mr. Chandang KEOPHASEACH	Energy & Mines Department	Division Chief of Energy & Mines Department
50	Mr. Phoumy NATIPANDITH	NUM NGUM 1	Site Manager
51	Mr. Keomany LUANGLITH	Ministry of CTPC	-
Xieng Khouang Province			
52	Mr. Sinethong VONGLORKHAM	Cabinet of Xieng Khouang Province	Deputy head of the Cabinet of Xieng Khouang Province
53	Mr. Vanthong CHANTHAVONG	Phoukhou District	Governor of Phoukhou District
54	Mr. Thoumma SALEUMSAY	-	-
55	Mr. Bourpan THIPPAVONE	Energy & Mines Department	Head office of Energy & Mines Department
Foreign Agencies			
56	Mr. Guy FRANGOTS	PROPARCO (AFD Group)	Country office, Deputy Director
57	Mrs. Satomi HIGASHI	National University of Laos	Researcher
58	Mr. Roel SCHOUTEN	-	-
59	Mr. Henrik NILSSON	NORPLAN	Social Expert
60	Mr. Goran LIFWENBORS	SWECO	Team leader LTA
61	Mr. Erik BORSET	NORPLAN	Team leader EIA/SIA
62	Mr. GOICHOT	WWF	-
63	Mr. Ozono	MARUBENI	-
64	Ms. Huddleston	ADB	Sr. Social Development Specialist
65	Mr. Sili TU	ADB	Sr. Environment Specialist
66	Mr. Songsak	RATCH	-
67	Mr. Sychanh	GMS LAOS	Office Manager
68	Mr. Sathaporn	GMS LAOS	Project Manager of NN3
69	Mr. Carl MIDDLETON	FMC	-
70	Mr. Clive LYCE	WREA	Advisor
71	Mr. Gil HONGLCIN	ADB	Country Director
72	Mr. Nopporn	NN3	-
73	Mr. Ruoli LUTHI	Helvetas	Representative

Opening Remarks

by Mr. Noulinh Sinbandith, Vice Minister to the Prime Minister's Office, Vice-President of the Water Resources and Environment Agency, at the Nam Ngum 3 Hydropower Project Environment and Social Impacts Consultative Meeting with International Organizations and Non-Governmental Organizations held on 8 February 2008 at Donchan Palace, Vientiane

- Respected Chief of Office of Xiengkhuang Province,
- Respected Chief of Office of Vientiane Province,
- Respected Governor of Phoukoot District,
- Respected Chief of Saysomboon District,
- Dear Directors, Deputy Directors of WREA, ministries and authorities concerned, GMS Lao team, the Nam Ngum 3 project developers and representatives of international organizations and non-governmental organizations,
- Ladies and gentlemen,

It is an honor for me to represent the Water Resources and Environment Agency in chairing this consultative meeting with international organizations and non-governmental organizations on Nam Ngum 3 hydropower project's environmental and social impacts.

Ladies and gentlemen,

It is well known that the Lao PDR is currently developing at a more rapid pace than at any other time in its history. Our government has set a development goal of graduating from underdevelopment by year 2020 by emphasizing on industrialization and modernization for the gradual eradication of poverty. From 2005 to 2010, a base for industrialization and modernization will have been built, such as electricity, construction material manufacturing, mines, tourism that are held as priority sectors. Among these, primary priority is given to electricity and mines given our country's abundant rivers and valuable minerals in addition to dense forests providing for important water sources and the geographical features of the country favorable for the development of different projects. At present, export-oriented electric power and mining industries have generated revenues for the country and a multitude of such development projects have started. However, to ensure that such projects operate with full efficiency and sustainability, environmental and social impacts preventive and alleviating measures are required to avoid impacts or reduce impacts as much as possible. Also, water resources and the environment need to be preserved at all times.

Ladies and gentlemen,

In socio-economic development and more specifically in development projects, the Government has stressed and attached importance to environment and social protection by promulgating several laws and regulations, such as environmentally and socially sustainable development of hydropower (2006), the environment protection law (1999), the environment protection law's implementing decree (2001), the development projects' compensation and resettlement decree (2005), the environment impact assessment regulation (2000) and others on the conservation of natural resources. The environmental impact assessment regulations were developed for the purpose of ensuring that investment and development projects operate in a sustainable manner without detriment to the environment with the potential to grow with high quality and resolve poverty. In compliance with these regulations, all development projects are required to carry out environmental and social impact

assessment and obtain a certification of approval from WREA before a concession agreement may be entered.

Ladies and gentlemen,

From 1998 to 2002, Nam Ngum 3 project recruited Resource Management and Research (RMR) to carry out environmental and social impact assessment studies for the project. However, the project's preparation process was delayed due to the financial crisis in Southeast Asia. At the beginning of 2006, Nam Ngum 3 project resumed and continued the environmental and social impact assessment by recruiting Norplan and Ecolao.

The Nam Ngum 3 hydropower project will consist of a 220 m high dam, a watershed area of 3,890 km², a reservoir area of 27.5 km² of 723 masl, an installed capacity of 440 MW, an average annual production capacity of 2,000 GWh, a 230 kV transmission line to be built over an alignment width of 40 m and a length of 96 km starting from the powerhouse to the Nabong substation. In addition, 20 km of new road will be built and 46 km of road will be upgraded, and limestone from Ban Longcheng will be used as coarse and fine supplement to concrete. Construction will require 3,000 to 4,000 labourers. Details will be presented by the project team.

Ladies and gentlemen,

This consultative meeting is most important as its purpose is to review detailed environmental and social impact assessment reports, environment management plans, resettlement plans, ethnic minority development plans, social management plans and other plans developed by Nam Ngum 3 project with participation from agencies concerned at the central level and provinces, including from Phoukoot District and Saysomboon District. Therefore, I express the hope that all participants will actively participate in the discussions and mutually interact and exchange comments which will allow the company to ensure the necessary improvements for efficient the project's efficient environmental and social activities, and this, to ensure the cost-effective use of natural resources, raw materials and energy and reduce pollution and wastes for sustainable development.

Finally, I would like to thank all participants for taking the time to participate to this meeting and give their views. I wish strong health to all participants and fruitful outcome as targeted for this meeting. On this important occasion, I declare this meeting officially opened from this moment onwards.

(Thank you)

Lao People's Democratic Republic
Peace Independence Democracy Unity and Prosperity

Water Resources and
Environment Administration
Environmental Department

Vientiane, 18 February 2008

**Minutes of Consultation Meeting
on Environmental And Social Impact Assessment of Nam
Ngum 3 Hydropower Station with International Organizations
and Non Governmental Organizations held on
8 February 2008 at DonChan Palace Hotel**

In the morning of 8 February 2008, a consultation meeting on environmental and social impact assessment of Num Ngum 3 hydropower station with International Organizations and Non Governmental Organizations held at DonChan Palace Hotel. The meeting is co-chair by H.E Mr. Noulin Sinbandhit, Vice Minister to the Prime Minister's Office and Deputy Head of Water Resources and Environment Administration; Mr. Somboun Manolom, Managing Director of Lao Holdings State Enterprise and Mr. Yong Chanthalangsy, Director-General of Press Department, Ministry of Foreign Affairs. The attendances of this meeting are: the concern authorities, Xiengkhouang and Vientiane Provincial Authorities, representative from International Organizations and Non Governmental Organizations with the total of 71 people. (The list of attendances is attached herewith)

After brief introduction about the propose of this meeting by the organizer, H.E Mr. Noulin Sinbandhit, express his view on the project in general concerning socio-economic development and future plan for Hydropower Station which will be the engine to develop the country to become industrialize and civilization This



development will go together with measures for environment protection. In addition, he also pointed out that laws and regulations, in particularly the law on environmental protection and its related laws will be the instrument for environment protection. Moreover, He also brief on background and environment condition of this project (Mr. Noulin Sinbandith's remark is attached herewith).

After short remark of H.E Mr. Noulin Sinbandhit, Mr. Erik Borset, team leader for environment and social impact assessment from Norplan which is consulting company for environment protection of this project presents his report on strategic impact assessment and plan for future assessment of impact on environment of this project.

Mr. Henrik Nillson, team member of environment and social impact assessment from Norplan Consultant Company presents his report on social impact assessment, social rehabilitation plan for ethnic group, Strategic Management Process, gender programme and consultation report.

After the hearing the report on environment and social impact assessment of this project, the participants express their views and raise their concern on the following issues:

1. Does Consultant Company have study about the impact on fishery below Nam Ngum 2 after its completion? Can this result apply to Nam Ngum 3?
2. After the government accepted the report on environmental impact assessment. Where these reports will public? (The report on environmental impact assessment will be public through internet and several consultation meeting will be conduct. In addition social rehabilitation plan will be discussed with ADB and it result will be public as well)

(S/AD)

3. What project will do to improve the level of oxygen in the river below the power station and who will responsible for this matter? (Up to now the research team on environment impact is not yet able to determine the level of oxygen in the river. However, the effect on living thing in the river will be certain because of stronger speed of water flow. The team is not sure about the impact of the speed of water flow on the level of oxygen and the existence of fish. The team also explain that the team haven't receive any advice on how to increase the level of oxygen in the river below hydropower station, this questions is hard question, it is depend on the project developer to look for applicable and the right methodology to solve the problem.
4. For water release from the power station, what is the minimum volume of water to be released in the design of project developer to ensure the environment protection on the river below the power station? (Many studies have been conducted on this matter and the result is showing that no need for water release, however this matter should be revised in real situation. Moreover, the power station construction site in Num Pha area is cover by excellent forest)
5. The effect on the properties of people living in Siengdat village. Does the team collects information on how many fruit tree and how many industrial tree are available in the village and inform the villagers.
6. We haven't heard from the research team about the wide life living in this area, do they exist?
7. To clean up the flood area, how big is the land that have to be clear and how many will be left out? to ensure

(1/1/20)

3

minimum impact of the quality of water (plants will be remove from flood area as much as possible)

8. To work on this project, how the company can ensure that there will be enough personnel to work on this project.
9. This project should think about how to make this dam to be tourism site in the future.
10. The project should study more about other alternatives to build transmission lines across Phou Kao Kuay Conservation Forest to reduce the impact on environment and social. Up to now the company has two alternatives, but the way to construct the transmission lines is under consideration. Therefore, we should to allow feasibility study to begin and environmental impact assessment to be done (At the beginning of project plan, two options are available: first option is to build transmission lines across Phou Kao Kuay Conservation Forest and second option is to build it along Nam Ngum 1 basin. However, the outcome of study suggests that transmission lines should be build in the same line with transmission lines of Nam Ngum 2 to reduce the impact on environment and social)
11. To follow up the implementation of environment and social management plan concern authorities from government side, independent engineers and others will work on this matter.

After all participants have given their comments, the Chairman asked the member of the Chair to give their comments as follows:

Mr. Yong Chanthalangsy, Director General of Press Department, Ministry Of Foreign Affairs inform the meeting that the policy of the government of Lao PDR on hydropower station



development is a path of rural development which intend to eradicate poverty and help local people step by step. Moreover, Lao PDR has the potential in hydropower development in this sub-region and hydropower development is sustainable development in term of safeguard the environment around the hydropower basin. It will also help the local people to get permanent job and release them from slash and burn agriculture.

Hydropower development is one of the government plans to eradicate poverty and provide funding for environment protection around the hydropower station basin. For example Nam Theun 2 has dedicated fund for sustainable development of Nam Theun basin, reduce slash and burn agriculture and help local people to get permanent job and able to survive, open up opportunities to develop the site for tourist, this will also allow ethnic people who live in remote area to have an opportunities to connect to the outside world in particularly for people living in Nam Ngum 3 and allow them to access to more facilities. All of this is the reasons that make government want to build hydropower stations in the Lao PDR.

Mr. Somboun Manolom, Managing Director of Lao Holdings State Enterprise also give his view on Nam Ngum 3 hydropower station that Nam Ngum 3 project has been developed in the long process. GMS company had signed agreement with Lao government since 1994 which is about 14 years ago and GMS company have done several data collections and studies together with well-known company to study on environmental and social impact assessment and the group of the companies involve in this project are all well-know with superior experience in hydropower development for example GMS company, Latsabury company which is well-know company in Thailand.

In addition, ADB, AFD and JBIC are loan providers for this project and will be involve in the follow up and control the implementation of environment protection programme of this project closely to ensure sustainability of this project.



At the end of the meeting, H.E Mr. Noulin Sinbandhit, Chairman of the meeting has summarized the outcome of this meeting as follows: Nam Ngum 3 project is an important project that will contribute to development in this country and local area. The project has conducted several studies on environmental impact. The participants also raise several issues and express their concern about environment impact. The project has studies on several options such as the study on transmission lines through National Conservation Forest which provide several options for this matter. I believe that the document on environmental and social impact assessment will be revised with perfect combination of information to ensure the smooth implementation of this project, to resolve and to reduce negative impact on environment.

The comments from representative of international organizations and NGOs are valuable and will be taken for consideration in the preparation of other projects. The comments from local authorities and central authorities are also valuable contribution. For all document present in this meeting will be revised and public in several forms as much as possible and press and information centre will be created to allow public access. The committee for environment and social protection will also be created to ensure all matter mention above are taking care of in the miner of quality, sustainable and reduce impact on environment and social to minimum.

The meeting closed at 16:00 pm of the same day.

Director-General of environmental Department Member of standing committee	Director of environmental and social impact assessment Division	Reporter
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6

APPENDIX 12

INSTRUCTION FROM THE PHOU KOUT DISTRICT GOVERNOR

PROHIBITING NEW INSTALLATIONS IN BAN XIENGDET

14TH JULY 2010.

14-JUL-2010 09:53



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ

ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

ທີ່ວ່າການເມືອງພູຄູດ

ເລກທີ 123 / ຈມ-ພກ

ວັນທີ 14/07/2010

ຄຳສັ່ງແນະ

ຂອງທ່ານເຈົ້າເມືອງພູຄູດ

ເຈົ້າ: ຄະນະພັກສາກຖານກຸ່ມສູບ-ວຽງໄຊ ແລະ ນາຍບ້ານຊຽງແດດ, ບ້ານນ້ຳສາມ

ເລື່ອງ: ຫ້າມບໍ່ໃຫ້ຮັບເອົາປະຊາຊົນບັນດາເຜົ່າໄປຕັ້ງຖິ່ນຖານຢູ່ໃນເຂດເຂດ ທີ່ຖືກສິນກະທົບຈາກ

ນ້ຳຈຶ່ງສາມ

- ອີງຕາມການຕົກລົງຂອງກອງປະຊຸມ ກ່ຽວກັບການປະເມີນຜົນຂອງໂຄງການນ້ຳຈຶ່ງສາມ ຢູ່ທີ່ພະລອນຫຼວງ ວຽງຈັນຄັ້ງ ວັນທີ 23/6/2008
- ອີງຕາມກອງປະຊຸມປຶກສາຫາລືກ່ຽວກັບການສືບຕໍ່ປະຕິບັດໂຄງການນ້ຳຈຶ່ງສາມ 3 ນັບແຕ່ປີ 2011-2017 ແລະ ສິນກະທົບຕໍ່ພື້ນທີ່ ຄັ້ງວັນທີ 3/6/2010 ຢູ່ທີ່ພະແນກພະສັງງານບໍ່ແຮ່ແຂວງຊຽງຂວາງ
- ອີງຕາມການຕົກລົງຂອງເມືອງຄັ້ງວັນທີ 15/3/2008 ກ່ຽວກັບການຍົກຍ້າຍບ້ານຊຽງແດດທີ່ຖືກສິນກະທົບ ຈາກ ໂຄງການນ້ຳຈຶ່ງສາມ 3 ບໍ່ໃຫ້ຮັບເອົາປະຊາຊົນນອກເຂົ້າມາຕັ້ງຖິ່ນຖານຢູ່ໃນເຂດຂອງໂຄງການ.

ເພື່ອເຮັດໃຫ້ໂຄງການໄດ້ຮັບການຈັດຕັ້ງປະຕິບັດໄປໃດຍັງມີນ ເຈົ້າເມືອງພູຄູດ ຂອກຄຳສັ່ງແນະນຳໃຫ້ ກຸ່ມບ້ານສູບ-ວຽງໄຊ ແລະ ບັນດາບ້ານອ້ອມຂ້າງໄດ້ຮັບຊາບດັ່ງນີ້:

1. ຫ້າມບໍ່ໃຫ້ປະຊາຊົນບໍ່ວ່າພາຍໃນເມືອງ, ຕ່າງເມືອງ, ຕ່າງແຂວງ ເຂົ້າໄປຕັ້ງບ້ານເສືອນ ຫຼື ເປັນສິນຄ້າເມືອງ ຂອງບ້ານຊຽງແດດ ທີ່ຖືກສິນກະທົບຈາກໂຄງການ ເພາະຈະເປັນການສ້າງຄວາມຫຍຸ້ງຍາກໃຫ້ໂຄງການ ແລະ ສິນເຊີງ ເນື່ອງຈາກວ່າທາງໂຄງການໄດ້ເກັບກຳຂໍ້ມູນລະອຽດແຕ່ເບື້ອງຕົ້ນແລ້ວ.

2. ຄອບຄົວໃດທີ່ລູກຫຼານສ້າງຄອບຄົວໃໝ່ຈະອອກເຮືອນ ດ້ອງໄດ້ມີໃບຢັ້ງຢືນຈາກການຈັດຜັງບ້ານ, ຄະນະກຳມະການແກ້ໄຂສິ່ງກົດຂວາງ ແລະ ຄະນະຝັກສາກຖານກຸ່ມບ້ານຮັບຊາບ ເພື່ອນຳສະເໜີໂຄງການຄົ້ນຄວ້າພິຈາລະນາຕາມເງື່ອນໄຂຂອງໂຄງການວາງອອກ.
3. ເລຂາສັກບ້ານ, ນາຍບ້ານດ້ອງໄດ້ຕິດຕາມກວດກາ ແລະ ບໍ່ອະນຸຍາດຮັບເອົາຄົນນອກເຂົ້າຢາເປັນພົນ ຄະເມືອງບ້ານຂອງຕົນຊ່ວງໄລຍະໂຄງການພວມນຳເນີນ, ສ່ວນປະຊາຊົນເຂົ້າມາ ນອກຈາກປະຊາຊົນເດີມທີ່ໄດ້ຂຶ້ນຂໍ້ມູນແລ້ວນັ້ນ ໃຫ້ນາຍບ້ານແກ້ໄຂຕາມລະບຽບການ ແລະ ປະຕິບັດຕາມຄຳສັ່ງທີ່ໄດ້ເອກະພາບກັນໃນເມື່ອກ່ອນ, ສ່ວນຫາງໂຄງການ ແລະ ຂຶ້ນເທິງຈະບໍ່ພິຈາລະນາ.
4. ຫ້າມເດັດຂາດບໍ່ໃຫ້ປະຊາຊົນຂາຍດິນໄຮ່, ດິນນາ(ເວົ້າລວມດິນທຸກປະເພດ) ໃຫ້ຄົນນອກເດັດຂາດ. ຖ້າຜູ້ໃດຫາກບໍ່ປະຕິບັດຈະໄດ້ດຳເນີນຄະດີ ແລະ ຖືກຍົດຊັບສິ່ງພິດຕາມລະບຽບກົດໝາຍບ້ານເມືອງ.

ດັ່ງນັ້ນຈຶ່ງໄດ້ອອກຄຳສັ່ງແນະນຳມາໃຫ້ຄະຜູ້ກຸ່ມບ້ານ, ນາຍບ້ານ ຈົ່ງນຳໄປເສີມແຜ່ໃຫ້ປະຊາຊົນຮັບຊາບ ແລະ ພ້ອມກັນຈັດຕັ້ງປະຕິບັດຢ່າງເຂັ້ມງວດ.



ບັນທຶກ ຈັນທະວົງ

ບ່ອນສິ່ງ

1. ສິ່ງໃຫ້ໂຄງການ 1 ສະບັບ
2. ສິ່ງວ່າການປົກຄອງຂອງ 1 ສະບັບ
3. ສິ່ງວ່າການປົກຄອງເມືອງບຸລຸດ 1 ສະບັບ
4. ກຸ່ມບ້ານພິດທະນາສູນ-ວຽງໄຊ 1 ສະບັບ
5. ບ້ານສຽງເດດ, ບ້ານນ້ຳສາມ ບ້ານລະ 1 ສະບັບ.



Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

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District Governor Office of Phoukoud

No: 123/District Gov.Phoukoud

Date:14/07/2010

Instruction

Attn: Party Cell at Sui and Viengxai Village Cluster and Village Chiefs of
Xiengdaet and Nam Sam Village.

Subject: Prohibition of People from any ethnic groups to be resettled in the areas
affected by Nam Ngeum 3 Project.

- Based on the agreement of the Meeting on Impact Assessment of NNG3 Project, held in Vientiane Capital, on the 23th June, 2008.
- Based on the Consultation Workshop on Continuing to Implement NNG3 Project from 2011 to 2017 and the Impacts to the local areas, dated 3/8/2010, held at Provincial Department of Energy and Mine, Xiengkhouang Province.
- Based on the Agreement of the District on 15/3/2008, on relocation of Xiengdaeth Village which was affected by NNG3 Project. It is strongly prohibited to allow any people to resettle in the project affected areas.

In order to facilitate the smooth operation of the project, the District Governor of Phoukoud district has issued the instruction for Sui and Viengxai Village Cluster and surrounding villages to be aware of the following:

1. Prohibit any persons, whether from within Phoukoud district, other districts, or other provinces to settle their houses, villages or they are the members of Xiengdaeth village who are affected by the Project, as their attempt to build

houses/structures may obstruct the Project and Higher Authorities since the project had collected the detailed data early on.

2. Any families whose children/nephews, nieces just newly got married and would like to move out from their parents' house; they need to obtain the certificate from the Village authority, the Dispute Resolution Committee and the Members of the Party Cell at the Village Cluster who are responsible for those villages so that they can propose to the Project to consider according to project's plan.
3. Village Party Member, Village Head must monitor, inspect and should not accept the outsiders to be the member of their villages while the project are in progress; for any persons who entered after the baseline data has been collected, the Village Head is entitled to address the problems according to the regulation and follow the Agreement made in the past; while the Project or the Higher Authorities will not consider such cases.
4. Strictly prohibit the people to sell their upland land, paddy fields (in general, all types of land) to the outsiders; if any persons violates, he/she will be punished and all of their assets/properties shall be seized based on the relevant Laws and Regulations.

For this reason, the District Governor of Phoukoud issued this Instruction for the Village Cluster Committee, Village Heads to disseminate this information to the people and together implement strictly.

District Governor of Phoukoud

(Signed and sealed)

Vanthong Chanthavong

APPENDIX 13

**CONFIRMATION OF CONSENT TO RESETTLEMENT, REAFFIRMATION OF
ENTITLEMENT POLICY FOR ELIGIBLE AND INELIGIBLE HOUSEHOLDS AT
XIENGDET VILLAGE**

JUNE-JULY 2011

Nam Ngum 3 Hydropower Project – Confirmation of consent to resettlement, Reaffirmation of Entitlement Policy for Eligible and Ineligible Households at Xiengdet Village, Phoukout District, Xiengkhouang Province

June – July 2011

1. OBJECTIVES

At the request of ADB, NN3PC contracted EcoLao to undertake the following activities at Ban Xiengdet at the end of June – beginning of July 2011:

- Obtain the signatures (or thumbprints) of all eligible households, on the original 2008 forms, signifying their concurrence with the information collected in October 2008 and their acceptance of their relocation to the proposed and agreed resettlement site.
- Conduct a consultation with the non-eligible households reiterating their ineligibility to physical relocation benefits.
- Install, and document the installation of, a notification board informing the local population of the prohibition of new installations in Ban Xiengdet.
- Document the consultation process with photos and videos, as required.

2. SUMMARY OF ECOLAO CONSULTANTS TEAM ACTIVITIES

June 21: EcoLao personnel (Messrs. Seumphanh and Khampasith) travelled by NN3PC four-wheel-drive vehicle to the Phoukout District Governor's Office to brief the District Governor and staff on the Mission's objectives and to recruit the services of Mesdames Somboune and Douangchanh to provide local government representation in village meetings.

June 22: The Mission travelled to Ban Xiengdet, with some difficulty due to bad weather and adverse road conditions.

Ban Xiengdet has an existing access road, passing Nam Sam and Xieng Nga villages, to the highway at Nong Tang. This road is used for logging and is not maintained. Currently Nam Sam and Ban Xiengdet are not accessible even by four-wheel drive pick-up trucks during many days of the rainy season.

An evening meeting was held to brief the Village Administration Committee (VAC) on the objectives of the Mission and to request the VAC to call the villagers from the fields in order to be re-briefed on Project resettlement objectives and terms and conditions in two groups:

- ⤴ those fully eligible for the full resettlement package
- ⤴ those ineligible for the full resettlement package.

It being the cropping season, many of the families with distant swidden fields were not present in the village but were overnighing in their field huts and it was necessary to arrange for messengers to travel by boat and walking to summon them.

June 23: Whilst waiting for the villagers to assemble, a start was made on obtaining the signatures and thumb-prints of household heads and their spouses signifying understanding and agreement with the terms and conditions of the resettlement process which read:

"We the undersigned, hereby declare that the data entered in this proforma, on the date 9th October, 2008, are correct in every detail and we agree to be relocated to the resettlement site designated by the Project."

Signed and thumb printed by both household head and spouse dated 23 or 24 June, 2011."

June 24:

An explanatory meeting was held with those villagers eligible for full resettlement assistance, itemising their rights as follows:

1. Houses and associated residential lands that will be directly impacted by the project will be replaced with new houses and with replacement residential lands, properly titled, at no cost to the impacted households.
2. The lost agricultural lands will be replaced by new agricultural lands that will be developed by the Project and shall be of comparable agricultural value, all this at no cost for the impacted households.
3. The livelihoods of the impacted households shall be restored and improved through agricultural support programmes that shall be in place until after the commercial operation date of the project.
4. The general principle is to compensate in kind for all assets impacted by the Project. However, in cases where cash compensation is the only alternative, then the amount of the cash compensation shall be based on the replacement value of the asset, not on the market value, and this transaction will have no cost for the impacted owner.
5. The replacement value shall be the price observed in land transactions at the time of acquisition in the local area. If there is no land market in the local area, then the price shall be set on the basis of prices observed in the province in similar conditions. The price shall be set in consultation with both the affected households and the district authorities. In addition to the replacement cost, all transactions cost and fees and any other associated cost shall be paid by the Nam Ngum 3 Power Company (NN3PC).
6. In the case of fruit tree plantations, the cash compensation shall be based on 5 years of production, from the time of loss. The annual production will be assessed in consultation with the technical Agriculture and Forestry Department of the district, the District authorities and the affected households. Similarly if trees have not entered into production at the time of the impact, the value shall be based on the value of all inputs invested in the plantation as agreed by the technical Agricultural and Forestry Department of the District, the District authorities and the affected households, from the time of establishment of the plantation.
7. A detailed implementation programme (including detailed unit costs), shall be prepared in consultation with the affected households, the Agriculture and Forestry Department of the District and the District authorities.

COMMENTS FROM THE PARTICIPANTS:

No objections were raised to the procedural concepts outlined by the Consultants and District Government personnel and translated into Khamu language by Mr. Seumpanh and Ms. Douangchanh.

Concern was, however, expressed at the long delay in recommencing Project activities on the ground, particularly the survey and delineation of individual permanent farmlands to be developed, allocated and titled. Land survey by NN3PC so far had only covered permanent farmlands to be compensated (i.e., paddy fields, orchards and plantations).

A query was raised concerning a few families resident in neighbouring villages but with paddy fields in Xiengdet territory. Others wondered whether there would be sufficient land for paddy fields after relocation. The Consultants and District authorities replied that these matters would be investigated and planned in detail at the next stage of Project preparation involving detailed survey and planning of irrigation, terracing and other land development measures.

June 25: Signature and thumb-printing of agreement forms continued.

An explanatory meeting was held with those villagers ineligible for full resettlement assistance, itemising their limited rights as follows:

1. For households establishing houses after the cut-off date, preliminary notification shall be given 6 months in advance of the displacement of the households and not less than 3 months before displacement. Further notification shall be given with the deadlines set for dismantling structures and vacating the land to be inundated.
2. Said early notification shall be given to the “post cut-off date” households so that they can self-relocate in an orderly manner, including dismantling the affected residential structures, harvesting their crops and identifying replacement lands.
3. Village and district authorities, including representatives from eligible households, shall consider the possibility to provide residential lands to the households established after the cut-off date and who, with the consent of the affected ethnic minority community, wish to settle at or near the relocation village site.

COMMENTS FROM THE PARTICIPANTS:

No objections were raised to the procedural concepts outlined by the Consultants and District Government personnel and translated into Khamu language by Mr. Seumpanh and Ms. Douangchanh.

The participants indicated that they fully understood the reasons that they would not be eligible for full compensation and agreed to abide by the Project timetable for relocation.

June 26: Signature and thumb-printing of agreement forms continued.

The weather conditions deteriorated to the extent that thick low cloud meant that photography was hindered on numerous occasions throughout the day.

June 27-28: The clouds lifted from time to time allowing completion of documentation signature and accompanying photography, family by family, in front of their residences.

June 29: The District Office personnel were returned to Phoukout. An effort was made to organise the attendance of the video cameraman from the Provincial Governor's Office but weather and road conditions once more deteriorated forcing postponement of the effort.

*Topic: Flash flood in the North
Vientiane Times, July 1st*

“High ranking officials visit storm affected areas”

“Tropical storm Haima moved into Northern Laos from Vietnam last Friday, passing southwards through Huaphan, Xieng Khuang, Xayaboury, Borikhamxay and Khammuan provinces and the capital before its ferocity subsided.

According to a report from the Head of the government secretariat five of the nine districts of Xieng Khuang province have been affected by the storm. Houses, roads, electricity and telecommunication systems have been heavily damaged, a bridge spanning the Nam Mo was also impacted, and the newly built Khua-ou bridge in Yokmoun village was partly washed away.

Communication lines from Khoun district to the Mokmay and Khungvang areas have been cut because of landslides, as has the road from Khoun district centre to Mokmay and Thathom districts.

The road from Nonghet district to the Nam Kun border checkpoint has also been cut off, while various small roads have been damaged and many rice fields flooded. Concerned sectors are busy repairing the

road from Phoukout district to Phoukhoun district.

Xieng Khuang province is currently collecting information on the flooding and has yet to estimate the costs of the damage.”

June 30: The EcoLao team returned to Vientiane and photocopied the signed documents.

July 1: EcoLao delivered the signed documents and family photographs to NN3PC.

July 3: Preparing field mission report.

July 7: Travel by hired four-wheel-drive pick-up to Phonesavanh. Contact Provincial Public Information Office cameraman.

July 8: Travel to Xiengdet (with Mr. Khambing, Provincial Public Information Office cameraman) via Phoukout District Governor's Office collecting Ms Somboune and Ms Douanchan (Governor's Office Administration and Lao Womens' Union). Meeting with Village Administrative Committee to explain objectives and arrange for villager participation in filming campaign.

July 9: Filming interviews, etc., with video-camera.

July 10: Return to Vientiane via Phonesavanh and Phoukout.

July 11 – 12: Reporting.

3: UPDATE ON THE NUMBER OF HOUSEHOLDS AT BAN XIENDGET AS OF JUNE 2011

A. Eligible Resettler Households:

Eligible persons: Persons belonging to 96 households with well-established proof of residence in Ban Xiengdet (confirmed by Village and District Authorities) before the cut-off date (9th October, 2008), who will need to have their residences physically relocated.

B. Situation at the cut-off date:

During the community dialogue and asset registration sessions on 9th and 10th of October, 2008, the cut off date was agreed upon and established, as being the 9th of October 2008.

In 2007 the number of households at Ban Xiengdet was 90. It had grown to 104 in October 2008. Of the 104 households, 8 households were not accepted by Village and District Authorities to be entitled for resettlement and development activities to be supported by NN3. These 8 households physically relocated themselves to Ban Xiengdet presumably for opportunistic reasons in hope of receiving the benefits of resettlement, livelihood and social restoration and development support.

The 96 (104 - 8) households do not include the natural growth of 11 households that previously consisted of more than 7 persons and which have opted to split into 2 smaller households each. Thus 11 new families and households have been established, with individual houses and associated land and assets, giving a new total of 107 eligible households (96 + 11).

C. Post Cut-Off Households:

Several households moved to Xiengdet and established houses after the cut-off date.

These households presumably moved with the purpose of attempting to obtain compensation and support to livelihoods from the project, but are not considered eligible for entitlements by either village or district authorities. They will not be eligible for Project-constructed housing nor assistance with relocation of inundated assets. They will, however, with the approval of village and District

authorities, be entitled to share in access to village electricity and water supplies and also education and health services.

By September 2010, the total number of houses at Ban Xiengdet had risen to 120 due to an additional influx of opportunistic households. This was despite the fact that the governor of Phoukout District had written in July 2010 a formal letter to the village authorities of Ban Xiengdet not to allow any settlement of opportunistic households and also not to allow any trade in assets, including land.

The Consultants installed a Public Information Centre with notice board in June 2011 at the new school and posted a reminder notice showing the relevant proclamation from the district government.

Total population of Xiengdet as of early July, 2011 was 144 households, comprising 107 HH originally eligible households, plus a further 21 “natural growth” households, giving a new total of 128 eligible households plus 16 ineligible for a grand total of 144 households.

4. JUNE-JULY 2011 CONSULTATION PROCEEDINGS

The following is a summary of presentations and discussions held at the meetings at Xiengdet during June and July, 2011:

Mr. Seumpanh reiterated in Khamu language that EcoLao would explain about the realities of the NN3 Project resettlement and compensation obligations, the rules and regulations from GoL, IFC and ADB (the latter being International Development Banks lending money to NN3 PC to build the dam and electrical systems), as all of these must be followed by NN3PC and understood by the affected people.

Villagers who will be impacted by development projects have rights for fair treatment from the executing agency and from the government. The GoL has to ensure that its people grow out of poverty. It is desired to ensure that all villagers who settled in Xiengdet both before and after the cut-off date (9th October, 2008) understand their rights and responsibilities under the law.

For people who were legally settled in Xiengdet before 9th October, 2008, all impacts – houses, agriculture land, drinking water and other resources that will be impacted by NN3 will be compensated. No adverse effects will be felt until May 2016, which will be the date when the rising reservoir water level will commence to flood the Xiengdet vicinity.

According to the Decree 192 on Compensation and Resettlement of People Affected by infrastructural Development Projects, eligible villagers should be compensated for all asset loss and the executing project must ensure that all eligible villagers have been compensated at least equivalent to what they will lose through Project facilities construction and inundation.

Since the government aims to help poor Khmu households out of poverty, then it follows that the villagers will have access to better facilities with NN3 project than they enjoyed previously.

NN3PC will ensure that each step, drafted in the Decree, is followed and this progress will be monitored by the ADB and GoL. The entitlements of affected persons who were registered before 9th October, 2008 will include the following:

- ⤴ Houses will be rebuilt in a style better than the existing houses in the selected new location at Ban Nam Dai;
- ⤴ Land loss will be compensated by equivalent land:
- ⤴ Rice Fields: Will be compensated by new rice fields.
- ⤴ Upland paddy, village fish ponds, gardens, swidden, and other communal lands:

- All of these lands will be compensated if they are adversely affected by operations. Everything that the villagers own which become negatively impacted by NN3 will be replaced.
- ⤴ Fish Ponds: The project will ensure that fish can be produced in sufficient quantity to enable villagers to catch as much as before. Existing Fish ponds will be compensated by new fish ponds.
- ⤴ Gardens, fruit trees and other kinds of plantations will be compensated land-for-land for cash compensation for lost productivity whilst waiting for new trees to mature.
- ⤴ Irrigation: Mr. Seumphanh also spoke about the Project's and the District's plans to provide irrigation for dry season agriculture and that other livelihood plans will be developed.
- ⤴ All existing structures will be replaced – If a villager has a rice barn, there will be one provided. If a villager has a shed in which he keeps equipment for a business, or a shop, or another enterprise, the company will work with that villager to build a new one in the new location.
- ⤴ Although there are no land titles in the Xiengdet territory, this will be addressed with the relevant authorities in the new area.
- ⤴ Training will also be given on handicrafts, marketing, gender issues, etc.
- ⤴ The value of trees and other non-moveable assets will be estimated based on their productivity, and will most probably be replaced in the form of saplings planted in the new sites.
- ⤴ Together with the villagers, the company and the local government will assist in planning the new village, developing better livelihoods, and addressing other social and economic development.
- ⤴ The company will assist in improving agricultural livelihoods, forestry and sustainable NTFP production, land development planning and gardening and will ensure that every household is well taken care of during the relocation and livelihood support phases.
- ⤴ If relocatees wish to take the salvaged materials from the house with them to build a house extension or a rice barn, etc., transportation will be assisted by the Project.

GRIEVANCE COMMITTEE

For the safety of the villagers, it is necessary that the entire Ban Xiengdet is relocated to Ban Nam Dai.

When moving, if there is disagreement with the plan, or if there are problems that have not been addressed, recourse can be made to a Grievance Committee in the village, and further to District level, or even to Province level. If there is still an unresolved problem the matter can be referred all the way to the National level, if necessary.

The Grievance Committee at the village level will have representation from the village and local authorities. There will be representatives of the LWU, the District authority, and the NN3 project.

5: CONFIRMATION OF BROAD COMMUNITY SUPPORT

In the past, various discussions were conducted by the Lender's consultant with the village community as a whole and with individual men and women separately. Formal documents were signed by each affected household expressly stating their consent to the physical displacement and the broad community support to move to Nam Dai resettlement site.

During the Lenders' Mission in December 2010, Xiengdet villagers reconfirmed to ADB and other lenders that they have accepted the resettlement site and they would now like to get on with the resettlement process without additional delay.

All the above-listed sentiments were reconfirmed during the Consultants June 2011 Mission, whereat fresh signatures/thumb-prints were obtained, family photographs updated and proceedings were photographed or videotaped.

Consultations were conducted in Lao and Khmu language (there is no Khmu written language).

6: VIDEO-PHOTOGRAPHY

Topics Covered in Video filmed in the Environs of Xiengdet village Phoukout district Xieng Khouang Province – July, 2011:

- ⤴ SCENE 1: Summary of the history and environs of Xiengdet village.
- ⤴ SCENE 2: Meeting with people in the village reviewing eligibility and ineligibility for compensation.
- ⤴ SCENE 3: Public Information Notice Board at new school with printed instruction by District Governor concerning restriction of village expansion pending relocation.
- ⤴ SCENE 4: Interview with villagers of three socio-economic strata: Well-off, Medium, Poor.
- ⤴ SCENE 5: Village paddy rice land.
- ⤴ SCENE 6: Potable water system.
- ⤴ SCENE 7: Upland (swidden) rice land.
- ⤴ SCENE 8: Maize (swidden) land.
- ⤴ SCENE 9: Nam Ting river crossing point near the village.

7: NAMES & ADDRESSES

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ECOLAO

1. Khampasith OUTTANASITH
2. Seumphanh KEOVILAY

Local Government:

3. Mr. Khamphaeng, Video Photographer(Division of culture and information, Xiengkhouang Province)

PHOUKOUT DISTRICT

- | | | |
|--------------------------------|--------------------------------|--------------|
| 1. Mr . Vanhthong Chanthavong | Governor | 020-22340074 |
| 2. Mr. Khampheth Oudomsouk | Head of Governor's Office | 020-22152057 |
| 3. Mrs. Somboun Thipsida | Deputy Head, Governor's Office | 020-23297422 |
| 4. Mrs. Douangchanh Nanthavong | Deputy Head, Lao Women's Union | 020-22345893 |

8: ANNEXES

- ⤴ Oct 2008 consent forms updated with the signature of the various households.
- ⤴ Pictures of each of the households (in digital format).
- ⤴ Video-recording of the meeting and of the information board.
- ⤴ List of participants to the various meetings.


Installation of Notice Board at the New School, 23 June 2011





List of participants, eligible households, 24 June 2011

ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ 29 / 08 / 2011 ທີ່ ບ້ານຊຽງແດດ ເມືອງພູກວ ແຂວງຊຽງຂວາງ

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ອົງການຈັດຕັ້ງ (ຢູ່ແຂວງຫຼືເມືອງໃດ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍເຊັນ Signature
1	ທ່ານ ຫົວໜ້າ ກົມຄົມສຳ	ອຳນວຍການ 5/1	ປ. ຊຽງແດດ	23829909	
2	ທ່ານ ສີສິມາ, ບ. ທຸລະ	ບໍລິຫານ	—	—	ທ່ານ ສີສິມາ
3	ທ່ານ ທຸລະນາ	—	—	—	ທ່ານ ທຸລະນາ
4	ທ່ານ ຈຽງ ກິດ, ບ. ສີໄກ	—	—	23991025	ທ່ານ ຈຽງ ກິດ
5	ທ່ານ ພິມາວິທະຍາ, ບ. ສິມາ	—	—	—	ທ່ານ ພິມາວິທະຍາ
6	ທ່ານ ສິມາ, ບ. ດຽງ	—	—	—	ທ່ານ ສິມາ
7	ທ່ານ ວິມາວິທະຍາ, ບ. ພູມສິມາ	—	—	—	ທ່ານ ວິມາວິທະຍາ
8	ທ່ານ ຈຽງ ພູມສິມາ, ບ. ພູມສິມາ	509 ບ. ອ. ສ.	—	23320555	ທ່ານ ຈຽງ ພູມສິມາ
9	ທ່ານ ຈຽງ, ບ. ສິມາ	ທ່ານ ຈຽງ	—	—	ທ່ານ ຈຽງ
10	ທ່ານ ຈຽງ, ບ. ສິມາ	ທ່ານ ຈຽງ	—	—	ທ່ານ ຈຽງ
11	ທ່ານ ສິມາ, ບ. ສິມາ	—	—	—	ທ່ານ ສິມາ
12	ທ່ານ ພູມສິມາ, ບ. ວິທະຍາ	ທ່ານ ພູມສິມາ	—	22940596	ທ່ານ ພູມສິມາ
13	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	ທ່ານ ພູມສິມາ	—	23678202	ທ່ານ ພູມສິມາ
14	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	—	—	—	ທ່ານ ພູມສິມາ
15	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	ທ່ານ ພູມສິມາ	—	2749902	ທ່ານ ພູມສິມາ
16	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	—	—	23829835	ທ່ານ ພູມສິມາ
17	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	—	—	—	ທ່ານ ພູມສິມາ
18	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	ທ່ານ ພູມສິມາ	—	—	ທ່ານ ພູມສິມາ
19	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	—	—	—	ທ່ານ ພູມສິມາ
20	ທ່ານ ພູມສິມາ, ບ. ທຸລະ	—	—	23230122	ທ່ານ ພູມສິມາ

ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ ວັນທີ 1 ຕຸລາ / 2011 ທີ່ ບ້ານຂຽງແດດ ເມືອງພູກູດ ແຂວງຊຽງຂວາງ

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ອົງການຈັດຕັ້ງ (ຢ່າແຂວງທີ່ເມືອງໃດ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍເຊັນ Signature
21	ທ່ານ ພູທິສະ ທິວ, ບ. ຄົງ	ປະທານ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ ທິວ
22	ທ່ານ ນາງ ສິມ, ບ. ສິມ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ນາງ ສິມ
23	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
24	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ	03544909	ທ່ານ ພູທິສະ
25	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
26	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
27	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
28	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
29	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ	03544575	ທ່ານ ພູທິສະ
30	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
31	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
32	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
33	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
34	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
35	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
36	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
37	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
38	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
39	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ
40	ທ່ານ ພູທິສະ, ບ. ສາວ	ສະມາຊິກ	ບ. ຊຽງຂວາງ		ທ່ານ ພູທິສະ

ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ ວັນທີ 09 / 06 / 2011 ທີ່ ບ້ານຊຽງແດດ ເມືອງພູກູດ ແຂວງຊຽງຂວາງ

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ຊື່ການຈັດຕັ້ງ (ຢູ່ແຂວງຫຼືເມືອງໃດ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍເຊັນ Signature
41	ທ່ານ ຈຽມອິດ, ບ. ບວນ	ປະຊາຊົນ	ບ. ຊຽງທອງ		ທ່ານ ຈຽມອິດ
42	ທ່ານ ວຽງທອງ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ	23544946	ທ່ານ ວຽງທອງ
43	ທ່ານ ສິມສິມ, ບ. ທອງ	ຄະນະ: ຫຼັກ ທຽງແຕ່	ບ. ສາ. ສິມ		ທ່ານ ສິມສິມ
44	ທ່ານ ອອນ, ບ. ບວນ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ອອນ
45	ທ່ານ ອິທອນ, ບ. ບວນ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ອິທອນ
46	ທ່ານ ທອງ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ທອງ
47	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
48	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
49	ທ່ານ ອິທອນ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ອິທອນ
50	ທ່ານ ດີ (ຊື່ເກົ່າ)	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ດີ
51	ທ່ານ ດີ (ຊື່ເກົ່າ)	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ດີ
52	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
53	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
54	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
55	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
56	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
57	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
58	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
59	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ
60	ທ່ານ ພິ, ບ. ທອງ	ປະຊາຊົນ	ບ. ສາ. ສິມ		ທ່ານ ພິ

ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ 09 / 06 / 2011 ທີ່ ບ້ານຊຽງແດດ ເມືອງພູກູດ ແຂວງຊຽງຂວາງ

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ອົງການຈັດຕັ້ງ (ຢູ່ແຂວງຫຼືເມືອງໃດ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍຊື່ Signature
61	ທ່ານ ພອ ບຸນທອງ ພອນ	ທ່ານ	ບ. ຊຽງພອນ		ທ່ານ ພອນ
62	ທ່ານ ດົງ ພິດພັນ	ທ່ານ	ທ່ານ		
63	ທ່ານ ວຽງ ພອນ, ທ່ານ ພອນ	ທ່ານ ພອນ ພອນ	ທ່ານ		ທ່ານ ພອນ ທ່ານ ພອນ
64	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		
65	ທ່ານ ດົງ ພິດພັນ	ທ່ານ	ທ່ານ		
66	ທ່ານ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ
67	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ດົງ ພອນ
68	ທ່ານ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ ທ່ານ ພອນ
69	ທ່ານ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ ທ່ານ ພອນ
70	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ
71	ທ່ານ ດົງ ພິດພັນ	ທ່ານ	ທ່ານ		
72	ທ່ານ ດົງ ພິດພັນ	ທ່ານ	ທ່ານ		
73	ທ່ານ ພອນ, ທ່ານ ດົງ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ
74	*ທ່ານ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ
75	ທ່ານ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ
76	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ
77	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ
78	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ
79	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ		ທ່ານ ພອນ
80	ທ່ານ ດົງ ພອນ, ທ່ານ ພອນ	ທ່ານ	ທ່ານ	22943290	ທ່ານ ພອນ

ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ 27 / 06 / 2011 ທີ່ ບ້ານຊຽງແດດ ເມືອງພູກຸດ ແຂວງຊຽງຂວາງ

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ອົງການຈັດຕັ້ງ (ຢູ່ແຂວງຫຼືເມືອງໃດ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍເຊັນ Signature
81	ທ່ານ ດຳລາ (ທຸດທານ) (ທຸດທານ)	ທຸດທານ	ບ. ຊຽງພູກຸດ		
82	ທ່ານ ທິວິດ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ທິວິດ	03256851	ທ່ານ ທິວິດ
83	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
84	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
85	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
86	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ	03997942	ທ່ານ ສິວສິວ
87	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
88	ທ່ານ ສິວສິວ (ທຸດທານ)	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
89	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
90	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ	23613634	ທ່ານ ສິວສິວ
91	ທ່ານ ສິວສິວ (ທຸດທານ)	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
92	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
93	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
94	ທ່ານ ສິວສິວ (ທຸດທານ)	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
95	ທ່ານ ສິວສິວ (ທຸດທານ)	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
96	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
97	ທ່ານ ສິວສິວ, (ທຸດທານ)	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
98	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
99	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ
100	ທ່ານ ສິວສິວ, ທ່ານ ສິວສິວ	ທຸດທານ	ທ່ານ ສິວສິວ		ທ່ານ ສິວສິວ

ລາຍຊື່ ເຂົ້າຮ່ວມກອງປະຊຸມ ວັນທີ 15 / 06 / 2011 ທີ່ ບ້ານຊຽງແດດ ເມືອງພູມກວດ ແຂວງຊຽງຂວາງ

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ໜ້າທີ່ຕໍາແໜ່ງ Position	ອົງການຈັດຕັ້ງ (ຝ່າຍຂອງພູມີອາໄນ) Organization	ເບີໂທລະສັບ Telephone No	ລາຍຊື່ Signature
101	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
102	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
103	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
104	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
105	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
106	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
107	ທ່ານ ທ່ານ ທ່ານ	ທ່ານ	ທ່ານ		ທ່ານ
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					



Handwritten signature in blue ink, likely of the official responsible for the stamp.

Handwritten signature in blue ink, possibly another official's name.

List of participants, non-eligible households, 25 June 2011



(၁၂၀) ၃၇၅၀၇
 မိတ္ထီလူ့ဘဝ
 ဗဟိုဌာန
 နေပြည်တော်

နေပြည်တော်
 သို့မဟုတ်
 အခြားနေရာ
 နေပြည်တော်

၂၀၂၀

၀၂ / ၂၃
 ၂၅ / ၁၆ / ၂၀၂၀

၁။ နေပြည်တော်
 ၂။ နေပြည်တော်
 ၃။ နေပြည်တော်
 ၄။ နေပြည်တော်
 ၅။ နေပြည်တော်

စ/စ	အမည်	အမျိုးအမည်	အခြားအချက်အလက်
၁/	အောင် နေပြည်	အထွေထွေ	၁။ နေပြည်တော်
၂/	အောင် နေပြည်	အထွေထွေ	၂။ နေပြည်တော်
၃/	အောင် နေပြည်	အထွေထွေ	၃။ နေပြည်တော်
၄/	အောင် နေပြည်	အထွေထွေ	၄။ နေပြည်တော်
၅/	အောင် နေပြည်	အထွေထွေ	၅။ နေပြည်တော်
၆/	အောင် နေပြည်	အထွေထွေ	၆။ နေပြည်တော်
၇/	အောင် နေပြည်	အထွေထွေ	၇။ နေပြည်တော်
၈/	အောင် နေပြည်	အထွေထွေ	၈။ နေပြည်တော်
၉/	အောင် နေပြည်	အထွေထွေ	၉။ နေပြည်တော်





9. /	ທ້າວ ພູມສາ	ລູກ ນາວ	11. /	ນາງ ວິໄລ ທ້າວ ສິດ
10. /	ທ້າວ ໄຂມ ພອນ	ລູກ ຊາຍ	12. /	ທ້າວ ສິດ ນາງ ພູ
11. /	ທ້າວ ໄຊວິ	ລູກ ນາວ	14	ນາງ ວິໄລ ທ້າວ ທິດ
12. /	ທ້າວ ພູມສິ	ລູກ ນາວ	17	ນາງ ວິໄລ ທ້າວ ສິດ
13. /	ທ້າວ ວິໄລ	ນາງ ຊາຍ	18	ທ້າວ ສິດ ນາງ ວິໄລ
14	ທ້າວ ວິໄລ	ລູກ ນາວ	18. /	ນາງ ວິໄລ ທ້າວ ສິດ
		ລູກ ຊາຍ	18. /	ທ້າວ ຊາຍ ນາງ ທິດ
15	ທ້າວ ສິດ	ລູກ ນາວ	18	ນາງ ວິໄລ ທ້າວ ພອນ
16	ນາງ ແອັດ	ລູກ ນາວ	18	ນາງ ວິໄລ ທ້າວ ສິດ
19	ທ້າວ ສິດ	ລູກ ຊາຍ	20. /	ທ້າວ ສິດ ນາງ ພອນ
18	ນາງ ສິດ	ລູກ ຊາຍ	21. /	ທ້າວ ສິດ ນາງ ວິໄລ



ທ້າວ ພູມສາ ວິໄລ 25 / 161. 20/11



ທ້າວ ພູມສາ ພິມມະວິໄລ

Photos of Ban Xiengdet eligible households, June 2011





























Samples of Consent forms, thumb printed, 24-25 June 2011

- 15000
 - 5000
 -

ឈ្មោះប្រធានប្រតិភូ 1986

៤ មី
 ១ មី

ថ្ងៃចេញ ១០/១០/២០០៩

ខ្ញុំបាទ ខ្ញុំប្រកាសថា ខ្ញុំបានបញ្ជូនប្រាក់
 ប្រាក់ ១៥.០០០ ដុល្លារ ទៅលើគណនី
 ឈ្មោះ ប្រធានប្រតិភូ ថ្ងៃចេញ ១០/១០/២០០៩
 ឈ្មោះ ប្រធានប្រតិភូ ថ្ងៃចេញ ១០/១០/២០០៩
 ឈ្មោះ ប្រធានប្រតិភូ ថ្ងៃចេញ ១០/១០/២០០៩
 ឈ្មោះ ប្រធានប្រតិភូ ថ្ងៃចេញ ១០/១០/២០០៩

ឈ្មោះ ប្រធានប្រតិភូ
 ថ្ងៃចេញ ១០/១០/២០០៩



ថ្ងៃចេញ ១០/១០/២០០៩

ឈ្មោះ ប្រធានប្រតិភូ ១១០១



៣ ប្រធានប្រតិភូ

ឈ្មោះ ប្រធានប្រតិភូ ថ្ងៃចេញ ១០/១០/២០០៩



៣ ប្រធានប្រតិភូ

ស្ថិតិសម្រាប់ឆ្នាំ ២០០៣

ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ

១០

ខ្ញុំបាទ ខ្ញុំសូមបញ្ជាក់ថា ខ្ញុំបានទទួលបាន
 ឯកសារស្ថិតិសម្រាប់ឆ្នាំ ២០០៣
 ដែលបានផ្តល់ជូនដោយ លោក ណាម ណាម
 លោក ណាម ណាម ដែលបានផ្តល់ជូន
 ឯកសារស្ថិតិសម្រាប់ឆ្នាំ ២០០៣
 ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ
 ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ



ខណៈ ២៤/៦/២០១១

ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ ១/១០/២០០៨

ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ



ក. ឈន់សារី

ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ



តាមរយៈ ឯកសារ

សិក្សាស្រាវជ្រាវ 1986

- 1986
- 1987
- 1988
- 1989

សម្រាប់ការសិក្សាស្រាវជ្រាវ

សិក្សាស្រាវជ្រាវ

[Handwritten signature]

សិក្សាស្រាវជ្រាវ

សំណុំ 10/10/2008

ឆ្នាំ: 10/10/2008
 ខ្ញុំប្រកាសថា ខ្ញុំបានសិក្សាស្រាវជ្រាវ
 រយៈពេល ១០ ខែ ចាប់ពី ថ្ងៃទី ១០ ខែ ១០ ឆ្នាំ ២០០៨
 រហូតដល់ ថ្ងៃទី ១០ ខែ ១០ ឆ្នាំ ២០០៩
 ដោយមានការសម្រេចចិត្តរបស់ខ្ញុំ
 ហើយខ្ញុំបានបញ្ចប់ការសិក្សាស្រាវជ្រាវ
 នេះហើយ ខ្ញុំបានបញ្ជូនសំណុំនេះ
 មកជូនលោកស្រី វិសាល វិសាល

ឈ្មោះ: វិសាល វិសាល
 លេខ: ១២៣៤



124/6/2011

លោក វិសាល



លោក វិសាល

លោក វិសាល វិសាល



ត្រូវបាន ធុនសុខ

សិស្សបរិញ្ញាបត្រ ឆ្នាំ ១៩៨៤

- ថ្ងៃ ១ ឃ្លា

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Road Conditions to Ban Xiengdet, June 2011





Annex C

PUBLIC HEALTH ACTION PLAN

LIST OF ABBREVIATIONS/ACRONYMS

ABO	Average Bed Occupancy
ADB	Asian Development Bank
AFESIP	Acting for Women in Distressing Situations
ANC	Ante-Natal Care
ARI	Acute Respiratory Infection
BCC	Behaviour Change Communication
BCG	Bacillus Calmette-Guérin (vaccine against Tuberculosis)
BTC	Belgian Technical Cooperation
CEDAW	Convention on the Elimination of all Forms of Discrimination against Women
CEMMP	Contractors Environmental Management and Mitigation Plan
CHAS	Centre for HIV/AIDS/STI
COD	Commercial Operation Date
COMMIT	Coordinated Mekong Ministerial Initiatives against Trafficking
CPSMP	Construction Phase Social Management Plan
DDFI	Department for Promotion and Management of Domestic and Foreign Investment (within Committee for Planning and Investment)
DFID	Department For International Development
DHO	District Health Office
DOL	Department of Labour (within MLSW)
DPT3	Diphtheria / Pertussis / Tetanus Vaccine
DRF	Drug Revolving Fund
DWG	District Working Group
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
EPI	Expanded Programme of Immunisation
ESD	Environmental and Social Division (of NN3PC)
GAP	Gender Action Plan
GF	Global Fund
GMS	GMS Lao Company Ltd.
GoL	Government of Lao PDR
HC	Health Centre
HH	Household
HLO	Health Liaison Office (of NN3PC)
HMIS	Health Management Information System
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEC	Information, Education and Communication
ILO	International Labour Organisation

IMR	Infant Mortality Rate
IV	Intravenous
KOICA	Korea International Cooperation Agency
Lao PDR	Lao People's Democratic Republic
LWU	Lao Women's Union
M	micro
Masl	Metres above sea level
MCC	Main Construction Contractor
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MLSW	Ministry of Labour and Social Welfare
MoH	Ministry of Health
MoU	Memorandum of Understanding
NGO	Non-Government Organisation
NN2 HPP	Nam Ngum 2 Hydropower Project
NN3 HPP	Nam Ngum 3 Hydropower Project
NN3PC	Nam Ngum 3 Power Company
NT2	Nam Theun 2 (Project)
ORT	Oral Re-hydration Therapy
PAP	Project Affected People
PCC	Provincial Coordinating Committee
PCCA	Provincial Committee for the Control of AIDS
PHAP	Public Health Action Plan
PHC	Primary Health Care
PHO	Provincial Health Office
RC	Resettlement Committee
REMDP	Resettlement and Ethnic Minority Development Plan
SMP	Social Management Plan
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis
TBA	Traditional Birth Attendants
TL	Transmission Line
UNIAP	United Nations Inter-Agency Project on Human Trafficking in the Greater Mekong Sub-region
UNICEF	United Nations Children's Fund
VDCC	Village Development Coordination Committee
VHV	Village Health Volunteer
WASH	Water Supply, Sanitation and Hygiene

WB	World Bank
WHO	World Health Organisation
WREA	Water Resources and Environment Administration
YU	Youth Union

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1. CURRENT HEALTH STATUS IN THE DISTRICTS OF THE PROJECT AREA

Despite substantial gains made in overall health and well being in the Lao PDR over the last 2 decades, serious health problems continue to rank the country among the worst health status countries in the region. Key indicators of infant and maternal mortality remain high, viz:

- Infant mortality is 70 per 1,000 live births¹;
- Under-five mortality is 98 per 1,000 live births;
- Maternal mortality is 405 per 100,000 births.

Most deaths of children are due to communicable diseases with the main causes being malaria, acute respiratory infections (ARI), diarrhoea, and epidemics such as dengue fever and measles². High mortality rates are also related to the under utilization and/or quality of available health services.

In the year 2000 the leading causes of death were primarily treatable and preventable diseases (see **Error! Reference source not found.**). Road accidents were 5th highest, though behind infectious diseases.

Table 1-1 Mortality rates (per 100,000 pop).

Malaria	40.09
Pneumonia	3.34
Diarrhoea	1.36
Heart failure	1.36
Accidents	1.32

Source: WHO Country info profile 2005; calculation by statistical division MoH 2000

The five leading causes of morbidity in Lao PDR in 2000 are summarised in **Error! Reference source not found.**

Table 1-2 Morbidity rates (per 100,000 pop)

Malaria	4,083
Pneumonia	728
Gastritis	690
Influenza	522
Diarrhoea	496

Source: WHO Country info profile 2005

Prevailing common diseases and principle causes of morbidity and mortality in the project area of NN3 are similar to those throughout Lao PDR.

¹ Results from the Population and Housing Census 2005, NSC Steering Committee report, March 2006.

² Lao PDR Ministry of Health, Health Strategy up to the Year 2020, May 2000.

Table 1-3 National Level and Health Data in the NN River Basin

Health Indicator	National Level	Xieng Khouang Province	Luang Prabang Province	Vientiane Province	Xay-somboun Special Zone	Vientiane Capital	Borikham say Province
Natural Growth Rate %	2.8	5.9	5.3	4.4	-	5.2	2.3
Crude Birth Rate, CBR, per 1,000	34.7	40	38.8	27.8	26.3	33.5	24.9
Crude Death Rate, CDR per 1,000	9.8	10	11.3	7.7	5.46	6.27	9.2
Infant Mortality Rate, IMR (infants < 1 year per 1,000 live-births)	70	68	79	37	58.7	103	19
Under-5 Mortality Rate (children < 5 per 1,000 live-births)	97.6	90.4	150	68.3	21.4	47.7	58.8
Maternal Mortality per 100,000 live-births	405	572	268	-	223	368	469

Source: Lao PDR, National Statistics Centre, 2005 Population & Housing Census

1.1 Malaria

Data indicates an overall reduction in malaria prevalence for both target provinces – Xieng Khouang and Vientiane Provinces³. Provisions of impregnated bed nets and improved access to anti-malarial drugs have been the primary strategies in reducing malaria prevalence. Vigilance remains necessary, however, particularly to improve distribution and coverage of impregnated bed nets⁴ and clinical judgment on diagnosis and treatment.

1.2 Acute Respiratory Infections (ARI) and Tuberculosis

Given the progress in controlling malaria, pneumonia is now likely to be the most common cause of mortality⁵.

In the year 2000 tuberculosis (TB) ranked 5th as the main cause of death in Lao PDR. It is most likely that the disease is under-reported in Lao; confirming even infectious pulmonary forms of TB, much less silent intestinal or other clinical forms, is not an easy task. However, Lao's relatively low rural population density and traditional housing styles contribute to denying the TB causing bacillus its preferred habitat. Sources from the Xieng Khouang and Vientiane Provincial Health Offices (PHO) report very few cases of active pulmonary TB in the target districts. Health staff will, however, remain vigilant to ensure active cases are detected early. This is particularly necessary given that people infected with HIV are 30 to 100 times more likely to develop active tuberculosis (TB)⁶.

1.3 Diarrhoea

From MoH 2005 data both target districts continue to have high rates of diarrhoea and gastritis reported. First line treatment of diarrhoea in children using oral re-hydration therapy (ORT) requires education and awareness of both health workers and the community in general.

³ The Project affected Xaysomboun District was part of Xaysomboun Special Zone until 2005 when the zone was dissolved. Xaysomboun District is now a part of Vientiane Province.

⁴ Insecticide impregnated bed nets are recognized globally as the most effective means of malaria control in high risk areas; reducing the number of persons to an average of at least 2.5 under each net also greatly minimizes exposure.

⁵ J. Kobayashi et al / Acta Tropica 89 (2004) p. 299–308.

⁶ Source: CDC - National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, May 2007.

1.4 Helminths

Given the widespread preference for eating raw fish (34% of population), human infestation can quickly increase. Opisthorchiasis is a disease which remains mostly silent; however, in heavily infested patients it can lead to liver cirrhosis or even cancer.

Information on parasitic worms in the project area will be collected in the start-up phase of the project.

2. ASSESSMENT OF HYDROPOWER PROJECT EFFECTS

To assist in understanding the potential effects of dam construction it is useful to consider environmental health under the following broad areas:

- Respiratory diseases, including acute respiratory infection (ARI) (bacterial and viral), pneumonias and TB,
- Vector-related illnesses including malaria, dengue, Japanese encephalitis, typhus,
- Sexually transmitted infection (STI) including HIV/AIDS, herpes, syphilis, gonorrhoea, Chlamydia, hepatitis B,
- Soil and water-borne diseases including leptospirosis, schistosomiasis, meliodosis and cholera,
- Food and nutrition, including stunting, wasting, micronutrient deficiencies, gastroenteritis (bacterial and viral); opistorchiasis infection,
- Accidents and injuries, including, traffic and road related, construction (home and project related), drowning and electrocution,
- Exposure to potential hazardous materials and processes including electro magnetic radiation from power lines, road dust and air pollution, and dam construction related materials and chemicals, insecticides/pesticides and fertilizers used in intensification of agriculture,
- Psychosocial stress, including, substance abuse, violence, security concerns, depression and threats to communal social cohesion, and traditional medicine providers and practices,
- Cultural health practices: use of traditional medicine providers, indigenous drugs and behavioural practices, e.g. birthing in the forest as is practised by some ethnic groups.

2.1 NN3 Reservoir and Resettlement

One village (Xiengdet) with a total population of around 500 persons (2007) will be directly affected by the construction of NN3 and subsequent inundation. Issues are:

- Relocation of Ban Xiengdet. Health facility infrastructure is addressed in this PHAP; Improvement of water supply and sanitation facilities is covered in the REMDP. Advanced planning and implementation of new infrastructure is imperative. Re-training of *Kum Ban* health staff and re-focusing health worker priorities.
- Ensuring the existing or revised health service has sufficient support for qualified and experienced staff and appropriate resources.
- Psycho-social stress resulting from household relocation must not be under-estimated. This may relate to violation of cultural beliefs (for example, in many Lao communities it is normal to bury the placenta of new-borns near the house). It may also relate to uncertainty about the future and/or hardship and debt as a result of the inundation.
- Substance abuse, such as increased alcohol consumption, with accompanying social problems such as debt and domestic violence, could increase.
- Livelihood changes from changed access to land and natural resources, resulting in possible change of nutritional status. Changes in nutritional status can put women at special risk due to their

low levels of nutrition and their reproductive function. Positive and negative changes to the fishery, with potential effects on nutrition, will require close surveillance.

- Increase in water-related vector borne disease is possible as a result of the reservoir filling, (particularly snail species preferring reservoir bank conditions). This may see the introduction of helminths.
- Increased agricultural production using insecticide and fertilisers, with the potential for negative health consequences.
- Pressure to change traditional cultural practices and potential social incompatibility (depending on the ethnicity of the host villages).

2.2 Dam Site and Adjacent Villages

Issues are:

- Ensuring the existing or revised health service has sufficient qualified and experienced staff and appropriate resources.
- Changes to the water course as a result of damming may affect aquatic and wildlife habitats. Positive and negative impacts are likely to occur at different times after reservoir creation. One possible negative consequence of a reduced fish catch is protein malnutrition. Potential negative impacts on reduced fish catch, however, will be off set or compensated by a fisheries and fish culture program.

2.3 Construction Area and Camp Followers

During the peak of the construction period there will be several thousands of workers at the dam, tunnel and powerhouse sites. As a result of the influx of construction workers, the number of 'camp followers' may be very high. Issues are:

- Major additional demands on existing health services particularly at Long Cheng Health Centre (HC); requiring extra staff and capacity building to existing health services.
- Increase in HIV/AIDS/STI prevalence resulting from increased activities by sex workers and lack of awareness and/or prevention among construction workers.
- Possible increase in social problems caused by itinerant workers willing to spend pay cheques on various forms of entertainment, including alcohol consumption.
- Increased road trauma resulting from the large number of heavy transport vehicles using the access road to the dam site. Dust levels from increased road traffic will also present a serious environmental health hazard for roadside communities.

The Main Construction Contractor (MCC) will provide awareness and health services for its staff and employees including sub-contractors, in terms of health clinics, emergency transport, preventive interventions, etc., whereas the NN3PC will provide services for the local population likely to be affected by the construction activities as well as camp followers.

2.4 Power Line Radiation

Electric and magnetic fields (EMF) are a result of all use of electricity. The electric field is generated by the voltage – the pressure behind the flow of electricity. The current, the flow of electricity, produces magnetic fields, which in the case of a power line vary with the demand of power at a given time. The main difference between electric and magnetic fields is that the electric fields can easily be screened, while magnetic fields pass through solid objects, for instance

buildings. The strength of both the magnetic and the electric fields falls rapidly with distance from the conductors.

There has been public concern related to suspicions that the radiation field or (EMF) created by power lines and substations might cause serious health impacts on people living or working close to such installations. A number of health problems have been claimed to be caused by EMF.

Even though there is little indication that the level of exposure of people living close to power lines represents a health risk, the IFC environmental, health, and safety guidelines have a careful approach in planning of power lines. The so-called precautionary principle has been applied to avoid exposure to electric and magnetic fields. This means that the height of transmission towers should be increased at specific locations, and/or the line routing alternative that avoids concentrations of human settlements, schools, institutions, etc. should be selected whenever feasible, and/or buildings, houses, dwellings, and field huts should be screened for radiation or relocated.

The same concern for electromagnetic radiation impacts, as mentioned for power line also applies to substations. For the area around Nabong sub station, the necessary activities to avoid exposure of persons to electric and magnetic fields have already been implemented.

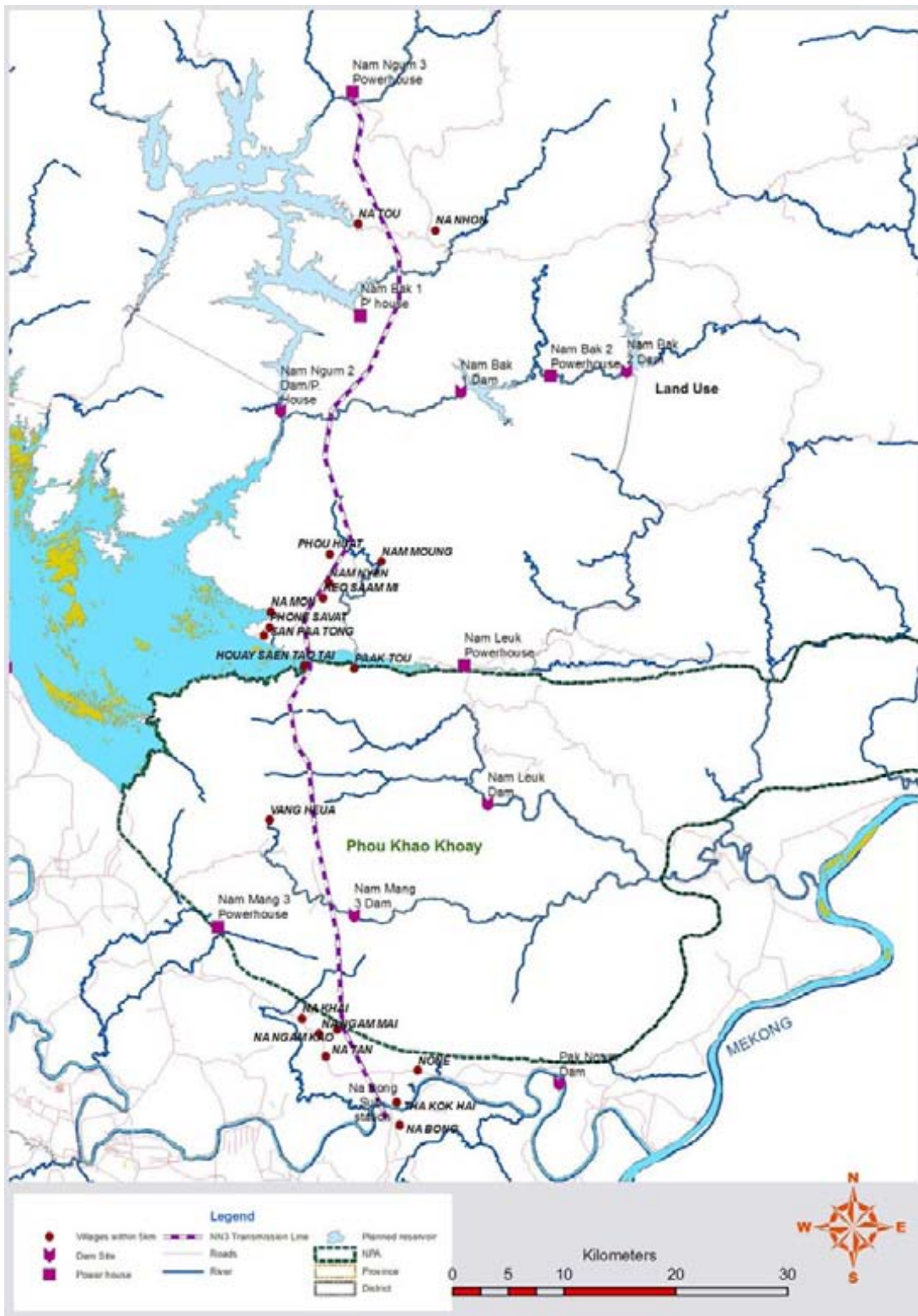


Figure 2-1 Alignment of NN3 Transmission Line.

3. CURRENT HEALTH INITIATIVES IN LAO PDR & VIENTIANE AND XIENG KHOUANG PROVINCES

3.1 Ministry of Health & Supported Programs

Health expenditure comprised 4.4% of total GoL spending in 2003-04⁷ – an estimated 2.72% of GDP. External (donor) resources contributed 58.2% of general government expenditure on health; GoL revenue contributed to 26.9% of total health expenditure in 2003-04. The bulk of GoL revenue contributed to the public health budget (75.3%) goes to staff salaries. Anecdotal information from health centres (HC) and district health facilities visited during the PHAP planning phase indicate that very little, if any, government expenditure arrives for operational costs. Programs receiving regular national funding for operational expenses at district and village level are donor-supported 'vertical' programs including malaria control, Expanded Programme of Immunisation (EPI), Maternal and Child Health (MCH), TB and vitamin supplements.

The Lao Health Master Planning Study⁸ identified a number of shortcomings in the Lao health sector. These included:

- Low input of recurrent expenditure and wasteful resource allocation; weakness of health finance and reliance on foreign assistance;
- Uneven distribution of health personnel; shortage of hospital trained nurses and community nurses;
- Budget allocation skewed in favour of hospitals and medical doctor training;
- Lack of motivation (salaries) for government health staff;
- Low capacity of provincial and district health offices; shortage of human resources and recurrent budget at district level;
- Unclear and non-transparent decision making in health management;
- Weak participatory processes in the health sector;
- Weak health service delivery in MCH, nutrition and health education;
- Insufficient infectious disease control activities.

Despite the current inability of the Lao PDR Ministry of Health (MoH) to adequately fund health service delivery, there is however an overall policy framework covering most activities.

Key among these is the 'Health Strategy up to the Year 2020'⁹. In this strategy document the MoH has outlined a program to deal with the majority of morbidity and mortality in Lao, in summary¹⁰:

- Focus on the primary health care (PHC) network;

⁷ WHO Country Health Information Profiles, Lao PDR, June 2006.

⁸ Study on the Improvement of Health and Medical Services in Lao PDR, MoH & JICA, Pacific Consultants International, November 2002.

⁹ 'Health Strategy up to the Year 2020' was originally a discussion paper prepared for the Donor Round Table Meeting, Vientiane May 2000; this continues to be the working document on policy direction promoted by the Minister for Health.

¹⁰ *ibid.*, Executive Summary, page iv.

- Malaria prevention;
- Acute respiratory infection (ARI) early intervention & treatment;
- Diarrhoeal disease control;
- Expanded Programme of Immunisation (EPI);
- Reproductive health and maternal care;
- HIV/AIDS awareness & prevention;
- Chronic malnutrition being addressed;
- Clean water access;
- Health services facility access and standards.

3.2 Primary Health Care Policy

Linked to the 2020 strategy is the Lao PDR government policy on primary health care (PHC). Overall this policy appears to have been successful, although funds and resources in the first half of 2007 are reportedly moving very slowly. The ongoing PHC strategy is summarised:

- Prevention of disease closely associated with effective treatment; improved comprehensive functioning health system according to real needs and actual capacity.
- Improve effectiveness of the referral system at every level; VHV are the starting point.
- Improve professional technical skills for all health personnel; improving staff conditions.
- Village drug kit development and management through drug revolving fund and cost recovery in HC.
- Increased health sector investment, particularly for remote rural areas.
- Increase participation at all levels in decentralised management, policy implementation and establishing standards.
- Health insurance system to improve quality, guarantee equity and assure better social justice.

Other relevant GoL/MoH policies include:

- Decree 739, MoH policy re: Curative services
- Decree 381, GoL policy re: Charging user fees

It is essential that the NN3 health liaison unit is fully familiar with the status of all key GoL health sector policies and programs and conducts health activities within this framework.

3.3 External Donor Support

There are several 'vertical' programs implemented by MoH and funded by external donors. These have generally been effective, though integration of these programs through a sector-wide approach requires more effort, resources and good-will than presently exists within the MoH and,

just as importantly, the donors. Program support to MoH includes Global Fund (GF), UNICEF and WHO. There are also a number of International NGO's involved in improving health service delivery including ADRA, Burnett Institute, Concern Worldwide, Handicap International, Health Unlimited, MSF, PSI, SCA, Swiss Red Cross and World Vision.

External donor support is also directed at improving overall health service delivery and management. Donors include:

- World Bank (WB), Health Management and Capacity Building project, Phase 2, with emphasis on improving management at district level;
- Asian Development Bank (ADB), Health Sector Development Project, improving the efficiency and effectiveness of the health system from village to province level by delivering PHC;
- Japan International Cooperation Agency (JICA), Capacity development for sector-wide coordination in health;
- Belgian Technical Cooperation (BTC), health sector management and support, in 2 administrative districts.

It is essential that NN3 health liaison unit communicates and cooperates with all external donors involved in health service strengthening, particularly on management at District and Health Centre level.

3.4 Provincial Level

Both Vientiane and Xieng Khouang PHO have an administrative office located in their respective provincial capitals. Vientiane province PHO staff rarely visit the district health office (DHO) and operational facilities in Xaysomboun largely because road communication is very difficult and indirect. Xieng Khouang PHO is, however, within 25km of Phou Kout DHO enabling regular 2-way communication and visits.

District-level health unit staffs come to the PHO for training and meetings. PHO units, which appear to function well, by-and-large do not have regular plans to motivate and support district health staff in the field. This weakness needs to be noted as a constraint in implementing the NN3 PHAP.

The Provincial Committee for the Control of AIDS (PCCA) secretariat functions in both provinces. However, the PCCAs face a number of challenges and particularly need to strengthen their multi-sector base, develop a broader understanding of how projects such as NN3 might affect HIV prevalence in the province, and how to provide treatment services at the village level (now fully funded by GF)

The provincial malaria stations appear well aware of the situation on the ground in affected districts. Bed-net coverage rates suggest that the malaria stations have the capacity to build on the existing program with GF financial support. Distribution of impregnated bed-nets will be supported by the NN3 health liaison office team.

The WB health management project supports health system improvement through budgetary support to district health services. In theory the district level makes an annual plan according to guidelines developed under the WB project; plans are submitted to the provincial level for funding. Both Phou Kout and Xaysomboun DHO know how to submit plans and budget proposals.

It is recommended that NN3 work closely with PHO in both provinces to develop support systems for district and operational levels, particularly through regular monitoring and supervision. Note however, it is not recommended that NN3 seek to become involved in addressing the broader

issues of health sector reform, though being fully aware of what the major players are doing is essential.

Xieng Khouang Province

Xieng Khouang PHO has an effective data collection and analysis system. This shows certain trends and provides useful indicators for effective planning. Data for the period 2001-05 in Figures 3-1 and 3-2 was provided by the Xieng Khouang PHO and has not been checked for statistical accuracy.

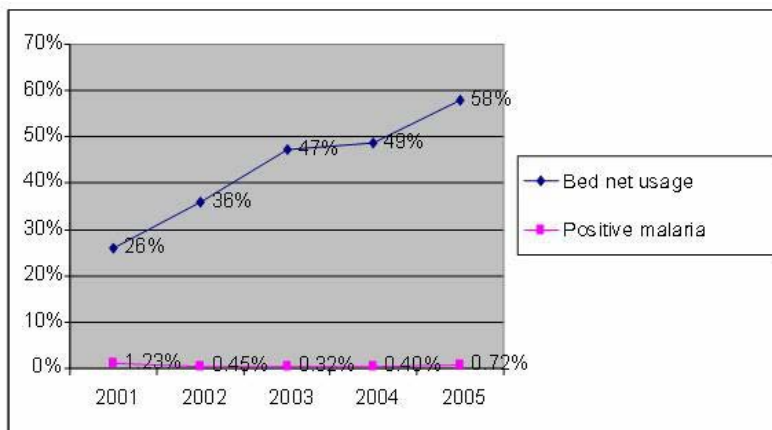


Figure 3-1 Malaria Prevalence and Bed Net Usage.

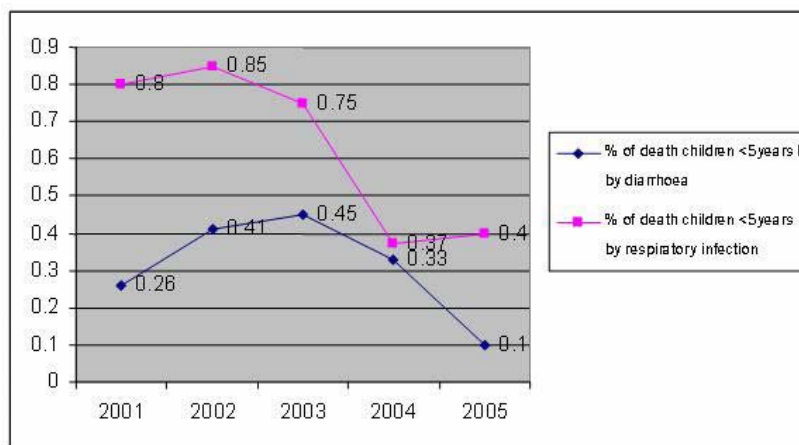


Figure 3-2 Childhood Mortality.

3.5 District Level

Xaysomboun District

Xaysomboun District Health Office (DHO) is located with the same compound as the district hospital. The DHO has 13 staff including one doctor and six primary nurses. Due partly to difficulty of road access and partly to lack of budget and organisation at the DHO, very little support and monitoring is provided to health centres. One visit per year to HC's is the general pattern.

The DHO acknowledges that EPI coverage is low and unacceptable; diphtheria, pertussis, tetanus (DPT3) in the district was 42% in 2006. In line with findings from a recent national survey, coverage is well below the target placing children in particular at risk. Low polio coverage is of special concern¹¹ to MoH.

Xaysomboun District Hospital, located in the district capital, has 15 beds and 23 staff. There are four doctors including one dentist. There is no surgical capacity at the hospital apart from simple wound suturing. With 557 admissions in 2006 average bed occupancy (ABO) is low at 30%. In 2006 there were 92 births; however there is no midwife at the hospital to deal with complications, all complicated deliveries being sent to either the provincial hospital or Vientiane.

The main disease types seen at Xaysomboun district hospital are in **Error! Reference source not found.** 3-1. This indicates that gastro-intestinal problems are by far the most common and points to unsafe water and food as the most likely cause.

Table 3-1 Main Disease Types admitted at Xaysomboun District Hospital, 2006.

Diarrhoea	92
Dysentery	163
Grippe	48
Stomach ache	48
Bone fracture & wound	53
Suspected Malaria	4
Tonsillitis	28
Meningitis	2
Pneumonia	40
Measles	14
Birthing	97
Other diseases	163

Source: Xaysomboun DHO

Phou Kout District

Data and information on Xiengdet from earlier research and survey work¹² provides a detailed assessment of the potential effects of dam construction and inundation on the population of Xiengdet.

Phou Kout district centre is approximately 25km from Xieng Khouang provincial capital and is easily reached on a good all-weather road. Phou Kout District Health Office (DHO) is located within the same compound as the district hospital. The DHO and hospital has 34 staff with 1 qualified doctor (who is also the director of the DHO). The DHO appears well organised and reports visiting all 7 health centres quarterly (though less often in the rainy season due to poor roads).

¹¹ There is strong evidence globally that patchy low levels of polio vaccination can lead to vaccine induced outbreaks (recently experienced in west central Africa and western India).

¹² Nam Ngum 3 Social Action Plan & Environment Management Plan, Ch 60 – Xiengdet public health plan, November 2000, prepared by 'Resource Management and Research'.

The DHO states that EPI coverage is 70% for DPT3 in 2006. This figure goes against the general downward trend and will be checked against actual performance.

Phou Kout District Hospital appears to function efficiently, but only for treatment of medical cases and minor wounds. There is no surgical capacity at the hospital. There is no midwife to manage complicated deliveries, with all referrals being sent to the provincial hospital in Phonsavan.

3.6 Village Health Volunteers and Traditional Birth Attendants

Xaysomboun DHO covers 56 villages. All villages have a Village Health Volunteer (VHV) and Traditional Birth Attendant (TBA). 24 villages have been provided with drug kits under the drug revolving fund (DRF) scheme. Phou Kout DHO covers 42, all of which have a VHV; 22 villages have DRF kits.

DHO management in both districts acknowledge that there is much work to be done to upgrade and maintain the knowledge and skills of village health personnel, particularly TBA. Many of the VHV focus primarily on the drug kits as it is an important source of income for them. This focus will be redirected to that of being a promoter of illness prevention.

3.7 Mental Health

Mental health services in Lao PDR are virtually non-existent, with two trained psychiatrists for the whole country¹³. There is little recognition of mental health or psycho-social problems within the health system. In-service training will therefore include a module on basic recognition, care and referral of mental illness and stress.

¹³ Mental Health Situation in Lao PDR, Dr Didier Bertrand *et al*, December 2002

4. PUBLIC HEALTH ACTION PLAN

The NN3 Public Health Action Plan (PHAP) addresses the identified potential risks and changes to the health status of affected communities and consequences for delivery of existing health services, as a result of the NN3 HPP during construction and operation. The PHAP applies a sustainable approach to addressing these issues, working within existing MoH strategies and programs. The NN3 PHAP does not replace or change MoH strategies and programs, but is designed to complement existing services and to address organisational weaknesses through carefully targeted financial, material and technical support.

Key principles underpinning the PHAP are:

- NN3 support for maintaining or improving public health systems and services in affected villages will complement and support the Lao PDR government health program and not establish parallel systems or services.
- Risk of deterioration of health status in affected communities as a direct or in-direct result of dam construction is accepted as the responsibility of NN3 (e.g. potential increase in HIV/AIDS/STI prevalence in villages near the construction area; nutritional deficiency, if reduced household fish catch is not compensated with NN3 reservoir fisheries management and/or fish culture). Surveillance to monitor such changes will be funded by NN3 and carried out regularly. Surveillance will be designed in a gender responsive way and results will be disaggregated and analyzed by gender so that interventions can be targeted effectively.
- Planning and implementation of health service change and improvement under this PHAP, particularly relocation of health centres and staff, needs to be commenced well prior to COD.
- Prevention of the most common diseases through a range of strategies including Behaviour Change Communication (BCC), EPI, MCH / birth spacing, provision of safe water and sanitation and early intervention, is accepted as being effective, cost efficient and a high priority.
- Curative services supported by NN3 need to be safe, accessible, equitable and affordable backed up by a well functioning referral system including suitable transportation as necessary.
- Medical and surgical clinical standards need to be maintained through effective regular monitoring and supervision systems conducted by PHO and DHO staff following MoH guidelines. Central to maintaining and improving standards is systematic and well structured post-basic in-service and refresher training for all MoH operational staff and village health volunteers, combined with proactive peer review. This and all training provided by the project will prioritize women and ethnic minorities as participants where possible and implement effective strategies to redress any identified imbalance.
- MoH basic salaries are generally insufficient to maintain the essential livelihoods of staff and their families. Payment of staff incentives through salary supplementation and/or the charging of official user fees are accepted as a workable interim strategy.
- Health seeking behaviour of the community must be improved through well structured BCC activities taking place at the same time as positive changes in service delivery standards by GoL health staff. Changes include acceptance of more effective, simple and cheaper treatment methods rather than the expensive first line interventions (e.g. ORT for childhood diarrhoea rather than intravenous (IV) therapy). MoH treatment protocols will be enforced. In line with GoL PHC policy, use of appropriate traditional remedies will be encouraged. The BCC strategy will be designed in recognition of community gender differences in terms of health status, health seeking behaviours and access to information. BCC activities will target women and men as distinct groups, as necessary.

The 10-point strategy detailed in the MoH document 'Health Strategy up to the Year 2020' underpins the overall approach being adopted under the PHAP.

4.1 Xiengdet, Upper Peri-Reservoir Villages

Preparation of the PHAP included reviewing assessments of the expected effects of the Project construction and operation on human settlements around the proposed NN3 Reservoir. The reservoir will inundate a mountainous river valley, considered by Lao PDR authorities to contain no permanent residents. Some catchment residents, however, occasionally may visit the valley for fishing and growing of crops. Preliminary conclusions indicate that no permanent settlement takes place by villagers in the area. However, all identified populations in these areas are entitled to the same health assistance as that described for other affected populations.

In-depth surveys and consultations with Xiengdet, peri-reservoir and upstream communities will obtain data and information on health status and health care needs. Survey information will be sex disaggregated and sensitive to gender differences. Consultations will involve both women and men. Consultations may be held separately with male and female groups if deemed necessary. This PHAP will then need to be updated and modified accordingly.

Only one village – Xiengdet – has been identified as being directly affected by inundation. Xiengdet, located in Phou Kout District of Xieng Khouang Province, is approximately 50km due north from the dam site which is located in Xaysomboun District of Vientiane Province. Under the Resettlement and Ethnic Minority Development Plan (REMDP) residents of Xiengdet village will have their houses relocated uphill within their original territory. Xiengdet is approximately 10 km to the west of Nam Sam where there is a MoH health centre with 3 staff (1 male and 2 female).

Nam Sam may also be affected through potential loss of fisheries (however, not likely) and marginal loss of grazing land and vegetable gardens.

The PHAP is based on an assessment of current health status in the districts within the project area, an assessment of dam construction effects, a review of current health initiatives and takes into account overall environmental and social impact assessments.

The PHAP for Xiengdet and Nam Sam has four main linked components:

A) Preventive Services

The top causes of morbidity and mortality throughout Lao PDR, including the NN3 target area, are essentially from eminently preventable diseases. The principle focus for the NN3 PHAP is therefore to strengthen preventive health services and networks.

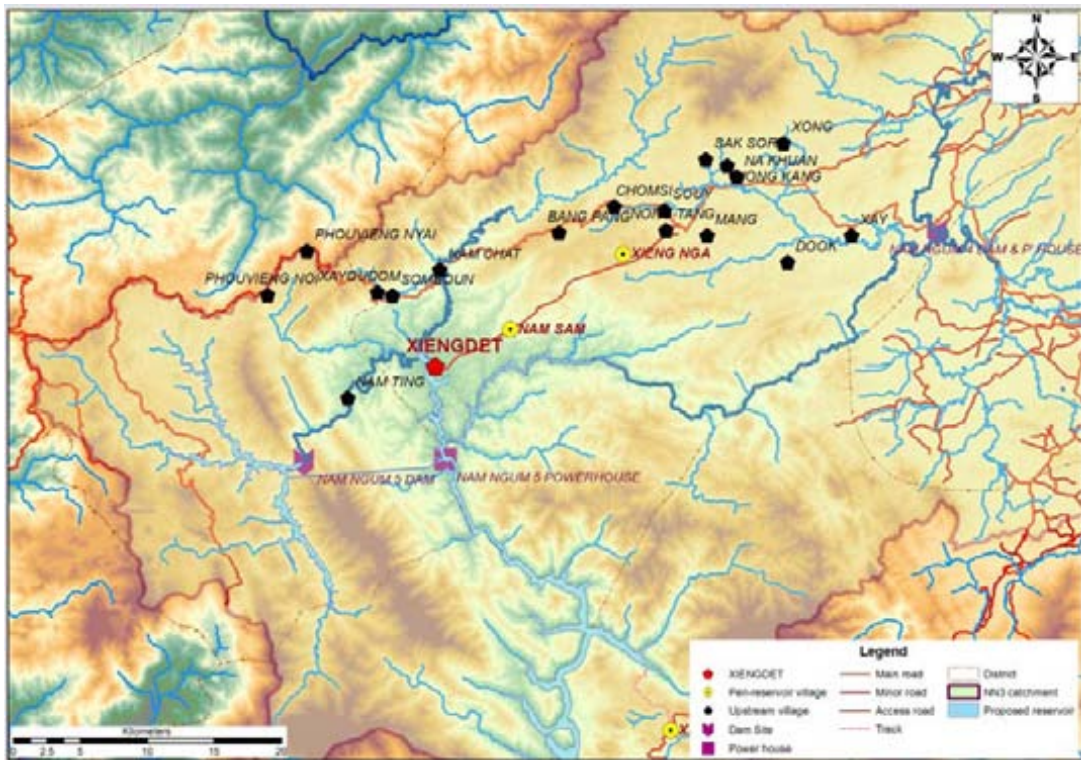


Figure 4-1 Location of Xiangdet, Peri-reservoir Villages.

The detailed implementation plan includes:

- Strengthening the established primary health care (PHC) network, which supports basic preventive services including MCH, birth spacing, EPI, awareness on first-line control of diarrhoeal disease and ARI, malaria and dengue prevention and early intervention, and general health education. Management of the PHC network will be linked to Phase 2 of the MoH (ADB-supported) PHC management project. It will be beneficial to the Health Centre staff in the NN3 upstream area to expand PHC activities to all staff from the Health Centre of Nam Sam. In-service training will be provided by qualified and experienced trainers.
- HC and DHO staff will be supported to provide outreach services, visiting Nam Sam (Nam Sam village exist of 3 different hamlets) and Xiangdet regularly, with visits to Xiangdet more frequently once the access road has been upgraded. The objective of these visits is to target a full range of integrated PHC services, with a complete 'package' (listed below) to be delivered to each village on every visit. Support for outreach activities will be linked to progress against very clear indicators and targets.
- To link the Expanded Programme of Immunisation (focusing on BCG (against tuberculosis), DPT3, polio and measles and tetanus for 15-45 year old females; 85% DPT3 and Polio3 coverage) to the MoH national program (currently supported by UNICEF). NN3 will improve HC staff ability to conduct EPI on an outreach basis through providing motorbikes/fuel and basic cold-chain materials. The Nam Sam Health Centre will be connected to the electricity grid, in order to install a refrigerator.
- Acute respiratory infection (ARI) early intervention, followed by correct treatment by health personnel, is the main action required to reduce mortality due to this common illness. Health staff in-service training will be strengthened to ensure they are pro-active in promoting early intervention and correct treatment regimes. This activity will be linked to the MoH national program (currently supported by UNICEF). MoH treatment protocols are to be followed (rather than the existing ad hoc and often dangerous treatment regimes that have crept into the system).

- Diarrhoeal disease control will be based on the existing national program and includes promotion/education of Oral Re-hydration Therapy (ORT) as first line intervention and setting up ORT distribution networks through ongoing programs (MCH, etc.). This activity will be linked to the MoH national program (currently supported by UNICEF).
- Reproductive health and maternal care by increasing information about and access to all forms of contraception (oral, injectable and condoms), an increase in ante-natal care (ANC) and increased use of traditional birth attendants (TBA). Outreach on reproductive health will target both women and men with appropriate information. TBA will be provided with rolling training and skills upgrading, supported by NN3 funding. If supplies of contraceptives from regular MoH sources are found to be inadequate, NN3 will consider boosting supplies.
- HIV/AIDS through promotion of preventive measures particularly condom usage and education and accessible testing, counselling, treatment and care of HIV positive individuals. This activity will be linked to the national strategy being implemented by the national Centre for HIV/AIDS/STI (CHAS) supported by the GF; close cooperation with the Xieng Khouang provincial HIV/AIDS committee (PCCA) is imperative. It will also be closely linked with activities on reproductive health (previous bullet point).
- Whilst malaria levels in the affected area are reported as being low, this can only be maintained through active malaria prevention based on increased community involvement and bed-net usage. This involves, expanding bed-net insecticide impregnation and reducing the number of occupants per bed net to the national target of 2 persons. This activity requires close cooperation with the National Centre for Malaria and Parasitic Diseases and the GF¹⁴ supported national program. It needs to be noted that advice from the National Centre indicates that cheaper nets requiring annual insecticide impregnation provide inferior protection and are less cost effective than initial supply of more expensive nets.
- Chronic childhood malnutrition prevalent in Xiengdet is to be addressed through promotion of breast feeding, Vitamin A and iron supplements and promoting distribution of iodised salt. Regular health education conducted by HC staff will provide the community with increased awareness. Promotion of breast feeding will link to the MoH national program (currently supported by UNICEF). Whilst UNICEF currently funds the distribution of Vitamin A and iron supplements, this situation may change.
- Access to clean water through construction of wells or reticulation of clean running water supply. Monitoring related improvements in health status will be conducted under the health plan.
- Improved community sanitation through construction of household latrines/toilets is covered under the REMDP.
- Hygiene promotion and sanitation training program, including keeping livestock outside the residential areas, information on hand washing, safe water storage, protection of water pots, boiling of water from unreliable sources and use of latrines. Health education will use materials developed by the MoH national health education unit and Xieng Khouang PHO. Hygiene and sanitation information will especially target women and girls due to their dominant role in food preparation and water provision for households.

¹⁴ Global Fund to Fight AIDS, Tuberculosis and Malaria; GF provides a substantial budget to the GoL; bed nets should be available through MoH managed procurement using GF budget.

- Strengthening the village health volunteer (VHV) network, re-focusing on prevention, awareness and health education as the primary role, rather than using only the MoH drug kits¹⁵ as the entry point in the village. VHVs will provide good information to communities on pending outreach visits by HC staff and keep HC staff informed on important changes in community health or illness outbreaks. NN3 will fund VHV strengthening. There will be a strong emphasis on ensuring recruitment of women and people from Khmu ethnic group as VHVs.

Field monitoring and support of MoH activities is the key role for the NN3 health liaison office (HLO) team. Team members must have up-to-date clinical skills, be familiar with MoH policies and procedures, be capable of networking with the various vertical projects feeding into preventive health services and have best-practice knowledge on preventive programs. NN3 assistance has been budgeted to provide basic material support for MoH teams, particularly for outreach transport and cold chain.

Despite the generally poor health of the Xiengdet / Nam Sam area, support for outreach services in this area will be provided mainly during the post-relocation period as the impacts by NN3 on public health will occur not earlier than filling of NN3 reservoir during the rainy season in 2016.

B) Curative Services

i. *Static health facilities –upgrading & maintenance*

Health Centres

Health Centres (HC), with adjacent villages, are identified in the map at **Error! Reference source not found.** 4-1 (marked +). One functioning HC – Nam Sam – is located near the area directly affected by the reservoir. This HC currently has 3 staff. Constructed in 1983 the building is in a poor state and needs to be upgraded with funding from NN3.

Hospital

The district hospital (DH) for Phou Kout is identified on the map at **Error! Reference source not found.** 4-2 (hospital is marked with a larger +). Located approximately 40km to the east of Xiengdet, the 12 bed facility currently functions well as district hospital (in the Lao PDR context). With only one physician only minor surgical procedures (suturing and emergency stabilisation) are carried out. All cases requiring major surgery are referred to the provincial hospital in Phonsavan. The district hospital is well maintained and managed.

i. *Health facilities – equipment*

New equipment for Nam Sam Health Centre is required. It should be noted that minor surgery¹⁶ only (suturing of simple lacerations) is to be conducted at HC's. Birthing will be conducted within the competence of HC staff with timely referral of complicated deliveries once road access has been improved. Staff must be trained in appropriate care and maintenance of equipment, with regular monitoring and supervision.

ii. *Service delivery & clinical standards*

Ensuring that DHO, district hospital and health centre staff and VHV provide safe, equitable, affordable, accessible services, eliminating existing widespread unsafe practices and significantly improving the clinical skills is an important goal. Without change health services, particularly in HC's, are invariably expensive and often dangerous. GoL budgetary support and supervision is insufficient to bring about consistent and sustainable improvement. MoH guidelines for service and

¹⁵ MoH has received support since 1998 from GTZ, UNICEF, CLD and GoL to provide VHV with drugs kits in remote villages. VHV have been trained to give basic treatment for simple illnesses; this DRF is based on user fees and drug replenishment by the DHO/HC.

¹⁶ MoH District Manual of Operations & Guidelines for Planning & Implementing the District Health Development Plan, WB Health Services Improvement Project (2006-10), Feb-06, p 49.

iv. *Equity fund*

With user fees being legally applied in MoH health facilities¹⁷; the poorest will be vulnerable and potentially denied access to health care because of inability to pay. In line with previous experience in Lao PDR an 'equity fund'¹⁸ could be established to provide the poorest affected households in Ban Xiengdet and Nam Sam with a safety-net. NN3PC will provide an annual budget for the fund, estimated at USD 10,000 per annum plus management costs; management of the fund would be contracted to a suitable independent organisation¹⁹. This independent management organisation needs to work closely with MoH personal to ensure that those most in need receive timely treatment and/or referral. The by NN3 appointed trainers will oversee implementation.

v. *Health seeking behaviour*

Improvements in health service delivery standards require major changes to the health seeking behaviour of the community (e.g. health workers will not stop providing expensive IV therapy for non-indicated flu-type symptoms unless the public stop demanding such treatment). On the other hand communities lacking confidence in the formal government health system will not automatically begin utilising services even if improvements have occurred. Patient rights will form the basis of health service delivery standards. Following experiences on changing health seeking behaviour in other countries in the region²⁰, the HLO will work with relevant MoH units to develop and implement a BCC approach, including education materials.

Efforts to address health seeking behaviour will be targeted to women and men as required (based on the analysis of the health survey) and will also recognize women's dominant role in maintaining family health while seeking to encourage male involvement. Materials will be produced in local languages when necessary and will be suitable for illiterate people, of which women are the majority.

C) Monitoring & Supervision

Monitoring and supervision of operational health units is acknowledged as a fundamental tool for maintaining service delivery and clinical standards. The monitoring and supervisory process needs to be carried out regularly and transparently, establishing very clear goals to be achieved in each subsequent visit. Monitoring and supervision plays a central role given the poor clinical skills of health staff, unsafe prescribing habits and absence of post-basic in-service training. The approach to be adopted in HC supported by NN3PC will follow the "minimum standards for monitoring"²¹ in the District Manual of Operations. This includes:

- Regular visits by PHO and DHO monitoring staff focusing on setting clear goals for improvement and follow-up to verify results and validate process;
- Regular analysis of reports from the HC chief;
- Participatory monitoring mechanisms to ensure commitment, ownership, follow-up and feedback on performance;

¹⁷ HC fees are primarily for prescribed drugs, DH hospital fees include surgical procedures, pharmacy costs and bed occupancy charges.

¹⁸ Equity funds have been successfully implemented by BTC and Swiss Red Cross in pilot districts; evaluation of these equity funds indicate good results; pre-identification of poorest/destitute families (assessment and card issued by district authorities) enables health costs incurred by identified users to be paid from the equity fund; 4% of the population can be expected to be identified.

¹⁹ For example Lao Red Cross manages the equity fund for Swiss Red Cross.

²⁰ See for example the DFID funded Urban Health Project in Cambodia.

²¹ District Manual of Operations & Guidelines for Planning etc. p 42.

- MoH is seen to generate lessons learned, ensuring past mistakes are not repeated.

NN3 health liaison office will work closely with relevant MoH monitoring and supervision staff at PHO and DHO levels to ensure that documented MoH processes for monitoring and supervision are followed. Health unit goals will be set within overall national targets (see **Error! Reference source not found.** 4-1).

Table 4-1 MOH Health Targets to the Year 2020.

	2005	2020
Crude birth rate (1,000 persons)	36.5	31
Total death rate (1,000 persons)	13.5	11
Infant mortality rate (1,000 live births)	75	20
Under five mortality (1,000 live births)	100	30
Maternal mortality (100,000 live births)	355	130
Life expectancy	55	63
Population growth rate	2.3	2
Average hospital bed /Population (per 10,000 persons)	16	18
Average hospital bed use (%)		
– Central/Provincial	64	80
– District	40	60
Contraceptive Prevalence Rate (%)	35	60-65
Immunization Coverage (%)	80	90
Clean water use rate (%)	55	60-75
Latrine use rate (%)	46	70
PHC accessibility rate (%)	75	90
Health investment (USD/person)	20-50	30-50

Source: Health Strategy up to year 2020.

In addition, infant malnutrition will be listed as an indicator to be monitored.

D) NN3 health liaison office

The NN3 PHAP strategy is based on supporting and strengthening MoH service delivery and not establishing a parallel health care system. It is therefore important to forge critical linkages between NN3 plans and MoH activities from province to village level.

A NN3PC HLO comprised of 3-4 staff (covering Xiengdet / Nam Sam Long Cheng areas), will therefore be established to carry out the following functions:

- Ensure a comprehensive baseline study is conducted on the health status of communities in NN3 affected villages, particularly looking at childhood diseases and nutrition. NN3 will fund the study and provide direction to a credible survey; MoH resources at the PHO will conduct the study. The survey will be gender responsive and gender disaggregated.
- Conduct regular (annual) surveys on the health status of communities in NN3 affected villages; NN3 will fund the surveys, utilizing MoH resources and modified and improved Health Management Information System (HMIS) data. Reports to MoH and NN3 will be measured against the baseline. Surveys will be gender responsive and sex disaggregated.
- Communicate with relevant MoH units at national level on sector management and vertical programs.
- Liaise with MoH management at PHO and DHO level on operational issues raised elsewhere in this PHAP.

- Coordinate with bilateral, multilateral agencies and NGO's involved in implementing health sector projects.
- Participate in monitoring and supervision of health units (as described in section C) above); provide mentoring to MoH senior management on effective monitoring and supervision.
- Liaise with the other NN3 units in order to monitor surveillance of the social, economic and health status of communities affected by the project and to develop proactive strategies to address such issues.

The NN3 HLO team will be established within the main operations unit of ESD/NN3PC and co-located with other social support units. This is complicated to some extent by the geographical isolation of the dam site area (Vientiane Province) and the Xiengdet area (Xieng Khouang Province).

Implementation of the PHAP could alternatively be outsourced to a GoL agency or an NGO operating within the health sector. In this case this agency will be supervised by the Community Development Unit of the NN3 Environmental and Social Management Office (ESMO).

The NN3 HLO team will not get directly involved in service delivery, health finances or drug distribution but will leave this to GoL counterparts.

4.2 Construction Sites and 'Camp Follower' Communities

The NN3 dam site is located approximately 10km WSW of Long Cheng. Long Cheng is a base for the Lao army with a population of some 550 soldiers and 500 civilian villagers.

Apart from Long Cheng there are 4 villages along the main road from the Phu Bia Mining junction (Nam Gnong) to Long Cheng. These villages will either be covered by Long Cheng or the small army health centre at Phou Kong Khao. Two additional MoH health centres exist at Luang Phan Xai and Xam Thong.

The PHAP activities for this area in Xaysomboun District are different in concept to that for Xiengdet and Nam Sam, with changes or emphasis as follows:

A) Preventive Services

There are a total of seven villages covered by Long Cheng HC²². Some of these villages are remote, requiring additional effort by HC staff to conduct outreach activities. There is presently no outreach conducted by Long Cheng HC staff of 20. EPI rates in this area are very low (under 40%).

The greatest challenge to boosting preventive services in this area is difficulty of access from Xaysomboun DHO and the even greater distance from Vientiane province PHO at Phone Hong. NN3PC will focus on improving support from the Xaysomboun DHO.

Preventive services by HC of Long Cheng will require emphasis on HIV/AIDS/STI prevention. Increased condom usage and education needs will be promoted to construction workers and the anticipated likely influx of camp followers, particularly sex workers. Testing, health check ups, counselling, treatment and care of HIV positive individuals may need to follow an increase in prevalence. In addition to boosting the work of MoH staff at HC and DHO level, the NN3 HLO will need to work in close cooperation with the PCCA and the national Centre for HIV/AIDS/STI (CHAS) to ensure current policy is being applied.

²² Apart from Long Cheng, these are Xam Thong, Nam Ngua, Louang Phan Xay, Phan Xay, Nam Pha and Nam Xan.

In addition to these preventive services, the NN3 HLO needs to conduct tests on dust levels and monitor respiratory disease in villages and communities along the access roads, if dust levels are high. With prevention being the best alternative, road surfaces will be sprayed with water during construction phase, or be sealed or constructed using the most recent techniques for dust reduction (lime/cement/laterite)²³.

NN3 HLO staff will increase the capacity at Long Cheng HC to ensure it is able to cope with the influx of camp followers during the construction phase. Awareness raising in increased risks of human trafficking, hygiene and sanitary standards of facilities that will be provided by the expected influx of camp followers will be required.

Construction workers, and occupational health and safety will be serviced by the separate health clinic to be set up by the Contractors. Long Cheng HC will communicate with the contractor's health clinic on a regular basis to coordinate the preventive measures to avoid or minimize the spread of communicable diseases.

B) Curative Services

i. *Static health facilities – construction, repair & maintenance*

Health Centres

Health facilities are identified in the map at **Error! Reference source not found.**4-2 (marked with +). The Long Cheng Health Centre is the only HC within the area likely to be involved for public health services related to NN3 construction works, including traffic, and camp followers. This HC currently operates out of an old concrete building which served as the administrative centre for the war-time airbase. The facility is old and dirty and not suitable for the purpose. It needs to be upgraded as soon as possible with funding from NN3PC.

Hospital

Whilst the NN3 HLO needs to work closely with the Xaysomboun DHO to improve health service delivery, the Xaysomboun District Hospital provides a very basic service (more akin to a large health centre) and does not receive any referrals from the proposed dam site area.

i. *Health facilities - equipment*

Cost of equipping Long Cheng HC is covered in the budget for upgrading or construction of a new facility.

ii. *Service delivery & clinical standards*

Ensuring that DHO, district hospital and health centre staff and VHV provide safe, equitable, affordable, accessible services, eliminating existing widespread unsafe practices and significantly improving the clinical skills is an important goal. Without change health services, particularly in HC's, are invariably expensive and often dangerous. GoL budgetary support and supervision is insufficient to bring about consistent and sustainable improvement. MoH guidelines for service and treatment standards already exist.

Regular post-basic in-service training presently exists only in concept in Lao PDR. NN3PC will fund an ongoing program for HC staff, VHV, and TBA and key DHO personnel, to be implemented by appropriately qualified and prepared trainers well acquainted with public health policies at provincial and central level regarding influx of camp followers.

²³ ADB Northwest Rural Development Project, Cambodia.

iii. Referral system

Given that Xaysomboun District Hospital does not provide any of the necessary backup for receiving referrals (and is indeed poorly located even if service standards were to be improved) and acknowledging the considerable distances involved in transporting referrals, it would be appropriate to place an ambulance at Long Cheng in coordination with the contractor's health clinic. Emergencies and referrals would be transported directly to Vientiane Capital.

The NN3 HLO will work with HC's to improve patient referrals.

C) Monitoring & supervision

Details in the section on Nam Sam Health Centre will be applied to Long Cheng HC.

D) NN3 health liaison office

Details in the section on Nam Sam HC will be applied to Long Cheng Centre. In addition, the NN3 HLO will liaise closely with the health clinic of the contractors with relation to health and safety in the construction area as well as construction issues affecting surrounding communities (including communicable diseases and traffic issues).



Figure 4-3 Dam-site and Power House Area, indicating Health Facilities.

4.3 PHAP Budget

A budget has been prepared reflecting the actions outlined in the PHAP. The total cost amounts to USD 1.23M, including USD 0.88M before COD and USD 0.35M after COD (see Table 4-2).

Table 4-2 Budget and Schedule PHAP

Public Health Services Supported by NN3	Amount During Construction Phase	Amount During Operation Phase	Total Amount
	[USD]		
Upgrading of the Nam Sam public health centre & development of the capacity of its staff	100,000	50,000	150,000
Upgrading of the Ban Long Cheng public health centre & development of the capacity of its staff	150,000	50,000	200,000
Capacity building programme of health workers & community health outreach programmes in Ban Xiengdet, Ban Nam Sam, Xam Thong, Long Cheng, and other villages impacted by the TL and public roads.	230,000	100,000	330,000
Health baseline survey and regular health monitoring at Ban Xiengdet, Ban Nam Sam, Xam Thong, Long Cheng, and villages impacted by the construction of the TL and the public roads.	200,000	100,000	300,000
Dedicated HIV/AIDS, STDs and other communicable diseases prevention programme for all villages impacted by the project	200,000	50,000	250,000
TOTAL	880,000	350,000	1,230,000

Annex D

GENDER ACTION PLAN

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1 FRAMEWORK FOR GENDER ASSESSMENT

1.1 Project Overview – NN3 Hydropower Project

The Nam Ngum 3 Hydropower Project will bring about changes to traditional patterns of social, cultural and economic practices in the different project impact areas. The NN3 Hydropower Project includes the following impact areas:

1. Ban Xiengdet – the residential area of the village will be relocated within the village area and social and also livelihoods systems affected by flooding will be rehabilitated within the village area.
2. Peri-Reservoir Villages – villagers will potentially be impacted in their fish catch, reduced cattle grazing areas and possible restrictions in forest access reducing the opportunities for collection of Non Timber Forest Products.
3. Upstream Villages – villagers will potentially be impacted in their fish catch.
4. Downstream Villages – villagers will potentially be affected by reduced fish catch.
5. Project Construction Lands – households will be affected during construction works by upgrading of the public road between Nam Ngone and Long Cheng, the construction of the transmission line from NN3 power station to Nabong substation, and the influx of construction workers as well as camp followers near Long Cheng.

Because women and men occupy different social positions and have different responsibilities, they will be affected by the project in gender specific ways. Girls and women will be particularly vulnerable to some of the risks associated with rapid changes to livelihood systems due to the fact that many women and girls have had limited access to education, off-farm employment, production markets, cash assets, and empowerment. At the same time, the project has many opportunities to foster gender equality during the course of its work. The Gender Action Plan (GAP) is designed to help ensure that a concern for gender equality is mainstreamed into all project activities and in all project areas, and that all opportunities to improve gender equality are built into project activities.

1.2 Mainstreaming Gender Issues in NN3 Hydropower Project

Gender refers to social and cultural differences between women and men. Gender differences in the project area will affect the way women and men can participate in and benefit from the project. Gender mainstreaming is a strategy to ensure that women's as well as men's priorities are central to all aspects of programming. Gender mainstreaming will help ensure that women and men, girls and boys will benefit fairly from the project, and that existing gender inequalities will not be perpetuated. Gender mainstreaming will also contribute to the success and sustainability of the project.

A gender assessment was conducted to identify gender issues in the project area as well as to identify the potential gender-specific impacts of project activities. The gender assessment has informed the design of the Gender Action Plan for the NN3 Hydropower Project in accordance with ADB's gender policy and Lao PDR government priorities. Implementation of the Gender Action Plan will assist project efforts to foster sustainable and equitable outcomes so that women and men (girls and boys) can fully participate in and benefit from project activities.

The gender assessment has relied on available secondary data as well as field visits to the village to be resettled (Xiengdet) and to one of the peri-reservoir villages (Nam Sam). The

field visits utilized separate male and female focus groups to better understand women's and men's access to and control over resources, gender divisions of labor and different development priorities. Informal interviews and time use charts were also conducted with some families along

with key informant interviews with health workers and educators. Discussions were also held with representatives from the Lao Women's Union (LWU) in the districts of Phou Koot and Xaysomboun to better understand the capacity of the LWU and other partner agencies to function in a gender sensitive manner during project implementation.

The GAP will ensure that actions to achieve gender equality goals are mainstreamed into all aspects of the project during planning, implementation, monitoring and evaluation stages. While the GAP serves as a stand-alone document to highlight gender issues, gender equality goals have also been mainstreamed into all project processes and design documents. Directions have been made to specific areas of other key documents such as Social Impact Assessment, Resettlement and Ethnic Minority Development Plan and Public Health Action Plan.

1.3 ADB and Lao PDR Government Gender Policy

The NN3 Hydropower Project Gender Action Plan works within the frameworks and mandates set forth by the Lao PDR Government and the ADB. Implementation of the GAP will aid in larger national efforts to build gender equality. Lao PDR Government policies and ADB policy requirements are detailed below.

1.3.1 Lao PDR Government Policies

Lao PDR has participated actively in a range of international conventions and instruments that focus either exclusively or partially on building gender equality. Lao PDR is a party to Convention on Elimination of All Forms of Discrimination Against Women (CEDAW ratified in 1981) and the Convention on the Rights of the Child (CRC ratified in 1991). Lao PDR has also endorsed the Beijing Platform for Action in 1995 and the Program of Action from the International Conference on Population and Development in Cairo 1994 which emphasizes the need for women to control their own fertility while encouraging later marriage and birth spacing to improve the health of women and children. Lao PDR is also a party to the Protocol to Prevent and Punish Trafficking in Persons, Especially Women and Children and the Protocol Against the Smuggling of Migrants by Land, Sea and Air (ratified in 2003).

Lao PDR's constitution and legal framework provides a clear mandate for equality between the sexes. Adopted in 1991, the constitution provides that "Lao citizens, irrespective of their sex...are all equal before the law" (Article 22) and that "Lao citizens of both sexes enjoy equal rights in political, economic, cultural, social and family affairs" (Article 24). Articles 25-27 of the constitution guarantee all Lao citizens the right to education, work, freedom of movement and residence.

The Law on the Development and Protection of Women, passed by the National Assembly in 2004, further elaborates on constitutional guarantees of gender equality. It includes provisions on domestic violence and trafficking in women and children.

The 1994 Labor Law requires non-discrimination in employment (Article 2) and equal pay for work of equal quantity, quality and value (Article 39).

The 1990 Family Law specifies equal rights for women and men to marry on the basis of mutual consent (Article 9), to make joint decisions on family matters including place of residence (Articles 13- 14), and to engage in political, economic, cultural and social activities (Article 14). The Family Law establishes 18 years as a minimum age for marriage but allows for marriage at the age of 15+ years in special cases (Article 9).

1.3.2 ADB Gender and Development Policy

ADB's Policy on Gender and Development adopts gender mainstreaming as a key strategy for promoting gender equality. The GAP is an important tool to facilitate gender mainstreaming in

projects that have the potential to have substantial gender impacts. ADB's gender policy utilizes the following concepts to inform on its framework.

- **Gender sensitivity:** to observe how ADB operations affect women and men, and to take into account women's needs and perspectives in planning operations;
- **Gender analysis:** to assess systematically the impact of a project on men and women, and on the economic and social relationship between them;
- **Gender planning:** to formulate specific strategies that aim to bring about equal opportunities for men and women;
- **Gender mainstreaming:** to ensure gender concerns and women's needs are considered in all aspects of ADB operations.

ADB Gender Strategy in Lao PDR

Lao PDR has set national targets to achieve the eight Millennium Development Goals (MDGs) by 2015. Goal 3 of the MDG is to promote gender equality and the empowerment of women. Goal 3 is increasingly recognized as an important goal in its own right as well as a critical means of achieving the other seven goals of the MDG. The indicators to support Goal 3 are:

- **Indicator 9:** Ratio of girls to boys in primary, secondary and tertiary education;
- **Indicator 10:** Ratio of literate women to men (15-24 years of age);
- **Indicator 11:** Share of women in wage employment in the non- agricultural sector; and
- **Indicator 12:** Proportion of seats held by women in the national parliament.

ADB's gender strategy in Lao PDR is designed to support and reinforce government commitments to gender equality as outlined above. The strategy fits within ADB's three core operational areas (inclusive social development; pro-poor, sustainable economic growth; and good governance). The strategy also builds on the commitments made under Goal 3 of the MDG. ADB works to promote:

- equal capabilities in women and men and girls and boys;
- equal access to resources and opportunities; and
- equality in decision making and rights.

The gender strategy recommends gender sensitive approaches in sectors supported by ADB including human resource development, agriculture and natural resource management and infrastructure development. The GoL and ADB's National Growth and Poverty Eradication Strategy (NGPES) also includes a cross-sectoral emphasis on gender equality that calls for action to be taken in the sectors of agriculture, education, health, transport and governance.

The NGPES includes selected action areas outlined in Box 1-1 below that have specific relevance to the NN3 Project.

Box 1-1: Gender Strategy of National Growth and Poverty Eradication Strategy (selected actions)
Source: ADB Country Gender Strategy 2004.

Agriculture

- Gender analysis and needs assessment in preparation of projects
- Women's participation in farmer groups and extension training
- Use of indicators disaggregated by gender
- Increased representation of women in provincial and district offices including extension workers
- Vaccination of small livestock
- Attention to women's traditional land rights
- Assistance to women in accessing rural savings and credit schemes

Education

- Increase number of ethnic minority teachers
- Incentives for girls to attend school
- Literacy/numeracy training included in extension and small business support programs

Health

- Training and promotion of more ethnic minority staff and health care providers
- Increased participation of women in village health committees
- Men and youth targeted in health care messages on birth spacing and prevention of STDs
- Expanded reproductive health services for ethnic minority women

Transport

- Consultations with local women and men on design of roads and transport facilities
- Gender analysis included in impact assessments for new transport and infrastructure projects
- Monitoring for project impacts disaggregated by gender
- Health awareness campaigns in construction camps along road corridors and transit stops

Governance

- Encouragement to village leaders and committees to include more women in local decision making
- Awareness raising on legal rights among women, especially rural and ethnic minority women

1.4 Gender Issues in Lao PDR

Despite well established mandates from the Lao PDR Government for gender equality, gender disparities in Lao PDR persist in many areas including health, education, leadership and family life. For example, traditional norms continue to govern marriage and family practices in Lao PDR especially in rural areas despite progressive laws. While women should be over the age of 18 at marriage as laid out in the 1990 Family Law, the Reproductive Health Survey 2000 found that over 5% of the women surveyed were less than 15 years old when married and 25% were less than 17 years old (NSC 2001).

Gender gaps persist in education and literacy. Girls continue to represent the minority of students at all levels of education, comprising an increasingly smaller percentage of students at higher levels of schooling. A 2002 study (Lao PDR 2004) found that the ratio of girls' to boys' enrolment at primary school level was 84%. The ratio of girls' to boys' enrolment in lower secondary schools was 74%, falling to 68% at upper secondary level and 58% at tertiary level. Reasons offered for lower enrolment rates for girls include girls' household responsibilities, early delegation of maternal care to the eldest daughter in households, cost of school supplies, distance to the nearest school, language barriers for ethnic minority girls and parents skepticism about the relevance of formal education for girls. On a positive note, gender gaps are closing in education and there is evidence that attitudes towards girls' education are changing in some rural areas (ADB 2004).

Women comprise the bulk of the illiterate population in Lao PDR. An ADB study (2000) found female literacy to be 48% compared with a male literacy rate of 74%. This gap is much wider in some ethnic groups. The Lao National Literacy Survey (LNLS 2001) indicates that literacy rates as reported statistically may be overstated. When tested, LNLS found only 45% of women and 60% of men achieved a level of basic literacy on the test. The LNLS also revealed that rural women in particular suffered from the problem of 'lost literacy' whereby their level of literacy declined after years of non-use.

Women and girls continue to face special risks to their health. Maternal mortality in Lao PDR remains high although it is declining. The reported Maternal Mortality Rate (MMR) in 2000 was 530 per 100,000 live births. Infant and child mortality rates are also high, but falling. Higher mortality rates for infants and children in rural areas have been linked to the greater distances to health care and language barriers faced by ethnic minorities in accessing health care. The country fertility rate in 2000 was 4.9 with declining rates linked to increased years of female education. Continued high birth rates with lack of adequate spacing between children put a strain on women's health particularly in rural areas.

Women are underrepresented at all levels of leadership in Lao PDR. While women comprise almost 23% of the National Assembly, they are less well represented in other decision-making bodies. Data from 2000 shows that only 1.2% of village chiefs and 1.6% of deputy village chiefs were women (ADB 2004). A survey of four provinces found that less than 10% of village committee members were women (LWU/GRID 1998). This situation is compounded by very few women and even fewer ethnic minority women working in technical fields at the provincial and district level thereby providing few role models for girls in general and for ethnic minority girls in particular.

1.5 Gender and Resettlement

Hydropower projects such as NN3 introduce a complex and interconnected set of risks due to issues of scale and location of projects in remote areas with strained ecosystems and ethnic minority villages. Women, more than anyone else, face the

brunt of the changes to family food security and livelihoods during the resettlement period due to their gender roles and responsibilities for family welfare. Disruption of agricultural systems, changes in forest access, reductions in household fish catch, and increased risk of the spread of communicable diseases (particularly HIV/AIDS) due to labor mobility of male dominated construction workers all have potential gender-specific impacts.

A study of human security in three provinces of Lao PDR (CPC and UNCRD 2002) found that women and men have different perceptions of vulnerability and different coping strategies. Women were found to have a sharper perception of threats and were more attuned to rice shortages, water shortages, water quality, poor health, and low education. Women were also found to employ a wider range of coping strategies to deal with hardships including reducing expenses, increasing productivity in livestock and agriculture, producing handicrafts, trading and cooperating with neighbors. Therefore a comprehensive understanding of both women's and men's priorities and perceptions for livelihood security is an important means of improving project effectiveness.

At the same time that women in the project area will face new risks, they also will have new opportunities to develop as leaders and decision-makers, and to improve their access to and control over productive resources. Understanding existing gender differences in the project area allows for targeted interventions that take full advantage of opportunities to reduce the risks women and households face, to foster women's and girls' strategic interests and to enable more equal gender relations.

2 THE SITUATION OF PROJECT AFFECTED WOMEN AND MEN (GIRLS AND BOYS)

Most of the households in the project area including the resettled village, peri-reservoir villages, downstream and project lands are from the Khmu, Lao-Tai, and Hmong ethnic groups. The research for the gender assessment was conducted in Xiengdet and Nam Sam where Khmu dominate in all households with the exception of 10 Lao-Tai families in Xiengdet. Most of the data below was gathered with Khmu households as Khmu are the vast majority of those living in Xiengdet.

The below data is organized into categories of gender divisions of labor, female and male time use, access to and control over resources and social and cultural issues. The field work portion of the gender assessment prioritized Xiengdet because it is the only village that will be physically resettled and will therefore face the most significant impacts of the project. Gender issues specific to other project areas are elaborated within other documents but especially in the SIA and in the REMDP. Key strategies and implementation plans cover all project areas.

2.1 Gender Divisions of Labour

Divisions of labor can vary by household and by ethnic group or village, but there are clear notions of arenas of male and female activity in Xiengdet. Tasks commonly performed by Khmu women and men in Xiengdet are shown below. The gender division of labor reveals a complementary system where women and men are jointly responsible for household livelihood strategies yet each often has distinct spheres of activity.

Table 2-1 Gender Division of Labor in Xiengdet

Male Work	Shared Tasks	Female Work
<ul style="list-style-type: none"> • Formal positions of authority in the village; • Contact with officials and government representatives; • Overnight trips to towns or forests; • Work with mechanized equipment; • Fishing; • Ploughing lowland rice; • Preparing hill rice plots; • Cutting trees for timber use or sale; • Hunting and trapping animals. 	<ul style="list-style-type: none"> • Clearing land, planting, weeding, harvesting upland rice; • Collecting NTFP; • Herding buffalo and cattle; • Collecting fuel wood 	<ul style="list-style-type: none"> • Household tasks such as cleaning, washing clothes and preparing meals; • Husking rice by hand; • Caring for children, the sick and the infirm; • Taking care of pigs, chickens and ducks; • Taking care of vegetable gardens; • Fetching water from the river; • Weeding hill rice plots; • Collecting algae, snails and fish in shallows.

2.1.1 Beliefs around Gender Divisions of Labour

The gender division of labor in Xiengdet is not equal. Women have responsibility for more tasks that are more time-consuming than do men; leaving men with more leisure time than women (see section on time use for further elaboration). While men work fewer hours than women, women and men highlighted the point that men's tasks cantered on "heavy" labor that is seen to require brute strength or travel to distant forests. Men in particular repeatedly stressed the "light" or "small" nature of women's roles. A belief system that distinguishes between light and heavy work serves to elevate the perceived value of men's inputs while diminishing the perceived value of women's inputs. The belief elevates the recognized value of men's inputs, and keeps in place an inequitable system of labor distribution within households. There was little overt evidence from time spent in the village that either women or men question the justice of this situation. Acceptance is the norm.

Another widely held belief that influences gender divisions of labor in Xiengdet is the belief that men are more capable intellectually than are women. Women and men alike often believe that men should be responsible for handling "important" matters and for making important decisions. Women's ability to comprehend complex systems or data was called into question during a male focus group in particular revealing quite comfortably held attitudes about women's limited mental capacities. This belief translates into men being assigned (or claiming) tasks that require new skills or information thereby favoring male access to and control over any scientific or mechanical knowledge. Therefore, aspects of production that become mechanized tend to become the domain of men regardless of the gender division of labor prior to mechanization. Evidence of the effects of this belief in practice can be seen in the example of rice husking. Husking was traditionally women's work when done manually. The introduction of mechanized husking in Xiengdet altered the gender-typing of the task so that men are now often responsible for machine husking, while women maintain responsibility for labor intensive manual husking. A study in Luang Prabang, for example, found that even when rice mills were provided to villages specifically for women's use, they were initially controlled by village men until the provincial LWU and local authorities stepped in to rectify the situation (Ireson-Doolittle and Moreno-Black 2003).

Households pay either in cash or in kind for the husking service. It costs 200 kip or an exchange of one kilogram of rice to husk 10 kilograms of rice. There are only a few families in Xiengdet who cannot afford to have their rice milled by machine. In those families, women and girls still pound the rice by hand. Consistent with patterns of mechanization that award male control to tasks that involve machinery, in those families that own a rice mill, the male head of the household operates the mill and runs the business.

A culturally structured system that automatically awards men control over all mechanized or "scientific" aspects of production can reduce women's power as systems become increasingly modernized. At the same time, technological innovations offer genuine opportunities to reduce women's workloads with either time-saving mechanisms or through transfer of time-consuming tasks from female to male hands. The challenge is to achieve such a transfer without disenfranchising women. The project provides several opportunities to quietly challenge established beliefs about gender divisions of labor and thereby potentially raise the perceived value of women's work and capabilities. To this end women should be especially targeted for inclusion in training in all new modes of production, especially those that are seen as mechanical, technological or scientific.

The beliefs outlined above about gender and labor provide men with more opportunities than women to capture new skills and knowledge, effectively preventing or limiting women's entrance into what may be seen as male domains. The project will work actively to combat these beliefs by explaining clearly in early consultations the project's gender strategy including Gender Balance Targets (GBTs) for women's participation and leadership. Open dialogue with PAPs and careful monitoring will ensure that any problems that arise with control over benefits or levels of participation can be rectified quickly. Recognition of local gender-specific attitudes, beliefs and ensuing practices must be considered in every step of project design and implementation in order to creatively and proactively build opportunities for increased gender equity into the project.

2.1.2 Flexibility in Gender Roles

While labor patterns are divided along gender lines, there does exist a degree of flexibility between men's and women's ascribed gender roles. Women can perform some areas of men's work and vice versa without incurring social stigma. Women and men can "assist" each other in their areas of primary responsibility as needed. Flexibility in gender roles tends to increase with increased pace of change and exposure to new contexts. New livelihood opportunities and changing contexts will likely necessitate new patterns of labor organization to respond to new opportunities and maximize limited resources.

Expanding market opportunities, improved health and education combined with changing geographical/environmental circumstances may spur increased flexibility of gender roles as men and women must be able to successfully perform a range of activities. Project components that alter household livelihood systems can influence new labor arrangements. While such arrangements tend to be principally based on past patterns, the extent to which the project may influence change in gender roles and responsibilities should be recognized and capitalized on in efforts to build equality.

Villagers' accounts in Xiengdet revealed some differences of opinion about who is actually performing which type of labor. Women work together with men on tasks such as searching for cattle. Women sometimes accompany men fishing. Some men assist with or even take over certain traditionally female tasks as needed including feeding of small livestock, fetching water and cooking. Men's own representation of flexible gender roles is significant because it suggests that the attitude is such that it is quite acceptable for women and men to share together and interchange in their work. This point is worthy of note because attitude change is a necessary precursor to behavioral change.

2.2 Female and Male Time Use

Daily time use charts were conducted with four households in Xiengdet during field visits. Though none of the families in Xiengdet are wealthy, two of the families (family 1 and 2) in the study were from among the better off in the community while two of the families (family 3 and 4) were from the lower socio-economic group. All of the families were from the Khmu ethnic group. The time use data was collected during rice harvesting time, a particularly busy period for the village in general. The below data should be viewed as indicative only due to the small sample size but it does suggest that the general patterns of male and female time use in Xiengdet is consistent with wider data collected in Lao PDR that shows women working on average longer days

than men¹. The study was conducted during a time of relatively high labor-input, so it does not reliably reveal whether gender differentials in time use would increase or decrease during low labor months.

Data collected from the time use charts was analyzed and categorized by productive, reproductive and leisure roles. Productive work refers to work to produce goods including goods that are produced for sale or for use in the home. Productive work includes feeding livestock, agricultural production and foraging. Reproductive work refers to work relating to household and personal maintenance. Reproductive work includes water collection, food preparation and childcare. Leisure time refers to resting activities including socializing, watching television and sleeping.

¹ National household survey data shows that women and girls work on average more than one hour more per day than men and boys (ADB, 2004).

Table 2-2 Female and Male Time Allocation in Xiengdet

Activities by Type of Role	Time Allocation in Hours			
	Family 1 Mother / Father	Family 2 Mother / Father	Family 3 Mother / Father	Family 4 Mother / Father
Productive work	11.75 / 10.75	8.75 / 10.5	9.5 / 9.5	10.25 / 7.75
Reproductive work	4.00 / 2.25	3.00 / 2.5	3.0 / 2.0	3.25 / 2.25
Leisure	8.25 / 11.00	12.25 / 11.0	11.5 / 12.5	10.5 / 14.0

As the shaded areas in the below chart shows, in three of the four households studied, women invested as much or more time on productive work than men. In all four households, women consistently devoted more time to reproductive work. Three of the four families under study relied heavily on the contributions of daughters aged between 10 and 13 years for reproductive household labor requirements including childcare, food preparation and fetching water. Women's combined labor concentration in both productive and reproductive spheres of activity led to women having between one and three and one-half hours less leisure time per day than men in three of the four families studied. The disproportionately heavy workloads shouldered by the females in Xiengdet are likely to impact negatively on women's health and girls' opportunities for education.

A daily time use chart from a 50 year old woman reveals the high level of activity she maintains throughout the day in her efforts to secure her family's livelihood. Apart from sleeping, she manages only 30 minutes of leisure time during the 24 hour day under study, and even this time is overlaid with the productive task of tending the household's small shop. The woman is from one of the better off families in the village that has managed to send a 17 year old son and 15 year old daughter to secondary school in Nong Tang.

Box 2-1: A Day in the Life of a Woman in Xiengdet (better-off HH)

0500-0600	Wake up; set up fire; cook rice; collect water
0600-0700	Feed ducks, chicken and pigs (cooked food for adult pigs)
0700-0730	Clean house
0730-0800	Eat breakfast with family
0800-1200	Walk to rice field and harvest rice
1200-1230	Eat lunch at rice field
1230-1630	Harvest rice
1630-1700	Walk home from rice field collecting food for pig en route
1700-1730	Cook rice, bathe in river, collect water
1730-1830	Feed ducks, chicken and pigs
1830-1900	Cook food for dinner (three dishes)
1900-1930	Eat dinner with family
1930-2030	Remove corn kernels for pig food
2030-2100	Watch TV and tend store
2100-0500	Sleep

The time use chart of a poor woman reveals the strain that illness puts on her family. Her husband has been unwell for 10 days but they do not know what ails him. He explains that he is just trying to rest and recover. She is left to increase her labor inputs in an effort to harvest the rice before it is too long in the field. Her day allows her no leisure time other than sleep. While she and her older children work to harvest the rice, her husband stays home and demonstrates some flexibility of gender roles by cooking dinner for the family and feeding the chicken and pigs in the afternoon, work that is normally done by women and girls.

Box 2-2: A Day in the Life of a Woman in Xiengdet (poorer HH)

0400-0500	Wake up; cook food for pig
0500-0545	Cook rice and fish for family
0545-0615	Eat breakfast with family
0615-0645	Feed chickens and pigs
0645-1200	Walk to rice field and harvest rice
1200-1230	Eat lunch at rice field
1230-1830	Harvest rice
1830-1900	Bathe and eat dinner
1900-0400	Sleep

2.3 Access to and Control over Productive Resources

The terms “access” and “control” are conceptual tools used in gender analysis to delineate gender patterns and power structures within households. Access refers to the right to use a resource and the responsibility to care for that resource, while control refers to the right to make decisions about a resource. This study employed a participatory single sex group method to understand gender-specific aspects of access and control over the following fourteen resources: forest trees, NTFP, paddy rice, upland rice, money, credit, information, vegetable plots, house and house plot, fish, pigs, chickens, buffalo and cows. Resources were selected with attention paid in particular to those resources that were likely to be created or altered in some way by project interventions. Group members were asked to place cards depicting different resources under male, female or couple headings, and then to explain the rationale of their placement.

2.3.1 Access

Analysis of access among the Khmu of Xiengdet reveals that women and men tend to share access to most productive resources. Clear exceptions to this rule are for fish and forest trees where men have primary access and for vegetable plots, chickens and pigs where women have primary access. All other resources are seen as generally under joint access. A drawback to the research method described above is that the categorization under “access” does not always accurately reflect the intensity or frequency of actual use of productive resources by men and women. Focus group discussions revealed that although men and women are perceived as having equal access to most resources, there may be differences in terms of the actual ability to use resources. Notions of equal access should therefore be interpreted cautiously with recognition that equal access in principle does not always translate into equal access in practice.

Access to information is a case in point. Although both men and women have access to information, the reality is that men in Xiengdet are much better positioned to access information than are women. Men go to meetings within the village more often than women, and women would rarely go to any meeting held outside the village. Men are able to access information from televisions and radios more frequently than women because they have more leisure time. The local practice for village level meetings can be summed up as follows: meetings that request all village members over the age of 18 are attended by both women and men; regular meetings which call for the household head to attend are normally attended by men. Men, therefore, can invoke their leadership role to limit women’s access to information by claiming their de facto right as household head to attend village meetings; women do not usually have the same power to limit men’s access to information. While it is not seen as atypical for women to attend meetings, it is essentially a fallback option carried out in the event that men can not attend.

A more refined understanding of gender differences in access to productive resources therefore requires that access is viewed within a socio-cultural context that governs all forms of resource use, divisions of labor, and social and spatial mobility. There are unwritten norms governing how women should make use of the resources they may access. Women are enculturated into a system that demands their personal sacrifice for the welfare of their husbands, parents, and children. While women have access to money, for example, they are supposed to spend it for

family needs. Men, on the other hand, may spend their money on personal uses such as cigarettes and alcohol. Such forces of traditions remain so strongly imbedded in the cultural practices that they are generally taken for granted.

2.3.2 Control

Analysis of control over resources reveals that men have a much greater share of decision making power at the household level than women. Women's limited control over resources stands in stark contrast to their primary responsibilities with respect to most productive resources, as highlighted in the section on time allocation. Women's normative and formal rights of control over such resources are dismal in

comparison to their workloads and responsibilities. Issues surrounding patterns of control and decision-making power are complex. Descriptive details highlighting gender divisions of labor as well as issues of access and control are elaborated below for selected resources on which the project is likely to effect change.

As with "access," notions of equal "control" should be interpreted cautiously. Categorization of resources under joint control does not always accurately reflect the differential ability to actually claim decision-making power. While women lack formal decision making power in Xiengdet, they do have some power to make decisions at the household level although clearly less power and scope than men. Focus group discussions revealed that women could not actually control some of the resources put under joint control on a day-to-day basis. Women's power to make decisions together with their husbands is reduced to women's mute acquiescence in some families. Some women feel powerless to argue against men's decisions. In these cases, what may be categorized as joint control is actually more of a matter of men informing women about their decisions, and women giving their culturally-mandated assent.

Agriculture

The majority of the households (64%) in Xiengdet have paddy rice. For paddy rice, the husband chooses the land and clears the land. He ploughs the field. And he builds and tries to maintain dams of bamboo and shrubs to irrigate the paddy fields supplementally during the rainy season. The women and men together build the walls and plant the rice. Women are responsible for weeding the rice. Together women and men keep the walls clear and they harvest the rice together. Despite the collaborative divisions of labor, paddy rice is seen by both male and female focus groups as being under male control. This seems to be linked in part to male decision making power over where to establish paddy fields, including its water supply, and possibly also to the male job of clearing the land and ploughing the field.

All of the households in Xiengdet have upland rice fields. Male and female focus groups offered conflicting accounts of access to and control over upland rice plots. Men feel that they have primary control over deciding the site of upland rice as well as over any decision to sell rice. Women feel that decisions about where to plant upland rice and whether to sell rice are jointly made between husbands and wives. This is likely linked to the centrality of rice to the local diet and to the very survival of families. Men usually search for a suitable site for upland rice. Men and women together clear the land. Men burn the brush, then men and women together clear the land again. Women then clear the grass. Women and men both plant, weed and harvest upland rice. They also work together to build small huts near their rice fields.

In addition to rice, households in Xiengdet also plant peanuts, giant sorghum and chili. Women are responsible for most of the labor on these crops. Chili in particular provides villagers with a cash crop fetching 40,000 kip per kg dried and 5,000 per kg fresh. Some households have separate chili fields near their rice fields while some

plant chili right along with their rice. Women also plant and manage vegetable gardens near their homes and along the riverbank. These gardens provide households with much of their daily

subsistence needs. Crops planted in vegetable gardens include cucumbers, eggplant, cabbage and onions.

Forestry

Forest trees cut for timber for household use or for sale are under male control. Some men are able to organize themselves into groups of five or so to go into the forests and secure hardwood for sale to a company that arranges pay and transport of the wood from the village. Men share together the profits from their venture. Because the job of cutting trees is seen as heavy work that sometimes requires travel to distances far from home, it falls under the domain of male labor and male control. Men decide which trees to cut and whether to sell.

Trees used for fuel wood, on the other hand, are jointly accessed and controlled by both women and men. The poorest families in Xiengdet continue to transport their fuel wood in the traditional way. They gather the wood from forests near their upland plots and carry it to their homes in small lots every three to four days or as needed. One family that still collects wood in this fashion explains how it is becoming more difficult to find the woods that they prefer for cooking and that they need to go farther into the forest today than in the past. Both the husband and wife in this family gathered and transported fuel wood. Dwindling fuel wood resources will therefore affect most severely both women and men in poor households who cannot afford mechanized transport thereby increasing time- and resource constraints already facing such households.

Most of the families in Xiengdet today utilize a motorized transport (called *tak tak* locally) to bring their fuel wood from the forest to their house. There are 15 *tak taks* in the village. Families either use their own or hire a *tak tak* once a year to bring enough wood to sustain them for the year. The family that hires a *tak tak* must cut the wood and gather it into a single location. They then arrange with the family that owns the *tak tak* to transport the wood to their home. They store the wood under or beside their house. The use of *tak taks* to transport large loads of fuel wood is relatively new in Xiengdet. According to one man's account, the first *tak taks* came to the village around 1998. By 2000, most families were already using this method to gather their fuel wood. Families that own *tak taks* are paid one day of labor in exchange for this service.

Both women and men in Xiengdet are active in collecting NTFP although males and females each have particular areas of expertise. Men tend to go to forests seasonally between one and three hours walking distance away to hunt animals with snares and cage traps. They sometimes stay overnight. They also hunt for birds and fish in distant forests. Men also collect edible shoots in distant forests and they collect bamboo and mushrooms in forests near the village. Women collect edible shoots and rattan in distant forests seasonally. They collect mushrooms and bamboo shoots in forests near the village regularly.

Interestingly, women and men seem to have limited knowledge of one another's activities related to NTFPs. Women access NTFPs almost everyday as an important part of household livelihood strategies. They have primary control over these resources and may use or sell the resources without discussion with their husbands. Men also feel that they have primary control over NTFPs pointing out that their collection of NTFPs is much more important than women's and they make the decision about when to go to the forests. They feel that women's collection of NTFPs is small by comparison and inconsequential. Discussions with both male and female groups reveal a wide array of NTFPs utilized by the villagers of Xiengdet, some of which fell only under male spheres of activity and some of which fell only under women's activities.

Livestock

Almost all families in Xiengdet have chickens and pigs. Some of the families have cows and buffalos (37% and 9% respectively). Women have primary responsibility to care for chickens and pigs. Women and men together care for cows and buffalo.

Women tend to have control over decision making around chickens. They can independently decide to sell or kill chickens. The rationale behind this is that chickens have relatively little value; they therefore come under the category of small resources that women may control. Decisions about the sale or slaughter of larger more valuable animals such as pigs, cows or buffalo must be agreed upon by both spouses but men usually have primary control over such decisions. When a decision is made to sell larger livestock, women are in charge of selling pigs either within the village or to visiting traders while men are in charge of selling or trading cows and buffalo.

Fish

Men do most of the fishing around Xiengdet though women do occasionally accompany them. Men fish with a hook in the river near the village and they also fish with nets traveling by boat one to three hours away, sometimes staying overnight. While men decide if and where to fish, women and men together make decisions about whether to eat or sell the catch. Women capture algae, snails and small fish in the river shallows near the village for subsistence needs. They also sometimes catch crabs further away along the river.

House and house plots

While land on which homes are established in Xiengdet is not formally owned, women and men consult together to decide where to build their home. Men feel that they take the lead in deciding about home locations but their wives must agree before any decisions may be made. Women and girls perform the bulk of all reproductive activities including cooking, cleaning, and fetching water although men and boys will perform these tasks if needed.

Inheritance patterns among the Khmu in Xiengdet follow a loose structure that each family adapts to its own situation. When one spouse dies, the property remains in the hands of the surviving spouse. When both spouses die, the property goes to their children depending on birth order with oldest siblings (male or female) generally getting more and younger siblings receiving less. The children who stay in the home and care for their aging parents tend to get the family home and more of the land. Due to the patrilocal patterns of marriage whereby sons tend to stay in their birth home and daughters tend to go to their husband's family home, male children often receive the larger share of any inheritance.

Money

The villagers of Xiengdet were still only marginally integrated into the cash economy in 2007. Exchanges between villagers continue to rely heavily on in-kind payments or labor exchanges. Families work in each others fields to exchange labor during peak periods of labor inputs. Those families that pay other laborers to work in their fields pay two kg of rice per day to both male and female workers. Families rent the motorized tractor (*tak tak*) to transport wood at the rate of one day's labor per wood

shipment. Payment for rice milling may be in either cash or rice. Rather than selling cows or buffalo for cash, men commonly exchange large livestock for a large item such as a motorbike or *tak tak* via middlemen.

Male and female focus groups were quick to stress that the households in Xiengdet had very little money. Both women and men agreed that large purchases must be agreed upon by both partners. If one disagrees, the purchase can not be made. Women feel that they have autonomous decision-making control over small daily expenditures for the family such as salt or clothes. They also feel men are able to make small purchases such as cigarettes or alcohol on their own. Men, however, feel that decisions about small things are jointly made between the couple.

Credit

Villagers in Xiengdet utilize two forms of cash and in-kind credit that they access from better off families within the village. Cash loans tend to be to meet family emergencies or for some form of

investment such as to support a venture into the forests to gather hardwood for sale. In-kind loans are for rice. Decision about borrowing is seen as a serious matter that requires the joint control of both spouses. Even very small loans such as that of a cigarette are seen as risky and require joint consent. Both spouses must agree in order to move forward.

The importance of rice to traditional livelihood strategies is evidenced in the premium placed on loans of rice. Villagers are able to borrow money from one another at quite low and flexible rates. If money is borrowed for emergency needs such as sickness, there is often no charge in interest. If money is paid back quickly within the month, there is also no or very low interest charged. Money paid back after a month will pay at the rate of an additional 10%. Money paid back after two months will return an extra 20% of the initial capital. Rice, on the other hand, is paid back at a flat rate of 150% of the total amount borrowed. If someone borrows 10 kg of rice, they must pay back 15 kg. This informal credit system for rice loans is the same in both Xiengdet and Nam Sam. The high rates of interest are likely linked to the extremely high value placed on rice to ensure survival.

2.4 Social and Cultural Context

This section details some of the gender issues that emerged around social and cultural issues during the gender assessment including access to information and services, health and education.

2.4.1 Information and Services

Lao women have traditionally deferred to men in dealings with government representatives or other official matters, especially in remote ethnic minority communities such as Xiengdet where women have had limited education and limited contact with outsiders. A mobility mapping exercise conducted with female and male focus groups in Xiengdet revealed that men move more regularly and further outside of the village than women. Women mentioned only two nearby villages and two towns as destination points while men mentioned two nearby villages and five towns (some as far away as six hours on foot) as destinations. Marketing exchanges including both the purchase and sale of goods in distant towns seemed to be predominantly a male activity, thereby giving men access to a wider range of information and experience with outsiders.

Village level leadership structures and patterns of information dissemination are biased toward male participation. The existing leadership structure in the resettled and peri-reservoir villages, as documented in the SIA, includes a village head and two vice village heads, all of which are men. There are also village representatives from the LWU, village elders and the front for construction (*Neo Hom*). The only female representative in each village is the representative from the LWU.

All other positions are held by males. The project will therefore operate within a socio-cultural system that eschews women from information and decision-making roles.

An understanding of how village structures in Xiengdet operate to disseminate information provides critical background for the project to understand how to more successfully maneuver toward increased gender equality. The way in which meetings are called at the village level impacts on whether women or men have access to information. When general meetings are called the head of household usually attends. In this case, women typically would only attend meetings if asked to go by their husbands because he was sick, for example, or too busy. Men explained in focus group discussion that even if women go to meetings, they don't understand information as well as men and they aren't able to pass on the information to their husbands effectively. When asked to explain their reasoning, men made a point of explaining to us that women in Xiengdet were different than women from urban areas or overseas because few girls were able to attend school past the primary level so they can't read and write very well. The men therefore feel that this limits women's ability to comprehend complicated things fully.

The issue of differential information access for women and men is clearly exacerbated by language issues in Xiengdet. Many women in ethnic minority communities such as those in the project area lack both the confidence and language skills to communicate effectively with Lao-speaking health care workers, extension workers, and others even when the services relate directly to women's

spheres of activity. All official contact with outsiders in the villages of Xiengdet and Nam Sam has been in the Lao language. The gender assessment was conducted together with a Khmu interpreter who was asked to use either Lao or Khmu as needed and to make an assessment of male and female abilities with the two languages. The villagers were notably pleased and put at ease to work in Khmu. Women, in particular, were happy to have sessions conducted in Khmu. Both women and men noted that when they receive information in Lao they feel that they comprehend at the time, but then later they feel that they do not retain the information well. Use of Khmu language for project activities, therefore, will improve the likelihood of information being accessible and utilizable to women in particular but to all villagers in general.

Men's and women's access to information in Xiengdet is not equal. Gender inequities within existing power structures are preserved to some extent by the maintenance of this inequitable system. The extent to which women are excluded from accessing new forms of information and knowledge has direct implications for women's inability to question or challenge their subordinate position to men. This elevates the importance of the project's efforts to gently challenge existing structures by increasing women's access to project-proffered information.

2.4.2 Education and Literacy

Literacy data collected for Xiengdet as part of the household survey shows lower rates of literacy for Khmu women in particular. Actual levels of literacy may be even lower than those reported if a testing method had been employed rather than self reporting. For example, an ADB study (2000) found that literacy rates among the Khmu ethnic group were 23% for women and 61% for men. The phenomenon of 'lost literacy' is also quite plausible for women from Xiengdet who have had little chance to maintain their literacy levels over the years. This would only be revealed through standardized testing.

Children in Xiengdet have restricted opportunities to attend primary school past grade three. Xiengdet's primary school is run by two teachers (one male and one female) who teach grades one, two and three. One teacher is from Xiengdet and one is from Nam Sam. Students who wish to complete the last two years of primary school (grades 4 and 5) must attend the larger primary school in Nam Sam. The walk from Xiengdet to Nam Sam is about two hours. Some children complete grade three and stop. Those that go on to grades four and five do not always complete their primary schooling due to difficulties with school fees, health problems and children's own lack of motivation to continue. Some children are not able to pass the exam at the end of grade five. According to the headmaster at the primary school in Nam Sam, 15 children from Xiengdet were enrolled in grade four and five in Nam Sam in 2007. All of them were male. The headmaster reports a higher dropout rate of children from Xiengdet than other children attending the school. He believes that the reason for this is the distance to the school combined with the poverty and poor health of the children.

Table 2-3 Literacy by Sex and Ethnic Group in Xiengdet.

Ethnicity		Male	Female	Total
Khmu	Literate	85	68	153
	Illiterate	22	45	67
	Total	107	113	220
	Literacy rate	79%	60%	70%

Ethnicity		Male	Female	Total
Tai Phouan	Literate	17	11	28
	Illiterate	3	5	8
	Total	20	16	36
	Literacy rate	85%	69%	78%
Total	Literate	102	79	181
	Illiterate	25	50	75
	Total	127	129	256
	Literacy rate	80%	61%	71%

The nearest secondary school is in Nong Tang. It is 27 km along poor roads between Xiengdet and Nong Tang. Children who attend the secondary school in Nong Tang must therefore find local accommodation. Some families in Xiengdet have coordinated together to rent a house (dorm) for their children to use during the week. The children return home on the weekends for food and other supplies. The dormitory option in Nong Tang has only existed for the last couple of years but it is thought that it will provide greater access to secondary education for both girls and boys from Xiengdet.

A 12 year old girl from a poor family in Xiengdet illustrates the common pattern of how gender roles and norms limit some girls' access to education. She is the oldest of six siblings. Both of her parents are illiterate. She is tasked daily with a multitude of jobs including cooking rice for the family, fetching water, taking care of her younger siblings and washing clothes. She is currently attending the primary school in Xiengdet but she is only in grade two. Her younger brother is in grade one. He is eight years old. Her mother explains that they didn't send her eldest daughter to school when she was younger because there simply wasn't much time. She was too busy caring for her younger siblings. We ask her if she likes going to school but she looks away uncomfortably, too shy to answer.

A better off family in Xiengdet has been able to make different choices around their children's education. The husband is 42 and the wife is 35. They have seven children ranging in age from 16 to three years old. Their 16 year old son is currently living with relatives in Phou Koot where he attends grade four in secondary school. He works for the relatives while he goes to school to pay for his food and housing. Their 14 year old daughter is currently living in Nong Tang where she attends her second year of secondary school. She lives together in a rented house (dorm) with other children from Xiengdet. The prioritization that this family has placed on their children's education has forced them to find creative ways of ensuring their children can attend secondary school.

2.4.3 Health

The women in Xiengdet have primary responsibility for family health yet their own health is compromised by heavy workloads, frequent pregnancies and inadequate health services. Many of the women complain of chronic reproductive tract infections. The nurses based at the Health Centre in Nam Sam identified reproductive tract infections as the most common women's disease that they deal with. They are unsure of the reason for the high rates of infection but feel it could be linked to poor hygiene and sanitation in the villages. Anecdotal evidence from discussions with households suggested high rates of child mortality, though comprehensive data does not exist. When asked how many children they had, parents in Xiengdet first sought clarification as to

whether we meant living children only or total children. Two better off families, for example, had seven children each; in each family only five survived.

Discussions with women during a focus group revealed very different levels of knowledge about family planning options between the women. One 27 year old woman who had already had seven children was taking oral contraceptive that she had obtained in Xieng Khouang provincial capital as part of a trial. She felt that the pill was causing her stomach pain but she was afraid to stop taking it for fear of becoming pregnant again. Several women of childbearing age in the focus group had never heard of any family planning methods. A Reproductive Health Survey conducted in 2000 found that only 32% of married couples in Lao PDR used family planning methods. The survey found that 40% of couples wanted but did not have access to family planning. Unmet needs for family planning were higher in rural areas (NSC 2001).

The Health Centre in Nam Sam offers three methods of birth control via a subsidized government program. Condoms may be purchased in packs of 12 for 1,000 kip. Pills cost 1,000 kip for a one month supply. Three-monthly injections cost 5,000 kip for the first injection and 3,000 kip for subsequent injections. Nurses report that the most commonly selected method is the injection but the nurses note that many women do not come regularly for their injections. There is currently no information outreach program to bring health information of any sort into communities. The nurses say that they try to offer women with many children who come to their centre information on family planning but there is no formal follow up and they often don't see women again for a long time. Few men use the health centre. There is no program that targets men specifically with health and family planning information.

A semi-structured interview conducted with a poor family from Xiengdet offers an interesting illustration of the difficulties households in Xiengdet face accessing health care. The father is 30 years old and the mother is 28. Both parents are illiterate, lacking even basic education. They have six children aged between 12 years and four months. The family has an upland rice plot but no paddy rice. They have four cows. In the past they tried to raise pigs and chickens but the pigs were not vaccinated and died due to disease. The chickens were lost or stolen. Their house is a very basic structure comprised of bamboo walls that enclose a single room. The floor is dirt. Noticeably sheltered in the centre of the house is a bright blue motorbike and a helmet. We enquire about this. The husband and wife explain that they slowly saved money from selling rice and from selling hardwood to purchase the motorbike. They explain that they do not use it often but feel it is necessary for them to have to transport sick family members to the health services in Nam Sam or Phonsavan (Xieng Khouang provincial capital). The husband explains emphatically how he worked so hard to gather the wood because he feels the motorbike is critical to his family's health.

2.4.4 Female Headed Households

The project has classified five types of households that are vulnerable for development activities and also may be vulnerable during the transition period of resettlement activities, as these households have limited labor force. The five types of households are as follows: female headed households, male headed households with primary earner older than 60 years, male headed households with primary earner younger than 16 years; households with only one person, households with disabled members. Female headed households were the largest category of vulnerable households according to the Social Impact Assessment which documented 24 female headed households across Xiengdet and the five per reservoir villages including six in Xiengdet. Recognition of potential vulnerability of female headed households does not mean that they are necessarily economically disadvantaged (though this is often so) but rather that they may face special or increased risks during transition periods and they will therefore receive special project attention as required.

3 POTENTIAL IMPACTS IN THE PROJECT AREA

Because women and men occupy different social positions and have different responsibilities, they will be affected by the project in gender specific ways. The gender assessment found that women and girls in the project area are the most vulnerable and over-burdened social group. Most of these women and girls have had limited access to education, off-farm employment, production markets, cash assets, and empowerment. The Nam Ngum 3 Hydropower Project will affect the lives of women and men in different ways depending on the project area as follows.

1. Ban Xiengdet – the village residential area will be relocated and social and livelihood systems will be rehabilitated, all within the existing village area.
2. Peri-reservoir villages – villagers will potentially be affected by reduced fish catch, cattle grazing areas and possible restrictions in forest access.
3. Upstream villages – villagers will potentially be affected by impacts on household fish catch.
4. Downstream villages – villagers will potentially be affected by reduced fish catch.
5. Project Construction Lands – a limited number of households will be affected due to upgrading of public road between Nam Gnone and Long Cheng, construction of transmission line between NN3 power station and Nong Bong substation, influx of male dominated construction workers, and influx of camp followers.

3.1 Potential Negative Impacts

Potential gender-specific negative impacts of the project by project area are detailed below.

3.1.1 Resettled Village

The residential area will be flooded, including houses, home gardens, pig pens, chicken coups, and fruit trees. Part of the existing paddy rice fields will be flooded for three months of the year, river fishing and aquaculture may be altered and partial access to forests areas will be influenced. Since women have primary responsibility for household food security; they may be particularly prone to time and labor stresses as a result of the required resettlement activities to be carried out within the village area. Women seek to reorient family livelihoods together with men. If the walking distance to agricultural fields or usable forest areas increases, this may also disproportionately increase women's labor inputs and physical stresses.

Changes in agricultural practices such as shifts from subsistence toward commercial production or changes in land use can alter preexisting gender division of labor and gender relations. Men commonly are awarded greater control of the land, equipment and marketing of crops despite the fact that women's cash and labor investments are critical to the success of the venture. Without careful gender sensitive strategies there is a risk that men will improve their already dominant positions as a result of the resettlement.

The women of Xiengdet traditionally have less contact with those outside their community than men. Women are busier than men in their productive and reproductive work and are less mobile outside their village than men. Their knowledge of and communication with the dominant Lao-Tai society is limited. This makes them more vulnerable than men during times of rapid change such as resettlement as they may not be as adept as men are in seizing project benefits.

Domestic violence causes physical and emotional injury to women and children. The issue of domestic violence has yet to be widely investigated in Lao PDR where behavior within the family has traditionally been seen as a private matter, although the LWU has begun efforts to raise awareness of the issue and begin to open discussions. There is a risk during times of rapid change such as resettlement that domestic violence will increase. The situation with domestic violence

should therefore be included as a part of general health monitoring and surveillance so that issues may be addressed as they arise working together with village leaders, health staff and the LWU.

An influx of male construction workers during the resettlement process may lead to a demand for women and girls to have both paid and unpaid sexual relationships. Ethnic minority groups such as the Khmu are particularly at risk of sexual exploitation.

3.1.2 Peri-Reservoir Villages

Peri-Reservoir villages may be affected by reduced fish resources, grazing land and reduced forest access including reductions in access to some NTFPs. Women and men will tend to be differently affected by reductions in NTFPs due to areas of gender specialization. Reductions in daily subsistence NTFPs will impact more negatively on women as they will shoulder disproportionately the responsibility of arranging alternative systems. Reduced fish yields and NTFP access may impact negatively on food security and nutrition which could put women at particular burden and risk.

3.1.3 Upstream and Downstream Villages

The upstream and downstream areas may experience a reduction in fish yields. While men do the bulk of the fishing, women also fish and collect aquaculture products. Reductions in fish yields may impact negatively on fish for subsistence or sale.

3.1.4 Project Construction Lands

Villages near project construction lands areas may lose small amounts of productive land. Efforts to refocus into other productive areas may disproportionately burden women as primary productive actors.

A large influx of male construction workers into project construction lands areas is likely to cause an increased demand for women and girls to have both paid and unpaid sexual relationships. Ethnic minority groups such as the Khmu are particularly at risk of sexual exploitation.

Road expansion accompanied by increased movement of people and goods through project areas may facilitate the trafficking of women and girls and boys.

New social situations may increase the spread of Sexual Transmitted Diseases, including HIV/AIDS. Camp followers, including women working in the sex industry and male users of the industry especially truck drivers are at high risk.

3.1.5 Potential Positive Impacts

The project has a number of opportunities to carve out new space for women in leadership positions thereby building women's confidence, providing local role models for girls and challenging traditional gender beliefs that women are inferior to men as decision makers. The development of new community structures during the resettlement process has added gender impacts. Women's political, social and economic empowerment may be enhanced by meeting Gender Balance Targets (GBTs) within all project actions.

Women and girls are primarily responsible for collecting water for the household. Investments in clean water systems near homes will reduce women's and girl's workloads. Clean water for bathing may reduce rates of reproductive tract and other infections. Road improvements in Xiengdet may open up new opportunities for women to expand their networks and information systems. They may have better access to markets and health care. Girls and boys will more easily be able to travel to secondary school. This may especially benefit girls as fewer girls than boys are able to attend secondary school.

Project investments in crèches in Xiengdet will help to reduce women's workloads as well as older girls and boys responsibilities to care for younger siblings increasing the likelihood that all children can attend school.

Villages close to construction sites and along the road will experience increased movement of people which will create new opportunities for women (and men) to open small businesses and increase their trading skills and cash income.

4 PROJECT STRATEGY TO MAINSTREAM CONCERN FOR GENDER EQUALITY

Mainstreaming a gender perspective improves the project's ability to meet its goals. Investing in women's capabilities and empowering them to exercise their choices is the surest way to contribute to economic growth and overall development for individual households and the country as a whole. Increasing women's knowledge and control over productive resources leads to better family welfare. Women spend proportionally more of the income they control on food and health care for children than do men. Giving women more control over household income has a larger impact on child growth, nutrition and the proportion of the household budget devoted to family welfare than if the men had control of the income.

4.1 Strategic Gender Actions

The project will undertake actions across a range of areas that will help both facilitate and focus effort to build gender equality. Some actions apply to specific project areas while others cut across areas.

4.1.1 Gender Balance Targets

The project will set Gender Balance Targets (GBTs) for female participation in all project activities including decision making. Setting targets, rather than quotas, leaves some room for local interpretation and determination. This is an important means of increasing local awareness and acceptance of gender equality goals while not artificially standardizing numbers, and risking backlash. Targets for leadership and decision making positions should be set at 30% or more for female participation. Targets for women's active participation in all training programs, meetings and other project activities should be at least 40% though it is recognized that some types of training will have higher male or female participation depending on gender divisions of labor.

Targets and rationale for such will be made clear to the villages and all counterpart agencies. Targets will be monitored routinely and recorded for every project activity. The Gender Mainstreaming Team (GMT) will be responsible for overseeing monitoring and preliminary analysis of data so that any difficulties with meeting targets can be understood and addressed quickly.

Expectation and normative behavior alone prevents many women from attending meetings and training programs. The project will actively recruit women for all forms of training, skills development and information transfer in all project areas by invoking GBTs and sending clear messages that women are expected at training programs. Obvious and repeated failure to meet GBTs without justifiable reasons will result in the postponement of planned activities if necessary.

4.1.2 Gathering and Applying Gender Specific Data

The project will utilize the data provided on gender divisions of labor in the GAP as a tool to help target training programs more effectively to those who primarily perform the given type of labor while still allowing space for both women and men to participate in all activities. The project will make clear the rationale that the person who does the labor should generally be the one who is trained in new skills and information.

The project will use the information provided in the GAP on access and control over resources to predict and measure changes in access to and control over key productive resources. Data on who has access and who has control over productive resources should also be used as a predictive tool for all future project activities to assess who is likely to gain and who is likely to lose with the introduction of a given project intervention.

Under the direction of the cross-sectoral GMT, the project will gather further baseline gender data as deemed necessary to assist with project planning and implementation.

4.1.3 Require Joint Spousal Authorization and Receipt

The project will ensure that women participate equally in the land allocation decisions and the land titling process. All formal documentation issued by the project including land titles, ownership and loan documents will require signatures from both heads of household. The project will furthermore require the obligatory presence of both heads of households when signing documents or receiving inputs such as loans or credit to ensure clear understanding and ownership by both women and men. Joint authorization and receipt fosters open communication, and makes a statement that project activities are household-focused, and should not be directed by a single individual. It also negates the risk of forgery or of signing without full understanding of the implications.

4.1.4 Prioritize Women's and Girls Schooling

The project will prioritize women's Non-formal Education (NFE) and girls schooling in the relocated village. Individual returns from investments in education are the same for men and women, but social returns from education are higher from women. Those countries that have improved equality between women and men in schooling have experienced the most rapid and consistent growth. Educating women improves the health, longevity and welfare of the entire family. It also reduces family size, decreases child mortality, improves child nutrition and extends children's schooling. Therefore by prioritizing women and girls education, the project has an opportunity to improve the status of women immediately with critical follow-on effects that will benefit not only women but the next generation of children. To this end, the project will look into possibilities to establish a crèche in Xiengdet, offer special scholarships for girls as well as work closely with households that are not educating girls to provide support.

4.1.5 Increase Women's Activities in New Areas

Mechanization can lead to de facto male control over resources due to the persistent belief that men are superior intellectually to women. Therefore, any introduction of machinery or mechanization by the project will seek ways to ensure women's involvement and build women's empowerment into the processes by ensuring women's active participation in maintenance and management structures. The project will be conscientious and vocal about a need to include women in all project areas, but especially in those that are seen as mechanical, technological or scientific – such as water supply or irrigation.

There are well-established links between primary stakeholders and effective management and maintenance of new inputs at the village level. While the entire village will benefit from improved water supply and sanitation, women are the primary direct users of this resource. The project will allocate positions for one male and one female leader of user groups as a means of ensuring women's involvement in leadership². Women may form the majority of members of user groups for clean water systems, while men will likely dominate irrigation users groups as per current gender realms of responsibility. Maintenance teams for water projects will include women.

4.1.6 Village Level Activities

Based on assessment of mixed group proceedings in terms of both number of women attending and the ability to foster women's active participation, the project will hold meetings with single-sex groups as deemed necessary during village community development processes. Single sex groups will function to improve women's participation and allow for deeper understanding and consideration of men's and women's concerns and priorities as distinct groups.

The benefits to increasing women's involvement in the project will be balanced realistically with the restrictions posed by women's labor demands. Meetings held outside of the village will be limited

² By increasing the total number of leadership positions, this approach leaves scope for active male involvement along with female. Such a design can help to limit resistance.

whenever possible in recognition of the fact that women rarely can attend such meetings. Training and other forms of information such as NFE will be offered within the villages whenever possible to facilitate women's access. Timing and seasonal scheduling of meetings will be respectful of women's time use.

The project will prioritize development and dissemination of outreach materials and information that are understandable to illiterate or marginally literate people. This will make information more accessible to women (especially older women) who have higher rates of illiteracy and lower rates of educational attainment. It will also increase the likelihood that multiple household members have greater access to information in line with understanding about the flexibility of gender roles in certain contexts between women and men, girls and boys.

In recognition of the limited numbers of females and ethnic minorities working as district extensionists, the project will ensure that any new positions for village level health workers or village extensionists allot certain slots for women. The project will seek to mandate matching male and female positions in key sectors for village level positions where women and men both have strong responsibilities and specialized areas of expertise such as forestry, agriculture and livestock.

4.1.7 Leadership and Decision Making Power

The project will create a number of opportunities to improve women's formal and informal decision making power at the village level by meeting GBTs including in official decision-making bodies. The Village Development Coordinating Committee (VDCC) to be established in each affected village with approval of the Village Authorities will reserve places for women as per GBTs. The objective of the VDCC is: to serve as the village's contact point from the NN3 HPP; to coordinate activities with the implementing Village Focus Group; and to assist villagers with the grievances redress procedures. Members of the VDCC will be elected and represent the following

sectors with sufficient female representatives of the Lao Women's Union: infrastructure, water supply and sanitation, education, finance, livelihood, and public health.

The implementing body at village level will be the Village Focus Group (VFG), which will have elected members corresponding to those of the VDCCs (or often more). Depending on the types of activities, the VFG will have the following members:

- Infrastructure
- Water Supply and Sanitation
- Finance
- Livelihoods –irrigation, farming, large livestock, small livestock and poultry, NTFPs, fisheries, home gardens, handicraft and small business
- Public Health
- Education

The objective of the VFG is to facilitate and coordinate resettlement and livelihood activities. Women leaders in the VDCC and VFG will be offered leadership training to help them fulfill their new roles.

In addition, the project will work closely with a village women's group to plan and implement one activity. This may be a credit or savings activity, marketing or livelihood initiative or something else decided by the women in consultation with the project. Providing an opportunity for women to effectively manage an activity on their own will provide a chance for them to build their confidence and leadership skills while quietly challenging perceptions that women are not as competent as men. Achieving this objective will require a commitment to planning and working closely with

women over an extended period of time. The component will be managed by the LWU with project support.

4.2 Four Strategic Gender Action Areas – Xiengdet

As the only resettled village in the project, Xiengdet will undergo the largest impacts that will require gender targeting across a wide range of activities. The GAP consolidates key targets into four strategic gender action areas: improve women's health; increase women's and girls' education and literacy; reduce women's workloads; increase women's access to and control over productive resources.

Achievements across the four action areas will make a strong contribution to movement toward gender equality in Xiengdet.

Improve Women's Health

- Provide family planning and reproductive health information and services in all affected areas. Information will reach men as well as women.
- Reduce Maternal Mortality Rate with targeted interventions aimed at improving women's health overall.
- Target affected women and men with gender-specific information and services to reduce risks of HIV/AIDS, alcoholism and violence against women.
- Collect and analyze gender disaggregated health data to decide if health interventions need to have a special focus on women/girls beyond the issues noted above to extend women's life expectancy.

Increase Women and Girls' Levels of Education and Literacy

- Monitor gender disaggregated data on rates of school enrolment and attendance targeting special efforts to increase girls' level of education.
- Make special provisions in adult literacy and Non Formal Education programs to encourage and enable female attendance. Data will be gender and socially disaggregated and closely monitored so that lack of female participation can be addressed quickly.

Reduce Women's Workloads

- Develop domestic water supply systems and ensure that women have significant representation on Water User Groups and Water Maintenance Groups by meeting GBTs.
- The establishment of a crèche in full consultation with mothers and fathers appropriate to the local setting could make more time available for women's work in livelihoods, however in view of NN3's compensation strategy of the actual impacts by NN3 such crèche will need financing from other parties.

Increase Women's Access to and Control over Productive Resources

- Ensure that all official documentation including land titles include both the wife and husband's name and require joint signatures and joint receipt.
- Implementation of Savings and Loans or other credit programs could ensure that poor and vulnerable women are able to participate.

- Ensure that women have opportunities for skills development and income generation based upon gender needs and divisions of labor by meeting GBTs.

4.3 Mainstreaming the Gender Strategy by Project Area

The following actions will take place to ensure that concern for gender equality is mainstreamed throughout all project activities across all project areas.

4.3.1 Relocated Village

Village Relocation

Women will actively participate in the planning stage for the resettlement including selection of the site in accordance with GBTs. Women's views will be documented along with men's on house design, village layout, and social services location. If the project finds difficulty in obtaining women's active participation in joint groups, separate male and female groups will be conducted for planning. Similarly, women will be informed together with men in community consultations about project activities. If necessary, separate male and female sessions will be held. Any special needs of female headed households or other vulnerable groups will be assessed and addressed in open consultations.

Land Ownership

Land titles will be given in the name of both spouses and will require the presence of both husband and wife on receipt.

Grievance Redress Mechanisms

Women will be especially targeted to ensure that they fully understand their legal rights and opportunities for grievances regarding compensation and resettlement arrangements. Information will be offered in a language and form that is easily accessed by women with low levels of education. Women will also serve on grievance committees in accordance with GBTs.

Community Consultations on Livelihoods

Women will participate actively on consultations regarding compensation and livelihood restoration and development as per the GBTs. Separate male and female groups will be conducted in the face of difficulties in obtaining women's active participation in mixed sex groups. All consultations will be conducted at a level and in a language that is understandable for less educated women and men.

Training

All training programs will meet or exceed GBTs. Training programs and methods will take into account women's educational level and situation in the household and the community to ensure that their full participation in and benefit from the training is maximized.

Community Leadership Positions

New positions for village level volunteers and local leaders in areas will carve out special space for women to gain knowledge and leadership responsibility by requiring one male and one female particularly for areas where women and men have specialized knowledge and spheres of activity such as livestock and agriculture or forestry. Also the VDCC should be at least 30% female, which represents a significant improvement in gender balance over previous village leadership structures.

4.3.2 Peri-Reservoir Villages

Consultations

Decisions about community level inputs will involve full participation of women as per the GBTs. Failure to secure women's active participation will lead to separate male and female meetings as

required. Information will be provided in a format and at a level that is targeted to ethnic minority women's lower levels of education. Decisions about community inputs will utilize gender analysis to ensure women and men both benefit fairly.

Livelihood Activities

Livelihood activities within fish farming, livestock and collection of NTFPs will be designed for and directed to man and women as appropriate.

Grievance Procedures

Women will be especially targeted to ensure that they understand their legal rights and the procedures for grievances. The information will be tailored in a language and format that is clear to them. Women will serve on grievance committees in accordance with GBTs.

Training

Training and information about any village level livelihood improvements will work to achieve GBTs.

4.3.3 Upstream

Consultations

Decisions about community level inputs will involve full participation of women as per the GBTs. Failure to secure women's active participation will lead to separate male and female meetings as required. Information will be provided in a format and at a level that is targeted to ethnic minority women's lower levels of education. Decisions about community inputs will utilize gender analysis to ensure women and men both benefit fairly.

Training

Training and information about any village level livelihood improvements will work to achieve GBTs.

4.3.4 Downstream

Consultations

Decisions about community level inputs will involve full participation of women as per the GBTs. Failure to secure women's active participation will lead to separate male and female meetings as required. Information will be provided in a format and at a level that is targeted to ethnic minority women's lower levels of education. Decisions about community inputs will utilize gender analysis to ensure women and men both benefit fairly.

Training

Training and information about any village level livelihood improvements will work to achieve GBTs.

4.3.5 Project Construction Lands

Consultations

Consultations about project construction lands will involve women's active participation as per GBTs. Separate male and female consultations will be held, if required. Information will be provided in a format and at a level that is targeted to ethnic minority women's lower levels of education.

Compensation

Cash or land compensation will be given to both husband and wife with both partners present for official receipt. Land will be issued jointly in the name of both partners.

Grievance Procedures

Women will be especially targeted to ensure that they understand their legal rights and the procedures for grievances. The information will be tailored in a language and format that is clear to them. Women will serve on grievance committees in accordance with GBTs.

Labor Rights

Areas around project construction lands will have new and expanded opportunities for wage labor such as construction work and new services. Ethnic minority groups and particularly women have little or no knowledge of their eligibility to form part of the construction labor force. The project will work with contractors to inform all workers of their rights ensuring that unskilled workers with limited education can access the information.

HIV/AIDS and Human Trafficking Awareness

Villages located along new roads and project construction land areas, especially the transmission line and the public road between Nam Ngone and Long Cheng, will be targeted with special information campaigns and health check ups to reduce the risks of human trafficking and communicable diseases, including HIV/AIDS. The messages will be designed to be clearly understandable for women, men, girls and boys who may have limited education.

4.4 Organizational Arrangements for Operationalizing the GAP

Operationalizing the GAP will require institutional support at all levels. To provide a framework, the project will develop and disseminate a clear and simple project policy statement with respect to gender equality. A clearly stated and oft-used policy removes the interpretation of the gender issue away from the various value-laden beliefs of individual actors by standardizing gender equality goals as both an organizational value and policy directive. In short, it leads less room for individual interpretation of what to some is a sensitive or complicated issue. The project gender policy will be invoked repeatedly at all project levels as a means of standardizing understanding and raising awareness.

The policy statement will ideally be designed and agreed upon by high levels of management and sector staff of the project so that there is both understanding and ownership of the policy. Sample policy statement: *The NN3 Hydropower Project is committed to ensuring that women and men have equal opportunities to participate in and benefit from all project activities. The project will work to provide special opportunities for women and girls in areas where they are disadvantaged such as in access to education, information and decision making power.*

4.4.1 NN3PC - Operationalize Gender Strategies at the Institutional Level

The NN3 HPP will form a very influential development institution in project areas. Therefore it is imperative that the project sets an example of its commitment to gender equality by seeking to meet GBTs within its own institution. Leadership positions will target 30% female representation while program positions, technical staff, consultants and advisors will aim for 40% female. To this end, job advertisements will always include a tag line that women are especially encouraged to apply. Women will also be given priority for positions in instances where male and female candidates have similar experience.

The project will employ a gender advisor to oversee the mainstreaming process and to provide technical support and expertise as needed. Among other duties, the gender advisor will (i) provide gender awareness and analysis training for staff and counterparts, (ii) ensure that all staff and

technical experts understand the requirement for collecting and analyzing gender disaggregated data, (iii) ensure the system for monitoring and evaluating the project includes and utilizes gender sensitive, gender disaggregated data and (iv) provide on-going support to Gender Mainstreaming.

The Environment and Social Management Office (ESMO) within NN3PC will hire capable staff with representation across the resettlement, livelihood restoration, community and social development to monitor and facilitate progress with gender mainstreaming. In addition, one of the staff members will have a social science background specializing in ethnic minorities, gender and other vulnerability indicators. This person with the support of the gender advisor will oversee the mainstreaming process and troubleshoot problems as they arise, ensuring that activities in the strategic gender action areas proceed as planned. They will also work together with the monitoring unit to (i) monitor compliance of the Gender Balance Targets, (ii) devise strategies to overcome problems with compliance, and (iii) oversee progress with meeting strategic gender goals.

4.4.2 Government Counterpart Agencies – District and Province

The Lao Women's Union (LWU) receives support from various development agencies who work with the LWU to implement development projects targeting women. With an influx of funds over the last 10-20 years, the LWU has increased its scope of activities into areas such as women's rights, health and family planning, domestic violence, HIV/AIDS and human trafficking while retaining its core commitment to political mobilization as demonstrated by the "three goods" focus on building good citizens, good development and good cultural families.

The LWU plays a prominent role in advocating for women's interests at all levels of government including central, provincial, district and village levels. The project will seek opportunities to expand the involvement of the LWU in the project as a means of better involving women. The LWU may be the implementing agency for the fuel-reducing stove component, for example. The LWU may also be more directly involved in health, education or clean water projects, such as in organizing water user's groups or sanitation information.

The LWU's keen organization and grassroots network will play a valuable role in implementing activities in the project area but the gender strategy for this project will not look to the LWU to satisfy all aspects of gender considerations in projects. A mainstreaming approach requires concern for gender equality to be demonstrated by all counterpart agencies. Therefore key district counterpart agencies will also be trained on project gender policy and requirements for gender mainstreaming. Training may be conducted either by the NN3PC gender advisor or the LWU/Gender Resources Information Development (GRID). GRID centers provide gender training, conduct gender research and serve as collection points for gender materials and resources. The GRID centers in Vientiane and Xieng Khouang will be utilized as valuable resources for gender training and information needs of the project.

The district LWU in Phou Kout has three members, a representative, deputy representative and a project officer. The staff have worked hard to increase their village level activities by securing international project support for data gathering and analysis and to conduct community sessions on gender and development in some villages in the district. The LWU has been active in Nam Sam to implement the revolving cattle fund of the ADB-sponsored Nam Ngum River Basin project in which women are trained as financial managers. The LWU has yet to implement any activities in Xiengdet.

The district LWU in Xaysomboun also has three members: a chairwoman, vice chairwoman/microfinance specialist, and a secretary/information officer. The LWU has organized microfinance projects in Xam Thong, Nam Ngua and Long Cheng villages. Pig and poultry activities have been financed in the above three villages through revolving funds. District wide the Xaysomboun LWU has established savings groups in 14 villages incorporating 444 families.

All project structures and committees formed at district levels such District Grievance Committees will seek to meet GBTs of at least 30% women. Provincial and district offices of key counterpart

agencies tend to have quite limited numbers of women and ethnic minorities among staff, especially field staff, thereby making interactions with women in ethnic minority groups particularly difficult. NN3 project activities provide opportunities to improve the responsiveness of provincial and district governments to the needs of women and ethnic minority communities by improving the gender and ethnic balance in provincial and district offices especially among field workers as well as by providing training on gender sensitivity and analysis.

4.4.3 Operationalize Gender Strategies at the Village Level

Gender strategies will be operationalized at the village level as follows:

- Meet or exceed the GBT of 30% women in the VDCC, VFG and other leadership positions.
- Meet or exceed the GBT of 40% women's participation in training and other activities.
- Provide an entertaining participatory program such as a puppet show at the village level that encourages discussion and awareness raising about gender inequality.
- Make special efforts to meet GBTs for female technicians especially in NTFP collection, home gardens and agriculture/livestock. In the absence of female technicians, make special efforts to sensitize male technicians to carry out gender mainstreaming.
- Mobilize village level LWU representatives and other village leaders to participate actively and encourage women's empowerment at the village level. Conduct leadership training for women.
- Tailor training materials and methods across all program areas for illiterate and innumerate participants to ensure that information can reach women as well as men who have had little education.

4.4.4 Training Strategy

Gender sensitivity and analysis training will be conducted for NN3PC staff with updates every one to two years to account for new staff and changeovers as well as to serve as a refresher for some staff. Training is to be designed and conducted by the gender advisor. District counterpart agencies may be linked into these training programs or they may attend separate training at the district level. Gender awareness and analysis training will be offered to key counterpart agencies involved with the project including extension staff to build their capacity to implement a gender sensitive program. The provincial LWU together with the district LWU and the GRID centers will organize and deliver district training programs with assistance provided by the NN3PC gender advisor as deemed necessary.

4.4.5 Monitoring Strategy

Wherever possible, gender monitoring will be factored into on-going project monitoring processes rather than exist as stand-alone mechanisms. For ease of monitoring, matrices of gender actions applicable to Ban Xiengdet and affected villages, including peri-reservoir, upstream, downstream, and other villages are presented in Tables 4-1 and 4-2. The GMT together with the gender advisor will work with the monitoring unit to ensure that project monitoring mechanisms capture data that is gender sensitive and gender disaggregated. The GMT and the gender advisor will regularly review monitoring data together with the relevant sectors so that any problems can be analyzed and addressed quickly.

Gender mainstreaming at an institutional level may be measured using a qualitative indicator checklist as per below. Gender advisor may utilize the tool to gauge organizational progress with mainstreaming efforts.

Table 4-1 Gender Actions Applicable to Affected Villages, including Peri-Reservoir, Upstream, Downstream, and other Villages

Subject / Action	Indicators (Qualitative and Quantitative)	Responsible Institutions / Persons
I. Gender Balance Targets (GBT)		
<p>Women participation in all project activities</p> <p>Women's active participation in all training programs, meetings and other related activities</p> <p>Active recruitment of women for all training, skills development and information transfer activities</p>	<p>30% or more, targeted for women holding leadership and decision making positions in the community.</p> <p>40% at least, targeted women participating in various training and related activities. Although some types of training are expected to attract more participation from men.</p> <p>Clear emphasis on message that women's participation is expected in all training programs.</p>	<p>Gender Mainstreaming Team (GMT) will be responsible for oversight, analysis and disposition of any difficulties/issues.</p> <p>GMT to ensure that project documents and training activities are gender sensitive and inclusive.</p>
II. Participation and Gender Data		
<p>Generation of gender data</p> <p>Gender sensitizing processes and procedures</p>	<p>List of training programs catering to different types of village needs while ensuring defined contribution from men and women.</p> <p>List of stakeholders likely to gain and those likely to be impacted by different project activities, including those relevant with village development.</p> <p>List of women participants in various project and community activities</p> <p>Grievance procedures responsive of women and girls concerns and issues. Grievance redress procedures using gender sensitive and inclusive language.</p> <p>Materials used for increasing public awareness of social issues utilizing gender sensitive and inclusive language (such materials as HIV/AIDS and Human Trafficking Awareness drive).</p>	<p>The cross-sectoral GMT to direct the project in achieving gender inclusive processes, as necessary.</p>
III. Joint Spousal Authorization and Receipt Requirement		
<p>Participation of woman spouse in receipt of compensation, land allocation and titling</p>	<p>Description of task performed by woman spouse in the discussion of land allocation and titling.</p> <p>Proof of physical presence of both head of household (man and woman) during discussion and handling of important formal documents.</p> <p>Woman spouse signature appearing in formal documents where both spouses are required to sign.</p> <p>Issuance of land titles under names of husband and wife.</p> <p>Compensation paid to husband and wife jointly, in joint bank accounts where available</p>	<p>GMT to ensure woman spouse participation is documented (narrative and graphic, such as photos).</p> <p>GMT to coordinate with the government agency responsible for land titling</p>
IV. Priority in Schooling / Training		
<p>Women and girls in the villages prioritized in non-formal education/training and basic education</p>	<p>Educational programs are responsive / respectful of women's time (in relation to their routine domestic and agricultural responsibilities).</p>	<p>GMT to coordinate with the institution responsible for the educational facilities and</p>

Subject / Action	Indicators (Qualitative and Quantitative)	Responsible Institutions / Persons
	<p>Dissemination of outreach materials and information that are understandable to illiterate or marginally literate people and in appropriate ethnic language (especially for older women who may not understand Lao language also).</p> <p>Leadership training program offered and delivered to all newly installed female community leaders.</p>	fund source for scholarship/educational assistance.
V. Leadership Positions for Women		
<p>Village Development Coordinating Committee</p> <p>Irrigation Users Group</p> <p>Clean Water Systems Group</p> <p>Users Groups Maintenance Team composition</p> <p>District Extensionists</p> <p>Other areas: forestry, agriculture and livestock raising</p>	<p>Allocation of position for women in accordance with GBT.</p> <p>50% of positions allocated for female leader.</p> <p>50% of positions allocated for female leader.</p> <p>A number of women are included in the roster of maintenance team of all Users Groups.</p> <p>New positions for village health workers are created for women.</p> <p>Discussion for creating village level position for women are undertaken and actual creation of these positions, are in place following community agreed timelines.</p>	GMT to assist local bodies or groups in documenting the installation of leadership and other position for women. GMT to secure documentation copies.

Table 4-2 Gender Actions Applicable to Ban Xiengdet

Subject / Action	Indicators (Qualitative and Quantitative)	Responsible Institutions / Persons
<p>Improvement in women's health</p> <p>Improvement in women and girls' levels of education and literacy</p> <p>Meaningful participation of women in village level affairs</p> <p>Improvement in access to and control over productive resources</p>	<p>A number of family planning and reproduction health information drive conducted.</p> <p>Statistics showing decrease of maternal mortality rate.</p> <p>A number of gender specific information and services drive towards the reduction of risks of spread of HIV/AIDS, alcoholism and violence against women.</p> <p>Increasing statistics of girls' enrolment in basic education.</p> <p>Increasing statistics of women's enrolment in non-formal education programs.</p> <p>Increasing participation and representation of women in Water User Groups and Water Maintenance Groups.</p> <p>All official documents, including land titles in the names of both male and female spouses.</p> <p>Increasing women's participation in savings and loans or other credit programs, with emphasis to vulnerable women members of the village.</p> <p>Improving sets of skills for women and increasing household income based on gender needs/contribution.</p>	<p>GMT to ensure all information in the implementation of GAP in Xiengdet is collated and reported.</p> <p>GMT to coordinate with relevant national and local institutions having specific mandate.</p>

*Box 4-1: Indicators Checklist of a Gender Equal Organization.
Adapted from Daniel (2002).*

<p>Staff</p> <ul style="list-style-type: none"> • Staff have on-going capacity building on gender issues. • Staff understand gender issues and are able to implement gender policies. • Perceptions and attitudes toward staff of women are positive and sensitive. <p>Employment processes</p> <ul style="list-style-type: none"> • There is gender balance in staff across levels. • Recruitment procedures enable women as well as men to apply. <p>Organizational structure</p> <ul style="list-style-type: none"> • Formal and informal communication networks include women and men equally. • The leadership shows commitment to gender issues.
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Gender indicators in terms of project activities and community change may include the following:

- Women's percent of participation in village level meetings and consultations.
- Women's percent of participation in training programs at the village level by sector and village.
- Women's vs. men wage labor earnings (time bound).
- Women's percent of participation in new village groups.
- Women's percent of participation in decision-making bodies or leadership positions.
- Women's percent of participation in technical positions (paid or volunteer).
- Number of men vs. number of women who have made grievances.
- Disaggregated male and female health status indicators including use of birth spacing methods, use of health services, child mortality rate child malnutrition rate.
- Disaggregated male and female education indicators including enrolment, completion and literacy rates.
- Women's vs. men's (girls' vs. boys') retention of messages from information campaigns on HIV/AIDS and trafficking.
- Male vs. female time use (productive, reproductive leisure).

4.4.6 Budget

As gender is cross-cutting, most items in the GAP will be budgeted for across sectors. Salary for the gender advisor is budgeted for in the staffing budget. The Manager of the Environmental and Social Management Office (ESMO) of NN3PC will ensure that gender issues are addressed in education, health and community development activities. For example, girls' education initiatives will fall under the education budget. Women's leadership training will fall under livelihood restoration. Land titling under names of husband and wife is budgeted in the REMDP; improvement of women's health in the PHAP; and labor issues and women's safety and security in the CSMP. Moreover, this GAP will be operationalised and detailed activities to be undertaken to ensure that gender issues are appropriately addressed will be presented in the Annual Implementation Plan.

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Annex E

PROPOSED MONITORING INDICATORS

Monitoring of programme implementation		
Housing	Number of houses plans finalised Number of houses under construction Number of houses completed on time Number of houses with land titles PAF satisfaction levels over housing quality and design	Monthly
Relocation	Number of households relocated according to the planned schedule	
Community infrastructure	Number of community infrastructure, social infrastructure and services completed.	
Roads	Number of access roads under detailed planning Length of access roads under construction Length of access roads completed	Monthly
Water supply	Water supply system under detailed planning Number of water supply system under construction Number of water supply system completed Number of houses with an operational water supply PAF satisfaction levels at quality and quantity of water supply	Monthly
Irrigation system	Water supply system under detailed planning Progress of the construction of the irrigation weir Progress of the construction of the irrigation channels Progress of the development of the irrigation command area	Monthly
Agricultural replacement land	Number of agricultural plot designed Number of agricultural plot measured and marked Number of agricultural plot developed Number of agricultural plot with access to irrigation Number of agricultural plot with land titles (including non-affected plots continuing to be used by eligible resettlers)	Monthly
Consultation & Participation	Have consultation taken place as scheduled including meetings, groups, and community activities? Has resettlement information been prepared and distributed? What language has been use to share information? Has prior consent been obtained by ethnic groups for different activities? How many displaced persons know their entitlements? How many are aware if their entitlements have been received? Number of general meetings (for both men and women) Purpose of meetings Percentage of women out of total participants Number of meetings exclusively with women Purpose of meetings Number of meetings exclusively with vulnerable groups Number of meetings at new sites Level of participation in meetings of women, men, and vulnerable groups (specify if high, medium, low)	
Delivery of entitlements	Entitlements disbursed according to number and category of losses set out in the entitlement matrix? Disbursements against timelines? Identification of the displaced persons losing land temporarily, e.g. soil disposal, borrow pits, contractors' camps, been included?	

	<p>Timely disbursements of the agreed transport costs, relocation costs, income substitution support, and any resettlement allowances, according to schedule?</p> <p>Affected businesses receiving entitlements including transfer and payments for net losses resulting from lost business?</p>	
Grievance redressal for project-related complaints	<p>Have any displaced persons used the grievance redress procedure? What were the outcomes?</p> <p>Have grievances been resolved?</p> <p>How long did they take to be resolved?</p> <p>What are the subjects of the grievances?</p> <p>How many times has a household submitted the same grievance?</p> <p>Were special measures for vulnerable households implemented?</p> <p>If yes, what were these measures?</p>	
Budget and timeframe	<p>Have all land acquisition and resettlement staff been appointed and mobilized on schedule for the field and office work?</p> <p>Have capacity building and training activities been completed on schedule?</p> <p>Are resettlement implementation activities being achieved against the agreed implementation plan?</p> <p>Are funds for resettlement being allocated to resettlement activities on time?</p> <p>Have resettlement offices received the scheduled funds?</p> <p>Have funds been disbursed according to the resettlement plan?</p> <p>Has the social preparation phase taken place as scheduled?</p> <p>Has all land been acquired and occupied in time for implementation?</p>	
Livelihood and income restoration	<p>No. of displaced persons under the rehabilitation programs (women, men, and vulnerable groups)</p> <p>No. of displaced persons who received vocational training (women, men, and vulnerable groups) .</p> <p>Types of training and number of participants in each</p> <p>No. and % of displaced persons covered under livelihood programs (women, men, and vulnerable groups)</p> <p>No. of displaced persons who have restored their income and livelihood patterns (women, men, and vulnerable groups)</p> <p>No. of new employment activities</p> <p>Extent of participation in rehabilitation programs</p> <p>Extent of participation in vocational training programs</p> <p>Degree of satisfaction with support received for livelihood programs</p> <p>% of successful enterprises breaking even (women, men, and vulnerable groups)</p> <p>% of displaced persons who improved their income (women, men, and vulnerable groups)</p> <p>% of displaced persons who improved their standard of living (women, men, and vulnerable groups)</p> <p>No. of displaced persons with replacement agriculture land (women, men, and vulnerable groups)</p> <p>Quantity of land owned/contracted by displaced persons (women, men and vulnerable groups) .</p> <p>No. of households with agricultural equipment</p> <p>No. of households with large/medium/small livestock</p>	
Benefit monitoring	<p>What changes have occurred in patterns of occupation, production, and resource use compared to the pre-project situation?</p> <p>What changes have occurred in income and expenditure patterns compared</p>	

	<p>to the pre project situation?</p> <p>What have been the changes in cost of living compared to the pre-project situation?</p> <p>Have displaced persons' incomes kept pace with these changes?</p> <p>What changes have taken place in key social and cultural parameters relating to living standards?</p> <p>What changes have occurred for vulnerable groups? Have displaced persons benefited directly from the project?</p>	
Household level monitoring		
Demographic	<p>Number of household members, male and female</p> <p>Births and deaths, male and female</p>	Annual
Occupations	<p>Occupations of working household members</p> <p>Wealth ranking of households</p>	<p>Monthly</p> <p>Bi-annual</p>
Literacy/numeracy	<p>Ability to read Lao - all household members over 15</p> <p>Ability to speak Lao - all household members over 15</p> <p>Numeracy - all household members over 15</p> <p>School attendance - all household members over 15 (boys/girls)</p>	Annual
Asset inventory	<p>Household assets (specifically ask how many motorbikes/vehicles/mobile phones - good indicators of wealth changes)</p> <p>Household tools</p> <p>Household agricultural tools</p>	Bi-annual
Rice supply	Rice supply balance showing production, consumption, sales, purchase, borrowed and amount remaining	Monthly
Protein supply	Protein supply balance showing production, consumption, sales, purchase, borrowed and amount remaining	Monthly
Incomes		
Cash income	Sources and amount of all household income	Monthly
Expenditure	Sources and amount of all household cash outgoing	Monthly
Saving	Amount and method of household savings	Monthly
Consumption	Type and value of all household consumption	Monthly
Production	Records of all items produced or gathered	Monthly
Agricultural productivity		
Agriculture	<p>Area planted to crops, each season</p> <p>Yields of crops, each season</p> <p>Net production of crops, each season</p> <p>Cash income from sales. Quantity of consumption of crops.</p> <p>Cash inputs to crops, each season</p> <p>Labour inputs into cultivating crops, each season</p> <p>% crops sold versus consumed</p>	Seasonal
Livestock	<p>Number, deaths, births, sale and purchase of cattle, pigs, poultry and fish</p> <p>Labour inputs into animal raising</p> <p>Feed and veterinary inputs for livestock</p>	Monthly
Village level monitoring		
Village demography	<p>Village population</p> <p>Number of males and females</p>	Annual

	Number of households with handicapped, elderly or invalid members Number of female headed households Number of households by ethnic group Number of births Number of deaths Number of households departing the village Location for departing households Reasons for migration Number of households who installed in the village Previous location of arriving households Reasons for relocation Number of new households due to splitting Number of new households due to post-marital relocation Number of marriages Ethnic identity of marrying couples	
School	Condition of school buildings Water supply to school Condition of toilets at school Number of students per teacher Male and female school attendance by class Drop out rates and reasons for drop out Teacher presence Teacher qualifications Teacher ethnicity Teacher performance	Annual Annual Annual Monthly Monthly Monthly Monthly Annual Annual Monthly
Representation and institutional development	Village authorities (positions) by gender Village authorities by ethnicity Village authorities by experience and education Routine for conducting meetings (agendas, records, accounts, ...) Assessment of performance and decision-making ability for village leadership roles Assessment of performance and decision making ability for Lao's Women's Union Assessment of performance and decision making ability for Lao National Front for Construction	Bi-annual
	Condition and materials at the village information center Number of committees for specific roles and their function Female representation in committees and in leadership roles	Bi-annually
Religious and cultural practices	Religious affiliation/belief of population Condition of temple and temple buildings, when relevant Condition of village or territorial spirit structures Other village religious structures Number of monks and novices, when relevant Number of spirit priests Number of chamans/mediums Number and types of ritual events Participation in ritual events (male and female)	Annual Bi-annual Bi-annual Bi-annual Bi-annual Bi-annual Bi-annual Monthly Monthly

Main health indicators (these indicators are indicative and will be reorganised on the basis of the indicators proposed in the Public Health Action Plan and will reflect gender disaggregation as per the Gender Action Plan).

<p>Number of new LRTI cases</p> <p>Number of measles cases</p> <p>Number of malaria cases</p> <p>Number of BS or dipstick done</p> <p>Number of malaria negative fever cases</p> <p>Number of various STI syndromes diagnosed</p> <p>Number of cases of acute diarrhoea</p> <p>Number of cases of dysentery</p> <p>Number of intestinal worm diseases</p> <p>Number of anaemia cases</p> <p>Number of traumas</p> <p>Number of cases of mental health problems</p> <p>Number of diphtheria cases</p> <p>Number of whooping cough cases</p> <p>Number of pregnant women with malaria</p> <p>Number of cases of schistosomiasis</p> <p>Number of malaria cases correctly treated</p> <p>Number of cases of opistorchiasis</p> <p>Number of hepatitis A cases</p> <p>Number of malnutrition cases by type</p> <p>Number of beriberi cases</p> <p>Number of deaths due to ARI</p> <p>Number of deaths due to malaria</p> <p>Number of deaths due to dengue</p> <p>Number of deaths due to acute diarrhoea</p> <p>Number of cases of diarrhoea with severe dehydration</p> <p>Number of suspected dengue cases</p> <p>STI treatment in public facilities</p> <p>Number of RTA cases</p> <p>Number of dengue hemorrhagic fever cases</p> <p>Number of typhus cases</p> <p>Number of meningitis cases</p> <p>Number of night blindness cases</p> <p>Number of leptospirosis cases</p> <p>Number of poisoning cases</p> <p>Number of malaria outbreaks</p> <p>Number of dengue outbreaks</p> <p>Number of outbreaks of food/waterborne diseases</p> <p>Number of deaths due to TBC</p> <p>Number of deaths presumed related to malnutrition</p> <p>Number of deaths presumed related to AIDS</p> <p>Number of deaths due to RTA</p> <p>Number of deaths due to other injuries</p> <p>Number of deaths due to poisoning</p>	<p>As per the regular surveys</p>
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Number of deaths due to drowning	
STI treatments in private pharmacy	
Condom use by target groups	
STI prevalence amongst target groups	
Number of new HIV infections amongst target group	
Number of mental health cases in the village	
Number of substance abuse cases	
Number of injuries due to violence	
Utilisation of traditional medicine in the village	
Number of persons taking Vit A pills	
Number of professional blood-borne infection exposures	
Number of hepatitis B, syphilis, HIV positives amongst the blood donors.	

Annex F

CONSTRUCTION SOCIAL MANAGEMENT PLAN

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LIST OF ABBREVIATIONS/ACRONYMS

ADB	Asian Development Bank
AFESIP	Acting for Women in Distressing Situations
CEDAW	Convention on the Elimination of all Forms of Discrimination against Women
CHAS	Centre for HIV/AIDS/STI
COD	Commercial Operation Date
COMMIT	Coordinated Mekong Ministerial Initiatives against Trafficking
CPSMP	Construction Phase Social Management Plan
DDFI	Department for Promotion and Management of Domestic and Foreign Investment (within Committee for Planning and Investment)
DFID	Department For International Development
DHO	District Health Office
DOL	Department of Labour (within MLSW)
DWG	District Working Group
EIA	Environmental Impact Assessment
GoL	Government of Lao PDR
HH	Household
HMIS	Health Management Information System
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEC	Information, Education and Communication
ILO	International Labour Organisation
Lao PDR	Lao People's Democratic Republic
LWU	Lao Women's Union
M	micro
Masl	Metres above sea level
MDG	Millennium Development Goal
MLSW	Ministry of Labour and Social Welfare
MoH	Ministry of Health
MoNRE	Ministry of Natural Resources and Environment
MoU	Memorandum of Understanding
NGO	Non-Government Organisation
NN2 HPP	Nam Ngum 2 Hydropower Project
NN3 HPP	Nam Ngum 3 Hydropower Project
NN3PC	Nam Ngum 3 Power Company
PAP	Project Affected People
PCC	Provincial Coordinating Committee
PCCA	Provincial Committee for the Control of AIDS
PHAP	Public Health Action Plan
RC	Resettlement Committee
REMDP	Resettlement and Ethnic Minority Development Plan
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TL	Transmission Line
UNIAP	United Nations Inter-Agency Project on Human Trafficking in the Greater Mekong Sub-region
UNICEF	United Nations Children's Fund
VDCC	Village Development Coordination Committee
WB	World Bank
WHO	World Health Organisation
WREA	Water Resources and Environment Administration (now MoNRE)
YU	Youth Union

1 INTRODUCTION

1.1 The Requirement for a Plan

The construction of the Nam Ngum 3 Hydropower Project will employ around 3,500 workers over a construction period of 54 months. In accordance with MoNRE and ADB policies, all project impacts from construction activities must be described in terms of impacts and proposed mitigation so that all PAPs are fully compensated and that preventative measures are in place prior to the commencement of actual construction.

A Construction Social Management Plan (CSMP) is required to mitigate any impacts a population influx may have on communities in the Project Area. In particular, there is a need to manage this population, address health issues, prevent traffic accidents and discourage drug addiction, sexual exploitation and human trafficking. In addition, there is a need to assist local organizations to ensure that they have a good understanding of the challenges and resources to mitigate these impacts effectively and in a gender-sensitive manner.

Measures to ensure benefits to local populations, such as employment should also be covered in the CSMP. Furthermore it is expected that, if not controlled, a large number of spontaneous camp followers could affect communities and areas adjacent to or nearby project work camps. Such camp followers are generally traders and providers of various services, as well as opportunity and employment seekers. The Project and GoL will control and forbid the installation of spontaneous camp followers and ensure that the services to be provided to the workers are available within the construction camps in an organised and orderly manner.

The CSMP aims to fulfil the requirements of both GoL and ADB policies, providing mitigation for indirect project impacts (population influx followed by increasing trade, demand for services, cash economy, etc.) on communities in the vicinity of the project construction areas.

The main construction activities are to take place in three main zones (see Table 1, below).

Table 1: Project Construction Zones and affected Villages.

Zone	Main work	Affected Villages
Zone 1 – Dam and Power House construction area	Dam, Power House, Tunnel, Access Roads, camps, quarries, spoils	Long Cheng
Zone 2 – Public Road from Long Cheng to Nam Gnone	Transport	Long Cheng Nam Pha Nam Xa Nam Gnone
Zone 3 – 230 kV TL	Transmission Line Corridor from NN3 switchyard to Nabong sub-station	To be determined

Table 2 shows that 435 households (with 2,479 persons) were living in the four villages located near the dam site and public road in 2008. These villages are all located in Xaysomboun District of Vientiane Province. The villages affected by the NN3 Transmission Line will be determined through an EIA to be undertaken in the dry season 2011-12¹.

¹ An EIA (including SIA) was carried out for the original transmission line alignment. However, based on findings and a wish to mitigate impacts it was decided to change the alignment. See the REMDP for details on the impacts for the final alignment.

Table 2: Villages affected by Project Construction Land (PCL) Activities.

Village Category	Village	No. of HHs	Population	Female Population
PCL / Peri-Reservoir	Long Cheng	153	766	388
Public Road / Downstream	Nam Pha	40	225	110
Public Road / Downstream	Nam Xan	103	649	322
Public Road	Nam Gnone	139	839	441
Total		435	2,479	1,261

1.2 Objective of the Plan

The main objective of the plan is to present suitable mitigation measures for the direct and indirect impacts of camp service providers on communities in the Project Construction Lands area. The plan aims at creating a balance between providing necessary mitigation measures in order to create temporary and reasonable living conditions for camp service providers but, at the same time, controlling the scale of impacts by discouraging population influx. This implies that provisions will be 'adequate' in terms of standards for camp service providers but also take into consideration the needs of surrounding communities. The plan also addresses heightened concerns about security and health impacts due to population influx into affected areas.

More specifically, the plan will ensure that the following conditions are met:

- The Construction Contractors and sub-contractors carry out local labour recruitment including women and men as a key measure to reducing potential population influx and optimising benefits for local communities.
- Health conditions among camp service providers and residents adjacent to project sites and communities are of a reasonable standard with basic measures to ensure safe drinking water and sanitation and to reduce incidence of Sexually Transmitted Infections (STI) and HIV, so that the general health of camp service providers does not affect the health of workers or nearby communities.
- Local organisations involved in enforcement, and monitoring of health and social impacts are ensured adequate training, personnel, technical assistance and funding to plan and manage all potential social and health risks, and carry out prevention and control measures and enforcement in an effective, gender-sensitive manner.
- Illegal social and economic activities by workers and camp service providers, including drug addiction, trafficking in people, employment of children, wildlife trade are quickly discouraged and heavily penalised, including the consequences of job-loss and repatriation.

The aim of the CSMP is to present mitigation measures to reduce the expected negative impacts following the influx of new people to the area due to the Project. The main construction phase impacts will be felt in the communities closest to the construction sites.

1.3 Synchronizing the Mitigation Measures

The most significant issues in the social mitigation planning concern health and gender. The CSMP and the Public Health Action Plan and the Gender Action Plan are complementary documents with many overlapping issues. Several mitigation measures addressed in the CSMP coincide with activities planned in the PHAP and have to be synchronized accordingly. Reference is also made to EIA (Construction Phase Environment Plan section, Roads Environment Plan section) and the Contractors Environmental Management and Mitigation Plan (CEMMP). Implementation of activities, organizational structure and indicative budgets are therefore harmonized between the different documents.

1.4 Relevant Policies and International Conventions

The International Labour Law

Concerning labour laws, the most important international entity is the International Labour Organization (ILO), which sets the International Labour Law.

United Nations Instruments

While the United Nations does not deal with labour issues as such and recognizes the ILO as the specialized agency responsible for taking appropriate action for the accomplishment of the purposes set out in its Constitution, some UN instruments of more general scope also cover labour matters.

A number of provisions concerning labour issues are contained in the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights, which are legally binding human rights agreements. Both were adopted in 1966 and entered into force 10 years later, making many of the provisions of the Universal Declaration of Human Rights effectively binding.

Because of their comprehensive nature, the Covenants are drafted in general terms, and the various rights' in relation to labour are dealt with in a less precise and detailed way than ILO standards.

The UN General Assembly has also adopted a number of legally binding Conventions concerning labour matters. The most important ones are the Convention on the Elimination of All Forms of Racial Discrimination (1969), the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW, 1979), the Convention on the Rights of the Child (1989), the Status of the Refugees (1954) and the Status of Stateless Persons (1960).

ILO Conventions

ILO Conventions are not ranked in terms of their order of importance, but there is an underlying hierarchy, which can be discerned. In the first category are Conventions dealing with freedom of association and collective bargaining (Conventions Nos. 87 and 89), forced labour (Conventions Nos. 29 and 105), non-discrimination in employment (Conventions Nos. 100 and 111) and child labour (Convention 138). These core Conventions were identified and given prominence in the Conclusions of the World Summit for Social Development in 1995 (Copenhagen Declaration on Social Development). In the second category are technical standards, which establish norms to improve working conditions. Core Conventions Include:

- Forced Labour Convention, 1930 (No. 29). Requires the suppression of forced or compulsory labour in all its forms. Certain exceptions are permitted, such as military service, convict labour properly supervised, emergencies such as wars, fires, earthquakes, etc. In December 1997, 145 countries had ratified this convention.
- Abolition of Forced Labour Convention, 1957 (No. 105). Prohibits the use of any form of forced or compulsory labour as a means of political coercion or education, punishment for the expression of political or ideological views, workforce mobilization, labour discipline, punishment for participation in strikes, or discrimination. In December 1997, 130 countries had ratified this convention.
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111). Calls for a national policy to eliminate discrimination in access to employment, training and working conditions, on grounds of race, colour, sex, religion, political opinion, national extraction or social origin and to promote equality of opportunity and treatment. In December 1997, 129 countries had ratified this convention.

- Equal Remuneration Convention, 1951 (No. 100). Calls for equal pay for men and women for work of equal value. In December 1997, 135 countries had ratified this convention.
- Minimum Age Convention, 1973 (No. 138). Aims at the abolition of child labour, stipulating that the minimum age for admission to employment. The minimum age for admission to any type of employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardise the health, safety or morals of young persons shall not be less than 18 years. By April 2007, 119 countries had ratified this convention.

Labour Policy in Lao PDR

A central piece of legislation covering labour and employment in the Lao PDR is the Labour Law of 1994. This covers the rights and obligations of employees and employers. The Foreign Investment Law and Labour Law require foreign investors to give priority to Lao citizens when hiring staff. However, these enterprises have the right to employ skilled or expert foreign personnel when necessary and with approval from the relevant authority. Investors have the obligation to upgrade the skills of their local employees through training, within the Lao PDR or abroad. Before bringing in foreign labour, the enterprise must apply for work permits from the Ministry of Labour and Social Welfare (MLSW). A foreign personnel list must also be submitted to the Planning, Monitoring and Evaluation Division of the Department for Promotion and Management of Domestic and Foreign Investment (DDFI).

The main provisions in the Labour Law are as follows:

- Normal working week (48 hours per week);
- Special arrangements for shift workers;
- Holidays (15 days holiday per year + national holidays);
- Sick leave (30 days per year);
- The minimum age of employment is 15 years;
- Maternity leave (90 days paid leave).

The Department of Labour (DOL) is the focal point of the labour administration system and liaises with the ILO and other international organizations on labour-related issues. Lao PDR has ratified four ILO Conventions in 1964, including Convention No. 29 on Forced Labour.

Trafficking Treaties and Conventions

Lao PDR is a party to several international treaties that include provisions on trafficking. Article 6 of the CEDAW commits parties to take "*all appropriate measures, including legislation, to suppress all forms of traffic in women*". Article 35 of the Convention on the Rights of the Child requires parties to take "*all appropriate national, bilateral and multilateral measures to prevent the abduction, the sale of or traffic in children for any purpose or in any form*". Lao PDR is also a party to the Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others.

At the bilateral level, Thailand and Lao PDR have signed a Memorandum of Understanding (MoU) on labour migration, but there is no MoU on trafficking (though the Thai-Cambodia MoU on trafficking provides a model). At the national level, there's no anti-trafficking law as such, but several provisions of the Penal Code address trafficking-related offences such as trade and abduction of humans, rape, pornography, prostitution and procurement for prostitution, forced labour, child labour, and heavy or dangerous work for women.

In October 2004, Lao PDR signed a MoU with five other Mekong Region countries spelling out areas of practical cooperation to address human trafficking including:

- The creation of a network for repatriation of victims;
- Building similar networks between special police units;
- Improvement of Extradition Procedures;
- Preventative measures.

The signing was regarded as part of the Coordinated Mekong Ministerial Initiatives against Trafficking (COMMIT).

Construction and Spontaneous Camp Management Plans

The NN3PC intends to follow the example set by the Nam Theun 2 Project in having the Vientiane Provincial authorities issue a decree, either directly or as members of the proposed Provincial Coordination Committee, for the management of population movement through the issuing of identity cards, certificates and other official documents. The content of the NT2 Social Order Management and Small Trade Instructions that was issued by the Khammouane Resettlement Committee in 2004 has proved very successful in curtailing and controlling population influx into the NT2 Project Area.

1.5 ADB Social Protection Requirements

ADB's Social Protection Strategy 2001 requires the Borrower, the NN3PC, to comply with applicable labor laws in relation to the Project (presented above), and to take measures to comply with the core labor standards² for the ADB financed portion of the Project. NN3PC will take the following measures:

- (a) carry out its activities consistent with the intent of ensuring legally permissible equal opportunity, fair treatment and non discrimination in relation to recruitment and hiring, compensation, working conditions and terms of employment for its workers (including prohibiting any form of discrimination against women during hiring and providing equal work for equal pay for men and women engaged by NN3PC);
- (b) not restrict its workers from developing a legally permissible means of expressing their grievances and protecting their rights regarding working conditions and terms of employment;
- (c) engage contractors and other providers of goods and services:
 - (i) who do not employ child labor³ or forced labor;⁴
 - (ii) who have appropriate management systems that will allow them to operate in a manner which is consistent with the intent of (A) ensuring legally permissible equal opportunity and fair treatment and non discrimination for their workers, and (B) not restricting their workers from developing a legally permissible means of expressing their grievances and protecting their rights regarding working conditions and terms of employment; and
 - (iii) whose subcontracts contain provisions which are consistent with paragraphs (i) and (ii) above.

The above measures will be incorporated in the environmental and social management plans, and in particular in the EMMPs to be prepared by the Contractors. Their implementation will be monitored and reported regularly.

1.6 Definition of the affected Areas

The main construction activities comprise the three main zones and will affect the villages listed in Table 1. The construction activities are mainly concentrated in the following three zones:

1 The core labor standards are the elimination of all forms of forced or compulsory labor; the abolition of child labor; elimination of discrimination in respect of employment and occupation; and freedom of association and the effective recognition of the right to collective bargaining, as per the relevant conventions of the International Labor Organization.

³ Child labor means the employment of children whose age is below the statutory minimum age of employment in the relevant country, or employment of children in contravention of International Labor Organization Convention No. 138 'Minimum Age Convention' (www.ilo.org).

⁴ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

Zone 1:

Dam Site: This area includes the dam and spillway, office and housing, quarry, power conduit and a small water reservoir for water supply.

Power House: This area includes the Power House, switchyard, tunnel and penstock. A permanent administration and housing complex for the Employer will be located at the Power House site on the right bank of the Nam Ngum River.

Quarries: Two quarries are currently planned (apart from the quarry at the dam site):

New access roads: Two new access roads will be made for transport to the main construction sites:

- New road from Long Cheng to Dam Site (10 km); and
- New road to Power House (12km).

In addition some 10 km of site access roads and haul roads will be needed.

Camps: Approximately 3,500 workers will be engaged in the construction work at these sites over a 5 year period. They will predominantly be based at two camps; one at the Dam site and one at the Power House site.

Zone 2:

Public Road:The road from Nam Gnone to Long Cheng will see a considerable increase in traffic during the construction period. This will directly affect the four villages of Nam Gnone, Nam Xan, Nam Pha and Long Cheng. Villagers from other villages in the area as well as soldiers from military camps in Long Cheng, Pha Khae and Pha Noy will also be affected.

Zone 3:

Transmission Line: The 230 kV transmission line will cover approximately 495 ha with a 50m wide strip, stretching 99 km along, from the switchyard to Ban Nabong.

Work camps along the transmission line will generally consist of temporary camps that will be moved as construction proceeds along the alignment. Camps will house small work crews and will, therefore, not require any significant infrastructure. Water for the camps will be provided by villagers, otherwise purchased from cities. Sewage and solid waste will be stored in suitable tanks, sediments will be deposited at a temporarily made pond or tank near the camps.

In addition, the GMS compound in Long Cheng will be upgraded. This will not require extra land but will add pressure on Long Cheng's physical and social infrastructure.

Worker camps will be sited:

- Minimum 50 meters from any surface water bodies; and
- Minimum 1 km from any village or site of cultural significance.

Temporary equipment stockyards, work camps and mobile field offices will be constructed at places where they do least harm to the social and physical environment. The main stockyards will be located near existing towns where advantage can be taken of transportation systems, existing vacant land and, wherever possible, fenced off secure areas.

The location of the different Construction Areas is shown in Figure 1, below.



Figure 1: NN3 Dam Site and Access Road.

1.7 Construction Schedule & workforce requirements

Preparatory Works, such as the access road and bridge to the dam site commenced in 2007. The critical dates in relation to resettlement are as follows:

- Commencement of main civil work is scheduled from October 2011.
- Commencement of the filling of Nam Ngum 3 Reservoir in 2016.
- Commercial operation is scheduled to start in January 2017.

All resettlement activities are scheduled in relation to the above key dates.

Construction employment is normally short term with abrupt peaks and very rapid declines in workforce numbers. A construction workforce is generally highly transient and although total

numbers of the workforce may appear stable, this may result from equal numbers of incoming and outgoing workers. This highlights the need for flexible and well-managed accommodation arrangements.

Although nothing is known at this stage about the work schedules of each staff category, it is anticipated that the construction workforce will adopt a 16 or 24-hour shift roster system that will allow extended periods of work, followed by breaks to allow workers living in camps to return home. The particular rotation adapted currently depends on each sub-contractor's conditions as outlined in individual and collective contracts.

The combination of the direct workforce and camp service providers will significantly increase the total population living within the vicinity of the main construction camp area for a period of 4-5 years. The estimated work force per camp is shown in Table 3. The demand for staff is most likely to be at its highest in year 2, 3 and 4. On average, the labour force demand will be about 3-4,000 people over all construction sites.

Table 3: Estimated Construction Phase Labour Force.

Camp Location	Works Sites Focus	Duration	Persons
Two main camps, at Dam Site and Power House	Dam, tunnel, adit, Power House and switchyard	Oct 11 – Dec 16	3,000
New access roads	Roads and bridge	April 11 – Oct 11	200
Temporary construction camps (moving along the transmission line)	230 kV TL	Nov 11 – May 15	200

2 BASELINE CONDITION IN/AROUND CONSTRUCTED AFFECTED AREAS

The construction affected areas are generally sparsely populated. Apart from the area affected by the transmission line, construction related activities will only affect directly one village. The initial alignment of the transmission line has been surveyed and results are presented below. Based on the EIA for this alignment, the routing has been realigned in order to minimize the impacts. The EIA/RAP for this – final – alignment will be carried out during the dry season 2011-12.

2.1 Demography and Ethnicity

Demography and population growth

Only one village will be affected by construction related activities, Long Cheng. This village had in 2007 153 households and a population of 766.

Table 4: Demography in Villages affected by NN3 Construction related Activities.

District Name	Village Name	No. of HHs	Population	Female
Xaysomboun	Long Cheng	153	766	388

The Transmission Line in the alignment proposed runs through nine villages and four districts (see Table). Xaysomboun and Hom districts are in Vientiane Province, while Pak Ngum District is in Vientiane Capital. Furthermore Thaphabath District in Bolikhamxay Province is affected within Phou Khouay Kao NPA.

The survey identified 1,190 households with a total population of 7,490 people living along the proposed transmission line. The female population constituted up to 3,720 (50%). The average household size was approximately 6.3 people per household, as shown in Table 5.

Table 5: Demography in Villages along the initial alignment of the Transmission Line.

District	Village	No. of HHs	Population	Female
Xaysomboun	Nam Gnone	139	839	441
	Nam Ard/Nam Cha	40	247	116
Hom	Meuang Long	81	608	304
	Houay Siet	31	160	78
	Hin Sor	70	488	231
	Tham Din	76	527	267
Pak Ngum	Ban Non	112	498	245
	Thakokhai	412	2,768	1,400
	Na Bong	229	1,355	638
Total		1,190	7,490	3,720

Source: Village interview 2007.

Ethnicity

Nearly three thirds of the population in Long Cheng is predominantly Khmu (72%) with a quarter being Lao-Tai.

Table 6: Ethnicity in Villages along Access Road

Village	Population	Lao-Tai	Khmu	Hmong
Long Cheng	766	26%	72%	2%

Source: Village interview 2007.

Hmong is the dominant ethnic group in seven of the nine villages along the Transmission Line and constitutes 57% of the 1,190 households in these nine villages. Lao-Tai dominates in the other two villages and makes up 43% of the total number of households.

Table 7: Ethnicity in Villages along the Transmission Line.

District	Village	HHs	Lao-Tai	Khmu	Hmong
Xaysomboun	Nam Gnone	139	0	0	139
	Nam Ard/Nam Cha	40	2	0	38
Hom	Meuang Long	81	0	0	81
	Houay Siet	31	0	0	31
	Hin Sor	70	0	1	69
	Tham Din	76	0	0	76
Pak Ngum	Ban Nonh	112	112	0	0
	Thakokhai	412	164	0	248
	Nabong	229	229	0	0
Total		1,190	507	1	682
Percentage			43%	0%	57%

Source: Village interview 2007.

2.2

Socio-Economy

Average household income for villages affected by construction activities and the initially proposed transmission line is presented in Table 8, below. The income figures include value of agricultural production and cash income from off-farm activities. Most of the agricultural production is for household consumption, but surpluses are sold or exchanged for other goods.

An average household along the access road produces about 2 tonnes of rice annually of which 2/3 come from paddy land, with the rest from swidden production. Only two percent of the rice produced is sold. Paddy rice amounts to 34 percent of total income for access road villages and 44 percent for transmission line villages, which shows its importance in a subsistence economy.

Livestock is also a key income source, amounting to about 12 percent for an average household, for all households along the transmission line and access road. Domestic animals are an important source of cash income when they are sold to nearby markets. Small livestock such as chickens and pigs are also used for consumption and religious ceremonies.

All households along the access road and transmission line are highly dependent on their nearby natural environment and a large portion of income is harvested from nearby forests and streams. Collection of NTFPs amounts to 5 percent of total income for households along the access road, while only 2 percent for households along the transmission line. More than half (60 percent) of the NTFPs collected are used within the household while the remaining are sold to other households or nearby markets. The value of fish is estimated to be 3 to 4 percent of the total value for project lands villages. Average annual fish catch reported is 34 kg per household with an estimated value of about 500,000 Kip. Only 20 percent is sold to nearby markets which indicates that fishing is mainly for self consumption. Nam Cha has the highest annual catch per household with 132 kg per household, while Meuang Long, Houay Siet, Hin Sor, Tham Din, Ban Non, Thakokhai and Na Bong all report a low annual catch.

For access road villages agricultural production, including harvesting from nearby forests, amounts to 58 percent of total income, while for households along transmission line off-farm income sources provide the major source of income with 52 percent. This difference might be explained by the fact that most transmission line villages are closer to markets and good infrastructure as compared with access road villages.

The main off-farm income activities include daily wage labour, handicraft production, small scale industry (mills, blacksmiths) public services, and small businesses such as restaurants and shops. The most important off-farm activities for people living along the access road include daily wage labour (22 percent) and small business (14 percent). For transmission line villages businesses are the most important source of income (22 percent), while wage labouring and handicraft production amounts to 13 and 6 percent respectively.

Detailed baseline information for project lands villages can be found in the SIA.

2.3 Women's' Situation and Vulnerability to Trafficking

Villages near project construction lands areas may lose small amounts of productive land. Whilst this impact will be compensated by NN3PC the impact is likely to affect women more than men as efforts to refocus into other productive areas may disproportionately burden women as primary productive actors.

A large influx of male construction workers into project construction lands areas is likely to cause an increased demand for women and girls to have both paid and unpaid sexual relationships. Ethnic minority groups such as the Khmu are particularly at risk from sexual exploitation.

Road expansion accompanied by increased movement of people and goods through project areas may facilitate the trafficking of women, girls and boys.

New social situations may increase the spread of STIs and HIV/AIDS. Women working in the sex industry and male users of the industry especially truck drivers are at high risk.

Table 8: Average Household Income (cash and imputed) for Long Cheng and Villages along Transmission Line.

No	Name Of Villages	Subsistence agriculture - Surplus sold to market										Cash Income						Total
		Rice Paddy	Swidden	Orchards	Large Livestock	Small Livestock	Poultry	House Garden	Hunting	Gathering (NTFP)	Fishing	Off Farm Labour	Public Service	Pension	Small Business	Handcraft and small industry	Other	
4	Nam Gnone	2,370	480	54	1,077	196	58	88	-	362	378	9,827	176	-	7,898	-	72	23,036
5	Nam Cha	530	6,900	150	2,225	750	256	188	-	1,473	1,920	175	-	-	-	-	-	14,567
6	Meuang Long	5,225	1,941	6	2,665	1,219	394	13	588	369	113	625	-	-	150	13	263	13,579
7	Houay Siet	720	3,709	900	-	-	9	-	-	250	85	2,000	-	-	-	-	-	7,673
8	Hin Sor	3,169	1,763	188	2,577	38	100	496	-	208	275	1,877	738	-	350	-	391	12,171
9	Tham Din	1,428	2,254	59	2,025	709	44	53	7	131	227	488	-	-	588	31	993	9,034
10	Ban Non	4,473	36	14	2,091	-	92	145	-	44	245	1,936	273	-	364	545	545	10,804
11	Thakokhai	2,311	835	27	1,076	27	608	56	-	22	770	1,534	110	293	2,651	1,525	805	12,648
12	Na Bong	2,163	1,417	-	-	-	20	33	-	-	24	1,229	1,192	250	20,646	7,258	8,358	42,590
Total		2,488	2,148	155	1,526	327	176	119	66	318	449	2,188	277	60	3,627	1,041	1,270	16,234
Percent		15%	13%	1%	9%	2%	1%	1%	0%	2%	3%	13%	2%	0%	22%	6%	8%	100%

Remarks: Figures are 1,000 Kip.

The following prices have been used to calculate value of production: Rice 2,000 Kip/kg, Orchards: 7,500 Kip/kg, Poultry: 25,000 Kip/animal, House Garden Products: 5000 Kip / kg, NTFP: 5,000 Kip/kg and Fish: 15,000 Kip/kg.

3 PROJECT IMPACTS RELATED TO SOCIAL MANAGEMENT

3.1 Lessons Learned from Immigration to Construction Areas

The boom and bust phenomenon of the construction of large infrastructure projects has been researched (Scudder, 2005) and the experience from construction of the existing Theun Hinboun Hydropower Plant has also been documented. The average population increase over the eleven years of available data (1993-2003) in THPP area has been 5.5 - 6% (see Figure 2). Taken into account that population growth in Lao PDR is 2.2% (UNDP 2003) for this period, the growth in the Theun Hinboun project impact areas is significant. Khounkham (Nahin) and Kengbit villages experienced an annual average population growth during this period of 14 %. The main reason for this is in-migration to villages along the roads during project construction to provide services and goods to the project and its workers. Another reason for this growth is consolidation of villages either as spontaneous movement or as a part of the government relocation program. The number of villages in the Project area decreased from 25 in 1993 to 16 in 2000 through village consolidation.

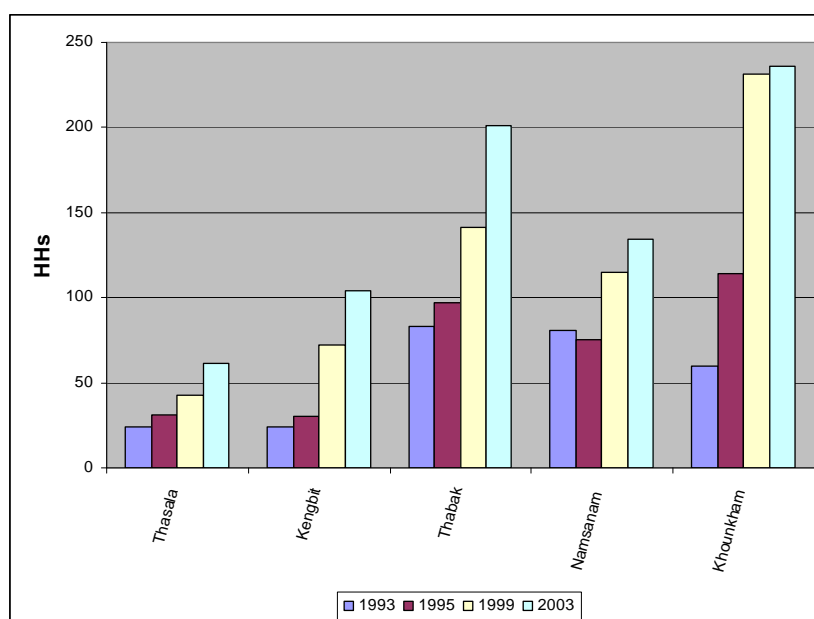


Figure 2: Population Increase for Selected Villages in Theun Hinboun Area, 1993-2003.

3.2 Direct Workforce Impacts

The number of construction workers living in the two main camps at the Dam and Power House sites will be at least double the number of persons residing in the villages situated along the access road. The in-balance between the female and male population is going to be drastic. The largest work camp at the Dam Site is situated around 10 km from Long Cheng, hosting a population consisting of 388 women and 766 men⁵, which will increase the in-balance to more than seven males to one female, assuming that most workers are male.

The influx of male construction workers into the area will potentially increase the risk of both sexually transmitted and other contagious diseases. Access to alcohol, drugs and related addictions is predicted to increase. Numerous construction workers have previously been

⁵ The existing unbalance is caused by the army camp in Long Cheng that hosts around 550 soldiers.

contracted at large infrastructure construction projects with habits of heavy drinking, drug addiction and sexual exploitation of local women.

Increasing the population will affect both the natural and socio-cultural and economic environment of the local communities. The degree and extent of the socio-economic impact can be explained by two variables: The size of the workforce in relation to the host population and secondly the relative proximity of the project to a regional centre.



Figure 3: Work Camp at Power House (2007).

3.3 Spontaneous Camp Followers vs. Camp Service Providers

The issues associated with the boom and bust effects of the construction of large energy and infrastructure projects is extensively documented in the literature in both Western and Asian countries, and the experience at the Theun Hinboun Power Project as illustrated above supports this to some extent. As projects become more remote they tend to be in locations where towns are relatively small in size and there is a greater demand to import multiple direct and indirect services and thus camp followers.

The arrival of construction workers and the construction of their camps will bring about various new opportunities for traders and other service providers. Spontaneous migration into the area, if not controlled, will increase, and newcomers will try to erect their shops and houses wherever they find lucrative space for business and residence. If not regulated, the spontaneous construction of shops, bars and restaurants as well as residential houses will potentially lead to uncontrolled settlements with poor sanitary conditions. This may lead to an increased risk of epidemic and contagious diseases. If the formation of camp followers' areas is not regulated, it will lead to many conflicts over land as well as exploitation of the land and water resources of the existing population. The project and GoL will prevent the installation of camp followers and will ensure that services are provided, in a controlled and regulated way, within the camps.

The estimated total number of camp followers that could be expected without the implementation of a social management program is shown in Table 9. This table presents the worst-case scenario and the most probable case. The worst case is based on previous experiences from the Theun Hinboun Project. The multiplier reported from this experience was that for each direct worker there were four camp followers. In this case, many camp followers brought their families, which led to the high multiplier. The following assumptions are made based on the study of spontaneous movement of people at the Theun Hinboun Project site

(1993-2003) For the worst case scenario an approximate factor of four is assumed as a general increase in the population at the camp site. For the most probable scenario the factor is assumed to be two.

Table 9: Potential Population Influx to the NN3 Construction Areas.

Scenarios	No. of workers	Camp followers	Total	Pop. of nearest towns 2008*	Total Pop. in area during Construction	Relative Increase
Worst case (Multiplier of 4)	3,500	14,000	17,500	2,523	20,023	694%
Probable Scenario (Multiplier of 2)	3,500	7,000	10,500	2,523	13,023	416%

* Villages along Long Cheng – Nam Gnone Road: Long Cheng, Nam Pha, Nam Xan and Nam Gnone with expected population growth on 2.2% from 2007 numbers.

General assumption for both scenarios:

- Average work force over the five years of construction is used for this calculation.
- Approximately half of the influx is local Lao, that is from villages within or immediately adjacent to the Project area – this is due to proximity, knowledge about the Project and expectation of work and other benefits. Many households split, leaving some members in the natal village and setting up a smaller residence near project camps.
- Majority of the remaining population will be Lao from other parts of the country.
- It is assumed that approximately 30% of the increase will be 'foreign' camp service providers mainly from China, Vietnam and/or Thailand, since 30% of the total workforce will be foreign workers.

The two scenarios presented in Table 9 shows that, without any control, the net influx of people during the construction period could be about 700% and 420%, respectively. Both scenarios would affect the existing villages substantially. This influx of people would lead to more pressure on existing agricultural land, water resources, sanitation facilities and health and education facilities.

3.4 Transportation and Traffic

The construction is going to increase project related heavy transport and traffic as well as spontaneous traffic due to an increasing number of people moving around, in and out of the area. Risk of traffic accidents will increase, and inhabitants along the national road will be exposed to more noise and pollution. The expected increased number of bars serving alcohol in the area will also contribute to drunk driving and road accidents connected to alcohol and drug abuse.

People in cars, on motorbikes, bicycles as well as pedestrians will be exposed to the dangers of increasing traffic. Women and men may face different levels of risk. Men as the primary drivers of vehicles are at high risk of personal injury or death. Women and children without access to vehicles are at risk of injury or death as pedestrians. Women use the national road for walking to reach their fields and forests and carry heavy loads of agricultural and forest products along the road. Children walk long distances to school along the national road and are exposed to the traffic.

3.5 Health Impacts

In the Public Health Action Plan the health impacts related to construction workers, camp service providers and transportation workers are described in more detail. Some of the major construction impacts are the incremental occurrence of the following health related issues:

- Respiratory diseases, including acute respiratory infection (ARI, bacterial and viral), pneumonias and TB;

- Sexually transmitted infections (STI) including to HIV/AIDS, herpes, syphilis, gonorrhoea, Chlamydia, hepatitis B;
- Soil and water-borne diseases including leptospirosis, schistosomiasis, meliodosis and cholera;
- Food and nutrition, including stunting, wasting, micronutrient deficiencies, gastroenteritis (bacterial and viral); opistorchiasis infection;
- Accidents and injuries, including, traffic and road related, construction (home and project related), drowning and electrocution; and
- Psychosocial stress, including, substance abuse, violence, security concerns, depression and threats to communal social cohesion, and traditional medicine providers and practices.

4 CONSTRUCTION SOCIAL MANAGEMENT PLAN

4.1 Introduction

The Project Construction will have significant impacts on the local people adjacent to the construction sites. The construction will bring about changes that affect to some extent their natural and village environment, and significantly their livelihoods, income earning opportunities as well as social and cultural life. The most affected village is Long Cheng which is located close to the main camp at the Dam Site. However, the other villages along the public road and transmission line will also be affected. Therefore, all the social mitigation measures have to be coordinated and implemented in full cooperation with these communities.

Ethnic minority groups in the project area have had, through other projects in the area (Nam Ngum 2, Phu Bia Mining, ...) some experience with cash transactions and wage labour. Women have less experience than men with external monetary transactions. Therefore they may be easy to manipulate economically by shrewd dealers. New working opportunities for women may be exploitative if the local women are not aware of their rights as workers. The Construction Social Management Plan (CSMP) gives special attention to the role of women including issues related to their paid employment in the project works.

The main objective of the CPSMP is to focus on preventive measures to be carried out by the MCC, the ESD of the NN3PC and the various district level organizations in cooperation with local bodies and village organisations.

4.2 Direct Workforce Local Labour Recruitment Policy

Contractor Obligations and Safety Measures

The Construction Contractors are required to provide adequate living, health, water, sanitary conditions and management of hazardous materials and solid waste in the workers camps in order to avoid increasing health risks from the workers on the local population. Specific measures have to be implemented to reduce the negative social and health impacts on women and children and the risk of trafficking as well as prevention of contagious diseases spreading.

The project intends to issue a Local Labour Recruitment Policy which includes the following provisions:

Targets

The Policy will state that “*priority will to be given to Lao workers over foreign workers*” and require to prepare and implement a Lao Labour Preference Plan:

- All unskilled job categories to be taken by suitably qualified Lao Nationals.
- Semi-skilled jobs to be taken by suitably qualified Lao Nationals.

Reserved Positions

Where feasible, positions will be reserved for affected people living in villages affected by Project Construction Land activities. This includes both women and men.

Wages

The Construction Contractors and sub-contractors shall ensure that same wages are guaranteed for male and female workers for work of equal type.

Catering

All camps will provide meals sourced from a catered mess for all direct workforce personnel.

Training

Training will be provided for workers that, in addition to their existing skills, need extra instruction to fulfil their given tasks for the NN3 HPP.

Workforce Discrimination

The proposed policy will highlight that there will be no ethnic or sexual discrimination in recruitment procedures. The Construction Contractors will further establish Gender Balanced Targets (GBTs) within all recruitment documents and hiring plans to ensure that women have increased opportunities to enter into the work force at all levels.

GoL Camp Service Provider Policy

The NN3 HPP will aim at developing a policy on Camp Service Provider Management issued as a Decree by the Governor of Vientiane Province. The Decree will be issued before commencement of construction.

Construction Contractor's Agreement on Labour Recruitment

The following issues regarding hiring of personnel will be included in the Construction Contractor's Agreement:

- The MCC and sub-contractors are to comply with the Lao Preference Requirements, including vocational training of Lao nationals for project labour.
- Rates of wages shall not be lower than the level periodically fixed by the Government for each region. (Labour Law, Lao PDR 1994, Article 40). The Construction Contractors and sub-contractors will comply with all existing Lao laws relating to employment conditions, health and safety, legal rights of workers and working hours as outlined in Lao PDR Labour Law of 1994.
- The Construction Contractors and sub-contractors will not employ children under the age of 18 to carry out hard manual work.
- The Construction Contractors and sub-contractors are to provide the necessary accommodation and facilities, as well as amenities, services and other structures free of charge and to maintain these facilities in good condition.

In addition, the Construction Contractors and sub-contractors will formulate a unified Nam Ngum 3 Workers' Code of Conduct, which all employees will be required to sign and abide by. The ultimate consequence for violation is job dismissal. The Code will be explicit and sensitive to local concerns regarding gender, culture, social issues and wildlife.

The Construction Contractors will be obliged to ensure that all sub-contractors follow these regulations.

4.3 Community Management and Infrastructure Development

It is clear that the existing social environment, local services and institutions within the primary impact areas have a low capacity to absorb and service the estimated workforce and camp service providers.

In order to reduce these risks, a social management and mitigation program has been prepared. The main components of this plan are:

- Restricted areas and access;
- Additional and improved infrastructure;
- Health and Sanitation;
- Security and population management;
- Traffic safety and regulations; and
- Capacity Building for local GoL agencies and staff.

Restricted Areas and Access

For safety and security reasons there is a need to keep all camp service providers outside of the actual construction sites and control access by gates at entrances. The regulation of access requires the following measures:

- Gates manned by trained guards to control entry and check identification of vehicles and personnel;
- Fencing off areas to keep out animals and people and provide alternative routing and paths if normal access has been cut by construction activities;
- Information to nearby villages about changes in access and restricted areas;
- Enforcement of no buildings or structures along access roads or near/in camps;
- Clearing of areas for services, restaurants and other facilities to be managed and policed by local authorities. These areas must be identified as soon as possible in discussions with District Authorities.

Infrastructure

There are three main issues to be addressed under infrastructure development: water supply, sanitation and waste disposal. The aim is to have 'adequate' infrastructure – enough to provide for basic needs but not to encourage further population influx. This infrastructure will be provided by the camp service providers themselves through regulating measures to be established by village, district and province authorities and supported by NN3 HPP. NN3 HPP will support health and hygienic measures to be undertaken.

Water Supply

Only a third (workers within camps) of the expected population increase of 400% in the villages affected by construction activities will be supplied with safe drinking water. Given the present insufficient and unreliable water supply systems in some of these villages, there is a need to ensure a regular supply of safe drinking water to designated camp service providers areas.

The following steps are required:

- Drafting of a plan for the supply of water to camp service providers areas, based on estimated population increase and scenarios for the construction period;
- Minimum of one tube well or tap per 20 camp service providers families is an acceptable rate;
- Ensure that restaurants and stalls have supplies of clean, running water for washing utensils, food and for customers to wash hands before eating, and measures to enforce these conditions; and
- Camp service providers areas will be a key location for water quality and use monitoring due to the relative high population density and risk of contamination of water supplies by different users (households, business and small industries).

Sanitation

Sanitation relates to the construction of toilets in camp service providers areas. This will require the following activities:

- Draft a plan for the construction of toilet facilities for camp service providers areas, based on estimated population increase and scenarios for the construction period;
- Minimum of one toilet per 5 camp service providers households is an acceptable rate;
- Management arrangements for maintaining toilet facilities to be outlined in the plan – responsible party to be identified and funds secured for maintenance; and
- Waste water treatment (e.g. septic tanks).

Waste Disposal

Given the expected population increase, there will be a need to organise an effective waste collection and disposal system. The following steps are required:

- Draft a plan for waste collection and disposal system for camp service providers areas, based on estimated population increase and scenarios for the construction period; and
- System to be funded through collection fees or as part of the direct tax for camp service providers areas.

Health Issues during construction

In addition to safe water supply, sanitation and waste collection and disposal, there are a number of other outstanding health issues. To manage the increasing health risks and negative health effects both during and after the construction phase, the focus of the PHAP is on capacity development of the local health staff and increased health awareness among local people in the Project Lands. The following activities are emphasised in the PHAP:

- **Preventive services:** Preventive services in the construction areas will focus on HIV/AIDS/STI prevention. This includes information campaigns, testing, counselling, treatment and care of HIV positive individuals which will be carried out by the NN3PC HLO staff in close cooperation with district and province health authorities.
- **Curative services:** Upgrading the Long Cheng HC and provide ambulance services to transport referred patients to either Vientiane or the provincial hospital in Phone Hong.
- **Monitoring & supervision:** NN3 HLO will work closely with relevant MoH monitoring and supervision staff at PHO and DHO levels to ensure that documented MoH processes for monitoring and supervision are followed. The health, water quality and socio-economic monitoring plans will include camp service providers areas since these areas are likely to be places where disease outbreaks may occur and where other social and health problems may arise.

Population Management and Security Issues

Security and population management are important aspects for camp service providers, both from the point of view of internal security (ensuring safety and order) and potential negative impacts on nearby communities (crime or negative social influences). There are two main preventative issues: 1) supporting and improving security measures; and 2) demographic management and monitoring.

A number of interventions are necessary in order to manage the potential population influx into the project area. These form the basis for a management plan but require support and linkages to other Nam Ngum 3 Project activities:

- Issuance of new family registration books (improved family book system designating two heads of each household) and citizen cards to selected communities in the vicinity of project sites and camps – support to district authorities to develop such a system (see Institutional Arrangements below);
- Development of an improved system for the registration of temporary residents; and

- Training and support for local authorities in villages affected by construction activities and district authorities to carry out and enforce population management measures;

Traffic Safety and Regulation

The Construction Contractors are responsible for road conditions in the project area and will follow standard safety procedures and regulations regarding noise and dust pollution, such as regulating working hours for heavy machinery, speed limits, signposting and watering of roads in inhabited areas. Hence, reference is made to the CEMMP to be produced by the Construction Contractors. However, there is a need for further measures relating to general awareness and monitoring, especially in camp service providers areas where population density will be relatively high.

The following measures will be carried out jointly by the Community Development Unit of ESD and the Construction Contractors:

- Develop traffic regulations and monitoring for implementation in Project Construction areas;
- Implementation and monitoring carried out in coordination with the Construction Contractors and/or sub-contractors regarding scheduling of vehicle movements, etc.;
- Vehicles will have to travel in convoys along the route to the project sites and will be required to regroup at the entrance of the various villages before they pass through with proper signalisation.
- Road safety programme for schools in the vicinity of project sites and along the upgraded access road.

Capacity Building Requirements for Local Organisations

A key aspect of this mitigation plan for social impacts from camp workers and related aspects is to ensure that local organisations and GoL agencies have the capacity and resources to deal with population influx and any social problems arising from this influx.

Support for District Police Offices

The District Police Office will play a key role in relation to security and population management. The following aspects need to be addressed:

- Development of plans for the local District Police Offices in accordance with the Nam Ngum 3 construction schedule and potential influx of population;
- Assistance in establishing routines, roles and responsibilities and reporting procedures as well as clear linkages with other project-related organisations;
- Additional funds for meetings and planning in relation to Nam Ngum 3 tasks and daily operation;
- Assessment of capacity to perform tasks and identification of suitable training (including gender training) for local staff in relation to Nam Ngum 3 requirements; and
- Supporting local District Police Offices during construction for at least one additional female police officer who has been trained in gender sensitive methods of intervention due to the increased demands to cover women's security, anti-trafficking measures and female camp service providers.

Support for District Lao Women Union

As described in the Gender Action Plan, the district and village level LWU will be provided with funding and capacity building, as required, to work together with other relevant agencies in implementation of Information Education and Communication (IEC) outreach on HIV/AIDS/STIs and human trafficking in project construction areas.

4.4 Sexually Transmitted Infection Impacts and Management

Impact of HIV/AIDS during construction

The influx of large numbers of male construction workers will most likely be accompanied by the introduction of large numbers of sex workers operating close to construction campsites. This will increase the risk of spreading Sexually Transmitted Infections (STIs)/HIV especially in villages around the Nam Ngum 3 Dam Site Construction Camp. Women and girls may be vulnerable to manipulation sexually and socially by the large numbers of men arriving in the area. Ethnic minority girls in particular may be drawn upon to supply the paid sex industry. Some of the villages along the public road are already facing the problem of women selling sexual services to truck drivers, police and military, etc.

While the recorded prevalence of HIV in Lao PDR is low, countries surrounding Lao PDR have high prevalence rates and people are increasingly mobile within and between countries making Lao PDR potentially vulnerable to an epidemic. Condom use and awareness of HIV/AIDS are still low, particularly in rural areas, raising the risk that HIV infections could spread quickly. Women's low health status and lack of information about STDs and HIV/AIDS makes them especially vulnerable to HIV/AIDS although men in Lao PDR have been infected at a higher rate than women. Male truck drivers and women working in the sex industry are among the groups that have had the highest incidence of positive test results for HIV in Lao PDR.

HIV/AIDS is not just an issue affecting health, but it also has linkages to many other aspects of society and development. Development can lead to increase of population mobility, internal and external labour migration and changes in lifestyles or sexual behaviour of populations, which are all ingredients for an accelerated spread of the epidemic. Low levels of HIV/AIDS awareness, limited access to comprehensive services, unfavourable social and culture norms, low socio-economic status of women, and high levels of poverty additionally constitute a complexity of the problem.

Interventions

To address these issues during the construction stage, the Construction Contractors will be required to engage a suitably experienced government or non-government organization to develop and implement an IEC campaign for workers. With advice and assistance from this organization, the Construction Contractors will be required to provide their workforce with appropriate means of protection against STIs. The Construction Contractors will also be required to finance an extension of the IEC program to surrounding communities ensuring that both women and men have access to the information.

4.5 Human Trafficking Impacts and Management

Impact of Trafficking

There is growing concern that the expansion of road networks linking Lao PDR with neighbouring countries will facilitate the trafficking of women and girls from remote areas of Lao PDR to Thailand and other countries. Improved transport routes, increased tourism and the displacement and resettlement of ethnic minority communities puts Lao PDR at risk of increasing movement of minority girls to supply the Thai sex industry. The spread of HIV/AIDS in Thailand further drives this demand by raising the perceived value of young girls from remote areas who are seen as less likely to be infected with the virus. Young girls are also at higher risk of intimidation and control by brothel owners and middlemen when they lack language skills and education (Feingold 2000).

A study on child trafficking conducted by MLSW and UNICEF (2004) found that young women from all provinces were trafficked internally to Vientiane and to other destinations for factory work and sexual exploitation. The majority (60%) of trafficking victims identified through the research were females aged between 12 and 18 years with a disproportionate number coming

from ethnic minority backgrounds. Ethnic minority victims were mostly from recently relocated villages or households.

The influx of large numbers of construction workers and camp service providers combined with improved transport routes can lead to increased trafficking of women and children. The risk of external trafficking within primary impact areas is considered medium. The project will improve the current employment situation in the impact area which will put less pressure on people to move abroad to find paid jobs. During the construction period, current projections suggest that there will be a net excess of workers available, so there should be no pressure on local wage rates to increase. What is being offered by the project is more stable and continuous employment for qualified workers.

Interventions

Two strategies are recommended for controlling and monitoring trafficking, namely information campaigns and monitoring.

Information Campaigns

It is proposed that an information campaign be run on behalf of NN3PC by one of many qualified bodies currently undertaking research and implementation on trafficking (e.g. AFESIP – Acting for Women in Distressing Situations). The project will also work together with GoL that has established a commission on trafficking in women and children and anti-trafficking chapters within MLSW and the Immigration Department. The MLSW chapter supported by the UN Interagency Project on Trafficking in Women and Children (UNIAP), UNICEF and others are coordinating several projects in data collection and research as well as awareness raising among young people and other vulnerable groups. The project may also work with the LWU and the Youth Union (YU) to ensure IEC campaigns reach vulnerable women.

The objective of the campaign will be to inform villagers of the dangers and types of trafficking, including information on STI/HIV/AIDS and other health and social issues. The project will produce 'safe migration' messages for local radio broadcasts and print materials in ethnic languages. Messages will target women, boys and girls especially. Another way of spreading information may be to develop training materials in life skills for primary schools and health care programs especially aimed at ethnic minority women, girls and boys in the project area. The campaign will target the direct workforce and local residents of district affected by construction activities.

The Project will collaborate with the police, the local VDCCs, mass organizations and local NGOs (e.g. AFESIP) to promote the awareness on STI/HIV and on trafficking. Such organisations could also be involved in monitoring of the trafficking issue.

Monitoring

There is no baseline data on trafficking in NN3 construction areas.

The monitoring will be done by the police force in consultation with the VDCCs and appropriate mass organizations (particularly LWU and YU). Training and capacity building on trafficking issues will be provided by the ESD (NN3PC).

4.6 Overview of Impacts and Mitigation Measures

The most significant impacts that can be anticipated, proposed mitigation measures and main parties responsible for implementation are listed in Table 10, below.

Table 10: Overview of Construction and Camp Impacts and proposed Mitigation.

No.	Potential Impact	Proposed Mitigation	Responsible Party and Budget
1	Potential for unregulated development of sub-contractor work camps.	Construction Contractors responsible for sub-contractors camp construction and monitoring of conditions.	Construction Contractors to cover costs of supervision and NN3PC to monitor.
2	Potential for a proliferation of random disorganised camp follower developments with unhealthy and unsanitary living conditions.	Social Management Plan for Camp Service Providers to include measures for enforcement of residence in designated areas and registration of all newcomers. Health team of ESD to monitor health and sanitation conditions in camp service providers areas.	GoL authorities, including police and village leaders responsible for patrolling and enforcing compliance with GoL regulations. Support from NN3PC and Public Health programs. NN3PC to provide funding and to oversee measures in cooperation with GoL implementing agencies. Budget under CSMP.
3	Increased risks to local residents' health.	PHAP outlines health improvements and mitigation measures for local populations and camp service providers. These include sanitation awareness campaigns, toilets, installation of safe drinking water and other measures.	The NN3PC Health Team responsible to follow up on health interventions for population in vicinity of camps. GoL to provide staff for composite field teams. Budget under PHAP and CSMP.
4	A risk in growth of selling of sexual services in the camp service providers population and sexual activity or exploitation in adjacent villages.	STI/HIV awareness campaigns for camp service providers areas and adjacent villages, distribution of free condoms and promotion of condom use, monitoring and awareness by peers, improved diagnostic and treatment of STDs, volunteer testing and counselling services	Health team of ESD responsible to implementation of preventative programs and for follow up on health interventions for population in vicinity of camps. GoL to provide staff for composite field teams. Budget under CSMP.
5	Increased risk of human trafficking around construction areas and improved road networks.	Training on anti-trafficking strategies for police. IEC campaigns targeting the most vulnerable women and children with 'safe migration' messages.	GoL authorities including police, VDCCs and mass organizations including the LWU and YU with support from NN3PC. NN3PC to provide funding for training for relevant agencies and for IEC outreach. Budget under CSMP.
6	An increase in the demand for food and other essential supplies in town markets and inflation.	Nutritional aspects to be monitored by Health Teams and prices of key commodities monitored under socio-economic monitoring program.	Monitoring by Health Team and socio-economic surveys to be carried out frequently by ESD. Budget under PHAP and ESD Monitoring provisions.
7	Potential for anti-social behaviour due to drinking, gambling, prostitution and harassing of local women.	Workers' Code of Conduct will be signed by all employees with work dismissal as a consequence. Support to local district police offices for at least one additional female police officer trained in gender sensitive	Implementation by Construction Contractors and sub-contractors' companies. GoL authorities to monitor security situation with support from NN3PC. Budget under CSMP.

No.	Potential Impact	Proposed Mitigation	Responsible Party and Budget
		methods of intervention.	
8	Lack of supply of potable water and water for domestic use for local population due to population influx	Provisions for improved water supply and sanitation and awareness programs for villages near construction sites and camps. Water quality and monitoring programme under the EMMP.	Additional water sources and improvements supervised by Health Team and construction/installation by Infrastructure Team Budget under CSMP and PHAP.
9	An increased risk in traffic accidents with unregulated control of construction vehicles.	Traffic safety programme by Construction Contractors for all drivers of vehicles, signposting, speed control measures, system of fines for traffic violations. Traffic awareness programs for schools and villages in the vicinity of sites. Information will be provided in local languages if required. Information on reporting violations to residents. Vehicles will be required to travel in convoys and to regroup before they pass through villages.	Construction Contractors to cover cost of safety programs for workers. NN3PC to support education awareness programs for schools and other measures. Budget under CSMP.
10	Dust and noise by project vehicles creating health hazards for residents with houses in close proximity to the road and construction areas.	Dust and noise control measures for all project sites and adjacent populated areas. Acceptable levels outlined in the EMMP and in the Construction Contractors' documents.	Costs included in the Construction Contractors and sub-contractors agreements. Monitoring by Environmental Unit of ESD for areas outside camps.
11	The project has the potential to significantly increase jobs, employment and incomes of men and women in the local area which would help to mitigate the above negative impacts.	Direct Workforce Local Labour Recruitment Plan includes targets to local and external hiring. The Construction Contractors and sub-contractors must aim to purchase at least 50% of the food for labour camp from the local villages or elsewhere in the district. Contractors and subcontractors EMMPs include measures to comply with ADB Social Protection requirements	Costs for the requirement of local labour covered by Construction Contractors. Assistance to be provided by NN3PC to District and local GoL authorities to supervise recruitment at established centres. Budget under CSMP. Semi-annual environmental and social monitoring reports submitted to ADB include information on compliance with ADB Social Protection requirements

4.7 Project Organisational Arrangements

The Construction Social Management Plan will be carried out by the ESD of the NN3PC. For the overall organisational setup refer to Chapter 9 of the REMDP.

Specific organisational arrangements for implementing the Construction Social Management Plan will involve the following organisations:

- Project Lands Section and field staff of ESD to carry out compensation and mitigation measures in the plan, supervise and monitor all activities.
- Liaison Officer and assistants (ESD) to interact with GoL organisations and oversee Grievance Procedure.
- Consultation teams, consisting of ESD staff and GoL counterparts, for dissemination of information and involvement of PAPs in planning, implementation and mitigation.
- Provincial Coordination Committee (PCC) to supervise GoL involvement in Social Management issues.
- District organisations to assist in implementation, including local police and militia for security, District Working Groups, Lao Women's Union and Youth Union at district level and village authorities.

4.8 Conflict Resolution

Resolution of conflicts between villages and construction workers and/or camp service providers will follow the procedure described in Chapter 8 of the REMDP. The phases of conflict development and appropriate interventions can be summarized as follows:

Conflict avoidance → Consultation & participation in planning, decision making;

Simple disagreements → Informal negotiation, discussion and mediation;

Early conflict development → Reference to Village Grievance Committee;

Conflicting positions taken → Reference to Grievance Committee at District level;

Conflicting positions hardened → Reference to Provincial Grievance Committee (Provincial Court);

Intractable conflict → Refer conflict to National Court.

An NGO or local company will be contracted to coordinate and carry out capacity training in legal or any other appearing issues needed throughout the construction period.

5 BUDGET

Table 11 provides an overview of budget allocation and responsibilities for implementation of the Construction Phase Social Management Plan.

Table 11: Responsibilities for Implementation of the CSMP.

Activity	Schedule /Timing	Responsible Parties
Security and access control	Programmes to commence in coordination with construction works.	Construction Contractors. ESD to be informed by Construction Contractors.
Traffic Safety	Programmes to commence in coordination with construction works.	Construction Contractors in cooperation with the Community Development Unit and District Agencies.

Activity	Schedule /Timing	Responsible Parties
STD/HIV and anti trafficking	Programmes to commence in coordination with construction works.	Construction Contractors in cooperation with the Community Development Unit and District Agencies.
Infrastructure	Programmes to commence in coordination with construction works.	The Resettlement Unit of ESD.
Local Recruitment Assistance	Programme to commence in coordination with construction works.	Construction Contractors in cooperation with Community Development Unit and District Agencies.
Population Management	Programmes to commence in coordination with construction works.	Construction Contractors in cooperation with Community Development Unit and District Agencies.

The budget for the CSMP is USD 310,000 (see Table 12, below). This does not take inflation into account. All activities and programmes will be completed during the project construction period, a number of programmes will be phased out at the beginning of the operation period to ensure a smooth transition.

Table 12: Responsibilities for Implementation of the CPSMP.

		Pre COD	Post COD	Total
4	CONSTRUCTION SOCIAL MANAGEMENT PLAN	290,000	20,000	310,000
4.1	Preparation of a camp service providers management plan (Objective is to regulate and control the influx of camp service providers, ensure proper health and hygiene conditions, guarantee proper water supply, management of liquid and solid wastes, prevent and forbid hunting, trade and consumption of wildlife, human trafficking, ...)	80,000	0	
4.2	Support to Vientiane Province and Xaysomboun District in managing the camp service providers, health and human trafficking	80,000	20,000	
4.3	Preparation & dissemination of a code of conduct applicable to all workers, camp service providers, staff of the Company and contractors & visitors	30,000	0	
4.4	Overall environmental and social awareness in the project areas (health, human trafficking, unsustainable use of natural resources, PCR)	100,000	0	

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Vientiane Times, 30th April 2008.

Annex G

ASSUMPTIONS MADE IN ESTIMATING COSTS

Rationale for this annex

As indicated in the main text of the REMPD, the approach taken by the project is to provide compensation in-kind whenever it is feasible and practical, at the cost of the project. It is widely documented and recognised that this approach provides the best chances of success for livelihood restoration and improvement of the impacted households.

All entitlements have been clearly defined in the entitlement matrix presented in the main text of the REMDP. It represents the obligations that the Company is compelled to provide to the affected households and communities. Most of these items belong to the “*limited by-scope*” category and therefore the budget is an indication, for the Company, of the money that will be required to undertake these activities.

The budget was prepared on the basis of the experience of similar projects in Lao PDR in similar conditions, and provisions have been made for contingencies and for budgetary reallocation, as cost estimates are anticipated to change over the course of the project implementation and to vary from preliminary estimates.

This annex was prepared to provide information *as per* the ADB SPS SR2, which requires “*a justification for all assumptions made in calculating compensation rates and other cost estimates (taking into account both physical and cost contingencies), plus replacement costs*”. It therefore presents the major assumptions made for the preparation of the budget for some budget line.

			Pre COD (5 years)	Post COD (4 years)
6	BAN XIENGDET RESETTLEMENT AND DEVELOPMENT PLAN	ASSUMPTIONS MADE IN THE PREPARATION OF THE BUDGET	8,280,000	906,000
6.1	Road to Ban Xiengdet			
6.1.3	Provision for compensation	<p>The US\$300,000 is a provision for compensation, considering that less than 10 houses have to be physically relocated and that replacement land can be identified. The exact number of houses that will be impacted will be confirmed at the time of the confirmation survey.</p> <p>Considering an entitlement of 15m² per household member (see entitlement matrix), using an average household size of 7 members (see socio-economic profile), and using a average cost of US\$60/m², each standard house housing an average household will cost around US\$6,500, i.e. a total of US\$65,000 if 10 houses have to be built.</p> <p>A provision of US\$20,000 for non-residential construction associated with the houses is made for the 10 households.</p> <p>There might also be the need to renovate a building used for community purposes and/or water supply to guarantee social harmony in the village. This could cost up to US\$30,000. Consultations and survey will also be required and are expected to cost US\$5,000.</p> <p>The balance is for contingencies, should the number of houses be significantly different from what was initially assessed.</p>	300,000	0
6.2	Development of Nam Dai residential area		4,320,000	0
6.3	Livelihood restoration and development			
6.3.3	Vegetation clearance (as required) and UXO clearance of the agricultural replacement lands.	<p>The survey of the residential area, vegetation clearance, UXO clearance, design of the houses and other structures, the overall layout of the residential area, the demarcation of the various plots and the land titling have been estimated to cost around US\$600,000.</p> <p>Considering an entitlement of 15m² per household member (see entitlement matrix), using an average household size of 7 members (see socio-economic profile), and using a average cost of US\$60/m², each standard house housing an average household will cost around US\$6,500. To this an average 30 m² of non-residential building is added (shop, other facilities) at a cost of US\$60/m². i.e. a total of US\$1,800. Including the school and other building, this will bring the total cost of construction to US\$1M. A contingency of 20% is added to deal with price changes and other variations ,i.e. a budget of US\$1.2M.</p> <p>Roads and associated drainage in the village area, electricity network, and water supply system are estimated to cost around US\$500,000.</p> <p>Relocation from the old village to the new village is estimated to cost US\$100,000.</p> <p>The balance is for contingencies.</p>	150,000	0

		level of clearance and depth of clearance. Vegetation clearance is usually associated with UXO clearance.		
6.3.5	Agricultural replacement land allocation and titling	36 households are expected to have their agricultural fields impacted. They will be provided with replacement agricultural lands. Although cadastral surveys will be undertaken under the irrigation programme, it is possible that additional surveys and consultations are required for the preparation of the related land titles. Adjustments will also be required for the other agricultural lands that will not be impacted but will require proper land titling (roughly 80 households). The US\$80,000 translates into a provision of US\$666 per land title.	80,000	0
6.3.6	Plantation of fruit trees	There are around 2,000 fruit trees impacted by the project (Table 3.13 of the REMDP indicates a total of 1871 fruit “trees” at Ban Xiengdet). Each seedling cost around US\$1. The balance is a provision for seedling mortality, the possibility to increase the number of seedlings in the village, to develop tree nurseries, and to provide some technical assistance for fruit trees management.	20,000	0
6.3.9	Fish ponds replacement & support programme	15 families own a fish pond totaling 2.09 ha in Ban Xiengdet. They will be compensated if the final survey confirms that they are impacted. A replacement pond for each pond impacted will be provided. A budget of US\$20,000 was set for this (including a provision for a possible change of numbers of ponds) Provision is also made to provide technical assistance, which will complement the one coming under the fisheries programme (line 7.7).	50,000	0
6.3.10	Other livelihood support programme	This is a contingency budget line set to support other livelihood activities, which have not been identified at this stage, but which could appear during the first years of implementation.	140,000	0
6.3.11	Transition allowances and food security	Each household is entitled to a US\$20 transition allowance (see entitlement matrix), amounting to a total of approximately US\$2,500. In addition each household is entitled to receiving an in-kind assistance in the form of 16 kg of rice per month per household member for a duration of 6 months, which accounts for the balance of the budget, which has also a provision for contingencies.	50,000	0
6.3.12	Support to the most vulnerable households	20 households are considered as particularly vulnerable (see section 3.1.28 of the REMDP) and might require a dedicated support (1) in the form of access to labour during periods of peak agricultural activities (20 – 30 person.days per year for 5 years for each 20 households at LAK 25,000 per day, i.e. around US\$10,000) and (2) in the form of food security by an in-kind assistance with rice (US\$25,000, on the basis of 15 months of assistance at 16 kg per month per household member). The balance is a provision for contingencies.	50,000	30,000
6.3.13	Provision of canoes for crossing (and maintenance)	2 canoes have to be provided to guarantee the crossing of the river. Each are expected to cost less than US\$1000. A spare canoe might be necessary for maintenance. Safety equipment might also be necessary and a structure might have to be built to protect the canoes when they are not in use. The balance is for contingencies.	10,000	0
6.4	Social Development			
6.4.1	Primary school			
	Construction of school and teacher(s) residence	The teacher residence will be built at the cost of a replacement house, i.e. less than	100,000	0

		US\$10,000 and that the school, on the basis of the area involved and the general specifications given, at a cost of less than US\$70,000. The balance is for contingencies.		
	Education materials	The US\$90,000 is a general provision for education materials to be provided during the 5 years of construction, for the 3 x 120 students expected, at a unit price of US\$50.	90,000	60,000
6.4.2	Support to non-formal education	There has been no detailed assessment of the needs for non-formal education. A budget of US\$100,000 was considered sufficient to organize a number of non-formal education sessions during the 5 year period. This will be adjusted as necessary (budgetary reallocation).	100,000	70,000
6.4.3	PCR: flood protection or relocation of cemetery, other relocation ceremonies (temple ruins and others)	There has been no cost estimate done for the flood protection or relocation of the cemetery, nor for the various relocation ceremonies. On the basis of the PCR survey, the number of ceremonies are expected to be limited and their cost should not be over a few hundred US\$ each, totaling not more than US\$10,000 to US\$20,000. This leaves US\$80,000 for flood protection measures, which could take the form of a small dyke and drainage, which can easily be constructed for less than this amount. The balance is for contingencies.	100,000	0
7	PERI-RESERVOIR & DOWNSTREAM ACTION PLAN		650,000	890,000
7.5	Compensation of households impacted by flooding of community land in peri-reservoir villages.	The impact on the livelihoods of the households (4) using community land mainly for grazing for a few months of the year has been estimated as being minor. Surveys will be undertaken to update the assessment of the expected impacts. The approach proposed is to enable the affected households to benefit from the forage component of the overall agricultural support programme, which will be provided for all interested households in the villages, and if necessary to provide hay as a transitional measure. Considering the very limited number of household involved (4) it is considered that the budget will be able to fulfill these two objectives, and the balance will be used to complement the agricultural support programme.	65,000	0
7.6	Provision of canoes for crossing (and maintenance).	Same explanation as for above (6.3.13)	10,000	0
7.7	Fisheries management plan			
	Implementation of the fisheries and fish culture management plans	A detailed fisheries management plan has not been prepared yet and will have to take into consideration the results of the fish catch monitoring surveys, which have not started. On the basis of the baseline already undertaken, it appears that the fisheries on the Nam Ngum river, already impacted by projects in operation and construction do not form a major source of revenues and households in the various villages, who seem to favour smaller tributaries (see assessment of the impacts in the REDMP). It was therefore considered that a budget of US\$350,000 will be reasonable to address these issues during the first 4 years after COD. As the numerous industrial projects in the area have all an impact on fisheries, similar contribution will be expected from the other actors. A dedicated fisheries management plan will be developed during the construction period and the budget adjusted as necessary.	0	350,000
	Potential Additional Cash Compensation of Fishing Households at Peri-Reservoir Villages	The peri reservoir villages are located in the first circle of influence of the project, whereas the 7 downstream villages and the 17 upstream villages are considered in a second circle of reduced influence of the project (see impact analysis), hence the reduced value. However if the fish catch survey programme indicates that the impacts of the NN3 project are more, or less, important than the initial baselines indicated, then these	0	100,000
	Potential Additional Cash Compensation of Fishing Households at 7 Downstream Villages		0	50,000
	Potential Additional Compensation of Fishing Households at 17 Upstream		0	45,000

	Villages	amounts will be revised accordingly.		
8	MANAGEMENT OF THE SOCIAL IMPACTS OF THE TL & NEW/UPGRADED PUBLIC ROADS		845,000	0
8.1	Transmission Line			
8.1.4	Compensation to affected households (provision for replacement of house and agricultural support programmes)	<p>The current assessment of the potential impact of the TL is that not more than 5 households should be physically displaced and that around 80 could be economically impacted.</p> <p>We have used the same unit cost for the replacement of the house and adjacent structure (refer to line 6.1). This brings the estimated total cost of relocation to US\$45,000, including the relocation itself.</p> <p>A budget of US\$200,000 was set for agricultural support programme, making the assumption that this programme will be built on the agricultural support programme provided for Ban Xiengdet and the other villages.</p> <p>The final alignment of the TL and the location of the towers will enable us to revise this budget, considering that efforts will be made to minimize the potential impacts and the need for relocation (see related section of the REMDP).</p> <p>The balance is for contingencies.</p>	350,000	0
8.2	Public Roads			
8.2.3	Compensation to affected households (provision for replacement of house and agricultural support programmes)	<p>Preliminary assessments estimate that 40 households could be impacted by the road Nam Ngone – Long Cheng. However the nature of the impact is not yet known. We have provided a provision of US\$80,000 for replacement houses, US\$40,000 for the activities that will fall under the overall agricultural support programme, and the balance is for contingencies. The budget will be revised once the exact extent of the impact is known.</p>	250,000	0